Mid-Term Appraisal of 10th Five Year Plan (2002-2007)

सत्यमेव जयते

Government of India
Planning Commission
June 2005

Contents

PART I

PART II

PART I

Overview and Priority Areas for Action

Overview and Priority Areas for Action

The Mid Term Appraisal presents a detailed assessment of the performance of the economy as a whole as well as an assessment of performance in individual sectors in comparison with the Tenth Plan targets. The picture emerging from the appraisal is mixed. The economy is doing well in many areas and these gains need to be consolidated but there are also important weaknesses, which, if not corrected could undermine even the current performance level.

AN OVERVIEW OF PERFORMANCE AND PROBLEMS

GDP growth has averaged 6.5 per cent in the first three years, which is below the Tenth Plan target of 8.1 per cent but is commendable nonetheless. Growth in 2005-06 is projected to accelerate to 7.6 per cent and could accelerate further if the corrective steps listed in this chapter are implemented speedily. Private corporate sector investment, which had been dormant for several years, appears to have turned around. International perceptions of India are also generally positive creating a favourable climate for foreign direct investment. Inflation had become a serious concern in mid 2004 when there was upward pressure because of the rise in international oil prices, but it has since been brought under control. The external payment position is comfortable with substantial inflows from abroad leading to a more than comfortable build up of foreign exchange reserves.

The Industrial Sector which had a lackluster performance in the first two years of the Tenth Plan period, appears to have turned around in 2004-05 with a growth rate of 8.1 per cent in the first eleven months (April – February 2004 - 2005). This marks a distinct improvement over the performance in the first two years. Nevertheless, the average for the first three years is unlikely to exceed 7 per cent, which is much better than the average of 4.5 per cent in the Ninth Plan but well short of the Tenth Plan target of 8.9 per cent. A positive feature of recent industrial performance is the evident increase in competitiveness in many sectors. The success in the IT sector is well known but equally important is that many other manufacturing sectors, pharmaceuticals, biotechnology, automobiles, auto components etc. are all showing considerably stronger competitive capability. Fears of Indian industry collapsing under the onslaught of cheap imports have also evaporated and there is much greater confidence in being able to flourish in a more open environment.

These positive features are clearly a source of strength, and the aim of policy should be to consolidate these gains and accelerate growth in the remaining years of the Tenth Plan. However, there are also important signs of weakness which are a cause for concern and call for corrective steps.

AGGREGATE GROWTH

The growth performance in the first three years, averaging 6.5 per cent is clearly below the target of 8.1 per cent. Growth in 2005-06 is projected at 7.6 per cent, on the basis of a recovery of the agricultural sector, and this could accelerate further in 2006-07. Even so, the average growth rate in the Tenth Plan period is likely to be below 7.0 per cent, well short of the 8.1 per cent target. An important reason for the lower growth is that investment did not increase in line with available investible resources.

Trends in Agriculture

The objective of accelerating GDP growth to 8 percent in the years ahead, and achieving a more inclusive spread of benefits, depends critically upon a reversal of recent trends in agriculture where growth has decelerated sharply from 3.2 per cent between 1980-81 and 1995-96 to a trend average of 1.9 per cent subsequently. This deceleration, observed during and after the Ninth Plan period suggests that the problem of rural distress that has surfaced in many parts of the country is grounded in reality. The problem is also not a purely distributional one, reflecting the special problems of small and marginal farmers and landless labour. In fact the deceleration is general across all crops, and reflects a broad based deceleration in productivity growth. It is essential to reverse this trend and this certainly calls for something more than continuing with "business as usual".

Infrastructure Problems

The Mid Term appraisal draws pointed attention to the fact that infrastructure inadequacies in both rural and urban areas are a major factor constraining India's growth. This is especially so in the increasingly open economy environment in which we must operate, where the quality of domestic infrastructure impacts on our ability to compete with imports, to penetrate export markets and also to attract FDI.

International Developments

The oil prices on the world market are likely to remain high for some time. Since we depend on imports for more than 70 percent of our oil needs, this is a potential source of weakness. The impact on Indian economy has been muted so far as the price increases have not been passed on fully to consumers. Because of the ample foreign exchange reserves, the high outgo for oil imports has not created shortage of other imports. However, if the oil prices remain at a high level, sooner or later that will have to be either passed on to the consumers which will push up inflation, or fiscal deficit will have to increase, which may also push up inflation. Uncertainties prevailing in the international economy also present a challenge. Recent forecasts have downgraded the prospects of growth in world trade, which may have knock-on effects on India's exports, and thereby on our growth prospects. The growth projections for the rest of the Plan are based on a 16 per cent growth rate of our exports, which is more than double the projected growth rate of world trade. While this may be feasible, a downturn in the world economy could make this target difficult to achieve. It is estimated that every 1 percentage point reduction in our export growth rate will *ceteris paribus* reduce the growth rate of GDP by 0.2 percentage points.

Social Development

Social sector indicators in education and health show that while there is progress over time, we are lagging far behind the East Asian countries in these areas. Our social indicators are not only lower than the levels in these countries today, but they are lower even in comparison with the levels achieved by these countries twenty five years ago, when they first began to grow rapidly. The social indicators also show disturbing gender gaps, large rural-urban differences and wide variation across states. A significant improvement in all these dimensions is necessary if we want to create the pre-condition for a general improvement in welfare of our population and for genuine equality of opportunity. A basic shift in priorities signalled by the NCMP was the need to give greater importance to social sector expenditures as part of the effort to promote development with social justice. the Tenth Plan specifies monitorable targets for certain indicators of social development in health, education and gender equality. These targets are not identical to the Millennium Development Goals (MDGs) but it is believed that if these targets are met, then the other MDGs are also likely to be achieved. It is a matter of deep concern that at the current pace of progress, it appears unlikely that many of these targets will be met. The solution to these issues lies in the institutional structures through which public intervention in these areas operates.

Employment

The employment situation in the economy presents a serious problem. The MTA projections, using sectoral growth rates and estimated employment elasticities, suggest that the unemployment rate for the economy as a whole, based on the current daily status of employment would have increased from 8.87 per cent in the base year 2001-02 to 9.11 per cent in 2004-05. This projection implies that total employment increased slower than labour force growth. The data on employment in the organised sector presents an even more disturbing picture showing a decline in absolute employment between 2001 and 2003 in both the public sector and the private sector. This suggests that while employment may be increasing in the unorganized sector in response to growth, there is actually a contraction in employment in the organised sector, which is the preferred sector for employment by new entrants to the labour force.

Inequality and Poverty

Related to the inadequate growth in employment is the issue of the impact on poverty in the Tenth Plan period. There has been a great deal of debate on the extent of reduction in poverty in the 1990s with different views depending on the data used and corrections made to take into account the problems of comparability. The consensus view is that while poverty declined, the decline was less than targeted. A firm assessment of performance in the Tenth Plan period will be possible only when the results of the 61st Round of NSS are received.

There are no measures of income inequality based on reliable income surveys. However, some of the features of recent growth raise concerns that inequality may be increasing, most important of which is the fact that per capita agricultural GDP has actually declined although overall per capita GDP has increased at 5 per cent per annum. Another feature of recent developments which has a bearing on inequality is that factor incomes data from the National Accounts show large increases in operating surpluses of the organized sector and of the compensation of employees in this sector while per capita income growth is much less than average amongst the self-employed in the unorganised sector and actually negative amongst employees in agriculture. This would not be a problem if the size of the organised sector were expanding but that does not seem to be the case given employment trends. The moderate improvement in education and health indicators implies that access to more productive employment remains limited, especially in backward regions and amongst disadvantaged groups.

NCMP priorities in the areas of health, education and agriculture offer correctives from the human capabilities and sectoral points of view, and the promise of an Employment Guarantee Act provides a measure of insurance and additional income for the rural poor, and increases their bargaining capacity.

Balanced Regional Development

An issue of increasing concern, is the apparent regional imbalance in development. This concern surfaces in several different ways. One dimension relates to the fact that the inter-State differences in the pace of development are leading to greater imbalance across States. State SDP data are not available beyond the first year of the Tenth Plan period, but several studies have shown that inter-State inequality increased in the 1990s. Some States were able to benefit from the economic reforms and increase their growth rates significantly. Although it is not true that the richest States benefited the most, some of the poorest and most populous States did decelerate. The concern for imbalance also surfaces at district level. About 150 districts are backward compared to others and need special corrective efforts. Even advanced States have several backward districts which do not share the general dynamism of the State. The case is also made that districts may not be the appropriate basis for analyses on the grounds that parts of a district are often locked into backwardness.

Resources in the Public Sector

The availability of resources in the public sector to meet targeted levels of Plan expenditure is a major area of weakness. Neither the Centre nor the States have been able to mobilise the resources needed to keep outlays in line with Tenth Plan projections and this has led to significant under funding in many sectors. The Central Sector Plan was projected to be 6.4 per cent of GDP in the Tenth Plan against which the achievement in the first four years is only 5.4 per cent. The States plan was expected to be 4.69 per cent of GDP against which the likely achievement in the first four years will not exceed 3.64 per cent. Taking the Centre and the States together, Plan outlays will be lower than expected by 2 percentage points of GDP. This shortfall is despite the fact that both the Centre and the States have relied much more on borrowed resources than was intended, leading to a rise in public debt. The consolidated public debt of the Centre and States taken together is about 80 per cent of GDP, which is among the highest in emerging market economies.

PRIORITY AREAS FOR ACTION

The scope for correcting all these deficiencies within the Tenth Plan period is limited. However, it is necessary to define a corrective agenda now and initiate the process as quickly as possible. Each of the individual chapters of the MTA contains a concluding section on the way forward which enumerates detailed suggestions for corrective steps in each sector of the economy. These suggestions deserve careful consideration and should form the framework for policy formulation leading into the Eleventh Plan. Some of the important policy initiatives in major areas on which a credible start can be made in the rest of the Tenth Plan period and should therefore have high priority in defining the policy agenda for the next year are summarised below.

Agriculture, Irrigation and Rural Development

Policy initiatives needed for agriculture must recognise that there is a general deceleration in the sector and not only a distributional problem. The specific problems of small farmers and the landless must receive special attention, but the policy correctives necessary are broader and must look at factors affecting agriculture generally. It is necessary to increase investment, including especially public investment in agriculture related infrastructure and also take a number of policy initiatives.

1. *Rejuvenating Support Systems*

Agricultural growth cannot be revived without rejuvenating support systems in extension, credit and the delivery systems of inputs such as seeds, fertilizers, veterinary services. Although institutional credit to agriculture has been stepped up substantially since last year, underlying problems of farm debt and of the cooperative sector remain. It is necessary to implement the recommendations of the Task Force on Revival of Co-operative Credit Institutions under the Chairmanship of Prof. A. Vaidyanathan as soon as possible so that this sector with the largest rural credit reach is revived. Similarly recent Central efforts to deal with the near collapse of extension systems in most states need to be intensified and made more case sensitive. Delivery systems regarding seeds, fertilizers and pesticides require revamping by strengthening not only the existing public infrastructure but also facilitating the growth of private alternatives. The regulatory framework for these inputs also needs to be strengthened urgently to avoid the sale of spurious material without putting too great a constraint on enterprise. All this will need a large increase in expenditure in addition to the Central initiatives already on the anvil. However, since these systems essentially involve recurrent expenditure, the reforms above need to be put within a policy framework so that these reforms are owned by the States and transferred to them within a definite timeframe.

2. *Investment in Irrigation/Water Management*

Availability and management of water is the most important constraint on agricultural productivity and this area has been neglected because of paucity of resources especially with the State Governments and also a diffusion of responsibility over several different departments in the Central Government. Schemes which should have priority are:

i) rehabilitation of the existing irrigation systems;

ii) ground water development in areas where there is unutilised potential through back-ended subsidy schemes;

iii) artificial recharge of ground water in areas suffering from aquifer depletion; and

iv) inclusion of command area development works as part of major/ medium projects.

The total cost of this effort is estimated at around Rs.110,000 crore and the Central Share up to the end of the 11th Plan period could be around Rs.23,000 crore.

If a start is to be made in implementing these schemes with effect from 2006-07, it will require an additional Rs.3000 crore in 2006-07 rising to Rs.5000 crores by 2011-12. Since it will be difficult to find additional resources of this order from the GBS given other existing commitments, a possible solution is to link the funds under the existing FFW & SGRY programmes and the new Backward Regions Grant Fund, to ensure that at least in the 150 or so districts covered by these programmes, projects related to irrigation and water management receive priority. FFW and SGRY have limits on the non-wage component which may limit the ability to undertake some of the works needed but the proposed Backward Regions Grant Fund provides untied resources which could supplement the non wage component of FFW/SGRY.

In the districts covered by the Backward Regions Grant Fund the resources provided by the Fund should primarily be used in conjunction with the FFW/SGRY, for investments aimed at improving irrigation and water management. The guidelines of the Backward Regions Grant Fund will have to be devised with this objective in mind and those for FFW/SGRY and the proposed EGA re-examined to allow this. In the other districts, the AIBP and the RIDF schemes should be used to focus on irrigation and water management programmes and for this purpose AIBP should be further enhanced in 2006-07.

3. *Pricing of Water*

The policy of severely under pricing water from canal systems has two well known adverse effects. It encourages excessive water use, especially in upstream areas, often leading to water logging and salinity, which damages soil productivity. It also weakens the finances of irrigation departments which are unable to maintain existing systems and to complete ongoing projects. Water pricing is a sensitive issue but to leave it unattended for this reason will only perpetuate present problems. The following policy correctives should be considered:

i) States should be encouraged to set up Water Regulators for periodically revising water tariffs as is being done by Maharashtra and Gujarat.

ii) The States could also set up Water Users' Associations (WUAs) to manage distribution of water and also empower them to collect the tariff, and retain a part of it (say 50 per cent) for system maintenance. WUAs may also be empowered to set water tariffs at higher levels and retain all the additional collection.

iii) Water regulators could set differential water tariffs for high water consuming crops, linked with ground water status, and also recommend a lower scale of subsidy on power tariffs for agriculture in water depleted areas to discourage over- drawal of ground water.

iv) The Centre could link subsidy for micro irrigation (from Central and NABARD schemes) to ground water status to encourage adoption of micro-irrigation in critical and dark areas. Its use in areas with large ground water potential could be left to be determined by financial viability.

Items (i), (ii) and (iii) above, are in the domain of State Governments. State Governments could be incentivised to take action by making access to AIBP funding, and also the proposed funding of mega projects (see item 4 below) conditional on (i)-(iii) being implemented, perhaps in a phased manner.

4. *Mega Irrigation Projects*

There are nine on-going approved mega projects with international ramifications/inter-State benefits, each having irrigation potential of more than 1 lakh ha. These are: Teesta barrage Stage-I, Phase-I (West Bengal), Indira Gandhi Nehar Stage-II (Rajasthan), Western Kosi (Bihar), Shahpur Kandi (Punjab), Sardar Sarovar (Gujarat), Indira Sagar (Madhya Pradesh), Omkareshwar (Madhya Pradesh), Upper Krishna Stage-II (Karnataka), Gosikhurd (Maharashtra). Completion of these projects will add a potential of 3.3 m.ha. at a cost of Rs.27,700 crore.

Given the resource constraint in the States, completion of these projects in a reasonable period is not likely unless some additional resources are provided. There is a case for considering Central support for a new mega irrigation scheme aimed at completing these projects. It is necessary to explore the scope for tapping new sources of funds for such investments, including the SPV for infrastructure financing announced in the Budget for 2005-06. Irrigation projects may not be financially viable on a stand alone basis in the conventional sense because of low water charges, but as long as their economic returns are high and the loans are guaranteed by the State Government, the financing problem can be resolved. Funding assistance for this purpose should be strictly linked to reforms in water tariff policy and greater reliance on participatory irrigation management through water user associations.

5. *Watershed Development*

More than half our cultivable area is rain-fed and much of it is under severe water stress. Programmes for the treatment of wastelands and degraded lands, including steps at water conservation are extremely important for these areas. At present, these programmes are being implemented by several departments, with similar objectives but different operational guidelines and, also different cost norms, which is not conducive to operational efficiency. Watershed development is a complex discipline requiring knowledge of soil, sub-soil structures, geo-hydrological data, and agricultural sciences. It also requires strong organisational support and community participation for it to be successful. The technological inputs in watershed projects are required both at the preparatory phase of the project, during project implementation and in the post-project phase. Therefore preparation of guidelines on technical inputs, social process and accounting and auditing manuals for watershed programmes is a must. Also, a framework for conjunctive use of surface and ground water in watershed development projects needs to be developed. The present system needs to be reviewed so that all watershed projects in a particular agro-climatic zone are implemented by a single department/agency within a common framework.

6. *Agricultural Research*

The scientific input into agricultural development needs to be greatly strengthened. The Task Group on Revamping and Refocusing of National Agricultural Research appointed by the Planning Commission under the chairmanship of Dr. M. S. Swaminathan has made a number of recommendations aimed at strengthening existing agricultural research institutions and giving them greater flexibility. These should be speedily considered for early implementation. The Government has already accepted one of the recommendations for establishing a National Fund for Strategic Agricultural Research and an initial provision of Rs.50 crores has been made for 2005-06. The administrative arrangements for establishing the Fund should be put in place so that the Fund can become operational by June 30, 2005. Efforts should also be made to tie up funding from multilateral agencies such as the World Bank and ADB so that the Fund can have an assured source of financing on which it can draw.

7. *PDS Pricing*

The present system of differential PDS pricing, with very low prices for BPL consumers, is a highly inefficient way of serving the equity objective. There are heavy leakages of as much as 55 per cent according to a recent

Planning Commission study. The system also distorts incentives for grain producers in non-surplus areas where FCI procurement is poor or non-existent, because it depresses grain prices below the MSP. With the Food for Work Programme in place and the expansion of Mid-Day Meals and the universalisation of Integrated Child Development Services (ICDS), there is a strong case for moving to uniform PDS pricing. In other words, the PDS, should not be viewed as a poverty reducing instrument as much as an instrument for protecting the common man (including the poor) by stabilising issue prices at a level which may imply only a limited subsidy but which insulates the consumer from sudden increases in prices due to scarcity. The procurement side of the operation should continue to aim at stabilising MSP reasonably above costs of production. Procurement support should also be extended to cover the entire country.

PDS pricing is a sensitive issue, but the proposed change is a logical consequence of the adoption of other schemes aimed at poverty alleviation. It needs to be implemented in parallel with the expansion of other social safety net schemes. The resources saved by moving towards a unified issue price should be directed to expand other poverty reducing programmes, including especially the FFW.

The urban poor are not covered by the Food for work Programme and a case can be made that they need continued subsidy benefits through the PDS. This could be attempted through a system of smart cards. A smart card may be charged with the entitlement of the person who can buy ration commodities from any trader who is linked to the smart card system. The price difference can be automatically transferred to the traders' account when the holder makes a purchase.

8. *Fertilizer Pricing*

The N,P,K imbalance that peaked in the mid-1990s is much less now, but the subsidy on urea continues to be much higher than in the P&K fertilizers, promoting continued imbalance in fertilizer use. Excessive use of nitrogenous fertilizer leads to environmental pollution and unnecessarily erodes profit to the farmer. Fertiliser subsidies need to be comprehensively re-examined to improve balance and also to target the subsidy more to smaller holdings, for example, by limiting the subsidy to a fixed quantity to be given per farmer, with the rest of the market being decontrolled. The present practice of fixing fertiliser prices separately for urea and other fertilisers, based on different considerations, needs to be ended and replaced by a policy which takes an integrated view. The issue has been examined by several expert groups. It should be referred to the National Commission of Farmers to make recommendations for restructuring on the clear understanding that the restructuring is aimed at (a) rationalizing the subsidy across different types of fertilizer to ensure balanced fertilizer use and (b) combining it with mechanisms that would ensure that all resources saved are ploughed back into agriculture through other schemes.

9. *National Horticulture Mission*

Agricultural diversification into horticultural crops is a natural outcome of the process of rising income levels and the associated change in consumption patterns, and the growing scope for exports. The National Horticulture Mission being launched in 2005-06 is therefore a timely initiative to support efforts by the States to promote horticulture. The level of funding provided for 2005-06 is sufficient to initiate the effort, but significant increase in funding of this scheme will be necessary if the momentum builds up and States evolve credible strategies in this area.

10. *Agricultural Marketing and Contract Farming*

Agricultural diversification needs to be supported by the evolution of market institutions which are different from those needed for non-perishable cereal crops. Marketing of perishable horticultural crops requires the development of a cold chain, with facilities for quick refrigeration shortly after harvesting and transportation to the market in refrigerated trucks. It also requires a much stronger linkage of the farmer (and therefore his production decisions) with the buyer who can reflect the specific needs of the market, which vary greatly depending on whether the product is destined for domestic retail or for exports or as an input into agro processing industry.

Contract farming will enable corporate buyers to organize groups of farmers to produce under contract, with the buyer organising the supply of seeds and related inputs, and also providing a measure of extension support. Contract farming needs to be supported by changes in the **Agricultural Produce Marketing Committee Acts** in the States, which require that agricultural produce can only be bought in regulated markets. There is resistance to bringing about these changes because of entrenched interests that control existing *mandis* and their associated funds, but the changes must be made in the interest of the farmer. It is necessary to link central assistance in the proposed National Mission on Horticulture to agricultural marketing reforms, amendments in the Agricultural Produce Marketing Committee (APMC) Acts. It should be recognised, however, that success in this area depends critically upon the development of essential infrastructure in rural areas including especially development of transport linkages, rural electrification and in the case of exports, suitable handling facilities at airports.

11. *Amendment of the Essential Commodities Act.*

Another important initiative for the development of trade in agricultural products is the amendment of the Essential Commodities Act. The present Act gives too much discretionary power to officials and discourages large investments by corporate traders. It is necessary to amend the Essential Commodities Act to remove those aspects of the Act which serve to discourage the development of modern private trades while strengthening the ability of the Act to intervene on occasion of genuine emergency or scarcity. All such interventions should be strictly time bound and limited to the period of scarcity, and should be carried out as transparently as possible.

12. *Food Processing Law*

One of the factors impeding the development of food processing has been the multiplicity of laws governing this industry which makes producers liable under a wide variety of circumstances, with considerable vagueness on what would constitute a violation. A Group of Ministers has been considering a new consolidated Food Processing Act and a revised draft Act also has been prepared which is both acceptable to industry associations and also takes care of the concerns of NGOs, especially on the sensitive issue of infant foods. The draft Bill should be introduced in Parliament as soon as possible.

13. *Promotion of Participatory Natural Resource Management*

Participatory management practices seek to empower the rural communities who would decide and prioritise their requirements and accordingly prepare and implement micro plans appropriate to local conditions and needs. The building of community based organizations, flexibility in technical and financial norms, facilitation through a multi-disciplinary professional groups, independent reliable and on-going monitoring and evaluation are the basic premises and procedures of these participatory processes. There is need to revisit the guidelines and the content of all programmes in natural resource management in the light of this valuable experience and also strengthen the coverage and funding of these programmes. More specifically, vacant and under utilized land areas can be used for creation of forest resources. Currently, there are 2,34,676 village Panchayat institutions in 31 States and Union Territories in the country in addition to the traditional councils in Meghalaya, Mizoram and Nagaland. If every Panchayat is entrusted to identify a reasonable area of land for afforestation through community participation, a substantial area can be covered under green canopy in total. The right of use of such resources should be left to the communities and opportunities for value addition and marketing provided.

14. *Bio-diesel*

With current and projected levels of crude oil prices, bio-fuel is a potentially viable alternative to fossil fuel. Most of the developed countries have active programmes for use of bio-diesel from various sources like rapeseed and sunflower oil in Europe, soya in USA, and palm oil in South East Asian countries. India is unlikely to use edible oils for this purpose but non-edible oils such as Karanj, Jatropha Curcas, Neem, Mahua, etc. which require little care in terms of watering and maintenance, and can be cultivated in wastelands can offer a viable option for production of bio-diesel. Since the country has nearly 63 million hectare of waste land, a part of such land can be used for cultivation of these oil bearing crops. Bio-diesel is cleaner than petroleum-diesel and will help the local environment and since it is renewable, there is no net emission of carbon and it can qualify for carbon trading. A blend of up to 20 per cent would require an estimated quantity of 13 million tonnes of bio-diesel production which would potentially need an area of 11 million hectare of waste land. Jatropha cultivation on this acreage could create 11 million jobs in the rural areas and the greening created will be entitled for emission trading under Kyoto Protocol.

To promote bio-fuel, it may be necessary to consider mandatory blending of 2 per cent bio-diesel initially, to be raised progressively to say 15 per cent subject to availability at an acceptable price. Commercial viability will activate the major oil refineries and oil marketing companies to make arrangements to procure the necessary oil for blending and would encourage private companies or joint venture companies to enter into contracts with the oil refineries and in parallel tie-up with farm communities and state government authorities to develop non-edible oil plantations of the desired type. Any subsidies/fiscal incentives necessary to achieve initial commercial viability should have a sunset clause so as to ensure long-term sustainability.

Social Sector

The NCMP recognises the importance of the Education and Health sectors and important steps have already been taken to increase allocations very substantially in these areas. The priorities in this area in the rest of the Plan period must be to ensure that the programmes launched are effectively implemented and closely monitored.

Education

The main priority areas in education are the following:

15. *Improving the Effectiveness of Sarva Shiksha Abhiyan (SSA)*

The Sarva Shiksha Abhiyan has already led to visible improvements in indicators like enrolment ratios and dropout rates, but there are other dimensions such as teaching quality and teacher absenteeism which remain areas of concern. There is a need to improve teaching practices in the primary schools assisted through the SSA. Among other measures, pre-service and in-service training of teachers should be strengthened and availability of Teaching-Learning Materials ensured. The Teacher Education Scheme should be merged with the SSA. Greater involvement of local communities and Panchayati Raj Institutions, and also NGOs will help address the problems of both poor teaching quality and teacher absenteeism. The SSA guidelines should be reviewed to ensure that they promote optimal investment and cater to special regional circumstances. Close monitoring and evaluation is necessary to provide feedback designed to improve the functioning of the scheme.

16. *Meeting the Increased Demand in Secondary Education*

With the successful implementation of the SSA, there will be increased demand for secondary education. If SSA achieves the goals of retention in full, or near full measure, the secondary school enrolment is poised to shoot up from 2.18 crore in 2002-03 to approximately 5 crore by 2011. To plan for a major expansion of secondary education it may be necessary to set up a new Mission for secondary education on the lines of the SSA.

This is clearly an area which will require further enhancement of funds in the near future. Since the private sector has a very substantial share in secondary schools at present, the proposed expansion in secondary schooling will have to recognise the scope for promoting public private partnership in this sector. Efforts need to be made to ensure that private schools which are given concessional facilities also provide admission to some deserving students from low income families with financial support.

17. *Funding University/College Education*

The state of university education needs a comprehensive review. There are deep seated problems of poor and varying standards, inadequate facilities, outdated syllabi and rigid recruitment and promotion procedures which provide little incentive to teachers to remain abreast of the subject, or to the best students to choose academic life as a career. Unless the situation is radically reformed, the university system will continue to decay with a shrinkage of areas of high quality. The Knowledge Commission that is being established should be requested to go into these issues in detail and submit a report which could be an input to the Eleventh Plan.

An issue which needs to be addressed urgently is the issue of fees. Fees in the majority of Universities and Colleges are currently pitched at unsustainably low levels and more than half the number of students coming to the University actually pay lower fees than they did in private secondary schools. A substantial increase in university fees should be combined with an aggressive means based scholarship and loan programs by public sector banks. The Central Government can give a lead in this matter by introducing the system in the Central Universities.

Health

Health is another critical area where the role of the government needs to be increased. India's public expenditure on health (Centre plus States) has been declining and is currently around 0.9 per cent of GDP. It will need to be increased to around 2 per cent of GDP by the end of the 11th Plan.

18. *National Rural Health Mission*

The National Rural Health Mission, being launched in 2005 is a new major initiative seeking to restructure the health delivery system in rural areas by integrating the different disease control programmes and creating a single district health committee which would work on a pooled budget for central funds and co-ordinate these different activities while also seeking active involvement of PRIs. The initiative is being supported by an enhanced level of funding in 2005-06 but further large increases (around 30 per cent per year) will be needed in subsequent years to achieve the stated objectives.

19. *National Mission on Sanitation*

It is well recognized that safe drinking water and sanitation are two critical "non-health" determinants of the health status of a population. Although 95 per cent of rural habitations have been fully covered with potable drinking water facilities by March 2004, access to sanitation remains extremely inadequate. Even today, nearly 70 per cent people across the country have no option other than open air defecation, and this directly contributes to high incidence of water borne and parasitic diseases. Accordingly, we need to provide sanitation facilities to all dwelling units. This would be best pursued in mission mode through a National Sanitation Mission and could be dovetailed with the four year, six point agenda introduced as Bharat Nirman in the Budget 2005.

20. *Reforming the Central Government Health Scheme (CGHS)*

The CGHS is a contributory health scheme for central government employees, with 44 lakh beneficiaries. Recurring expenditures are incurred to run a network of 250 CGHS clinics for the participants, providing general practitioner services, including free medicines and drugs. The range and quality of services provided under the CGHS is not commensurate with the expenditure incurred on it. One option that should be considered is to convert the

CGHS to a public sector provider of clinical health care for the general public, which charges a fee for its services, in competition with other providers, public and private. Simultaneously, central government employees could be shifted to a system of health insurance, under which they can access the CGHS or other clinical health care providers of their choice being reimbursed at the permissible rate. The system would have the advantage of subjecting the CGHS to competition from other health service providers, while also giving central government employees the choice between competing service providers. The scope for restructuring the CGHS in this way should be examined by an Expert Committee.

Women and Child Development

21. *Restructuring of ICDS*

With the commitment to universalize ICDS, the scheme needs to be restructured as follows to include provision of day care/crèche facilities and pre-school education:

- *Integrating Crèche Services with ICDS*: Day-care support services are an essential requirement for working mothers. To ensure nutrition for children during their critical development from 6 months to 2 years, they need to be fed frequently and with appropriate care, several times during the day. The ICDS programme does not provide this critical component of day-care for working mothers. Day care instituted under ICDS should meet this need. Its absence has an indirect impact on the education of the girl child, since she is often made to stay back to take care of younger siblings. At present the Department is running separate schemes for setting up of crèches. However, the number of crèches has not risen from around 12470 since 1993. These crèches need to be increased and converged with ICDS.
- *Strengthening pre-school education under ICDS:* Pre-school education for the 3 to 6 years age group is a weak component of ICDS. The Anganwadi workers need to be trained to be able to fulfill this requirement. The 93rd amendment in effect accorded elementary education the status of a fundamental right, but left out pre-school education. The exclusion of the latter deprives children in the age group 3 to 5 years of pre-school education, contributing to greater school dropout rates and other problems for them later on. District-level strategies have to be designed for the pre-school education of children. Also, the State Councils for Educational Research and Training (SCERTs) should train the Anganwadi workers to meet this critical requirement of pre-school education.

22. *Beyond Gender budgeting:*

The Union Budget for 2005-06 has initiated the first step in gender budgeting by the proposal for incorporating a separate statement highlighting gender sensitivities of budgetary allocations under 10 Demands for Grants of Ministries/Departments. However, gender budgeting by itself will not ensure that the stated outlays for women translate into outcomes in terms of a reduction in gender gaps in education and literacy, health, employment, etc. There is a need to improve the quality of implementation and enhance the efficiency and accountability of the delivery mechanism in all women-specific and women-related programmes. The Ministry of Finance, in consultation with the Planning Commission and other related Ministries/Departments, should work towards a mechanism to measure the development outcomes of all women-specific and women-related programmes. The financial outlays for gender development also need to be converted into expected physical outcomes with quarterly targets under each programme/scheme.

Social Justice and Empowerment

The objective of inclusive broad based growth requires continuous attention to programmes aimed at ensuring social justice and empowerment of the excluded sections. There are many ongoing schemes to address these concerns which need close monitoring. In addition, the following initiatives would help.

23. *Conferring Ownership Rights to Tribals living in Forests*

Tribals living in forests are being denied their traditional rights of forest land, collection of forest produce etc. due to development of sanctuaries and national parks, and other environmental restoration projects. The National Forest Policy, 1988 stipulates certain safeguards for their protection in terms of their involvement in forest department activities. The NCMP also envisages restoring the traditional rights of tribals on forest produce including Tendu leaves. Action should be taken expeditiously for enacting legislation to confer ownership rights to tribals living in forests.

24. *Support for higher education to SCs and STs*

In the fast changing economic and labour market scenario where higher qualifications are demanded for suitable placement/jobs, especially in the teaching profession in higher education sector, there is a need for enhancement of higher education among the SCs and STs enabling them to pursue higher studies leading to M.Phil and Ph.D degrees. A special scheme on the pattern of UGC Fellowship, need to be initiated to promote higher education to meet the needs of SC/ST students.

25. *Implementing the National Policy for Older Persons*

The National Policy for Older Persons was announced in January 1999. However, the Policy has not yet been operationalized. An Action Plan to do so should be prepared and implemented expeditiously.

Infrastructure Development

The Mid Term Appraisal clearly reveals that infrastructure is a major weak spot which, if corrective steps are not taken, will prevent the economy from transiting to higher rates of growth. Some key issues in each sub-sector in this area, which could be addressed in the course of the next year, are summarised below.

26. *Review of Regulatory Structures*

Since it is simply not possible to mobilise all the resources needed for building high quality infrastructure solely through the public sector, the general strategy for infrastructure development relies upon public private partnerships To attract private investment in infrastructure sectors it is necessary to have independent regulatory authorities which would carry credibility with both consumers and producers, and also ensure a level playing field between incumbent public sector service provider and new private sector entrants. Regulators have been established in some of the sectors and some additional regulators are proposed to be set up. It is necessary to review the regulatory system that has evolved and see what changes, if any, are needed to bring our regulatory structure in line with international best practice. One of the issues that is relevant in this context is whether there should be a large number of separate regulatory bodies, with their own appellate structures, or whether some aggregation is possible. The relative role of the regulator and the Competition Commission also needs to be clarified. The Planning Commission will prepare a discussion paper on this subject, indicating the international consensus on best practice, and recommending changes that may need to be considered in this context.

Power Sector

Despite several steps at reform over the years, the situation in the power sector is worrisome, primarily because of very slow pace of progress in the distribution segment. Without effective reforms in this area, the sector will not be financially viable and will be unable to achieve the required levels of public investment or to attract private investment. Though some progress has been made and State regulatory bodies have been set up, the actual improvement in distribution efficiency is very low. The following steps should be considered for implementation over the next six months:

27. *Announcing the Extent of Review Envisaged in the Electricity Act*

To remove uncertainty among potential investors the precise elements of the Electricity Act which are to be reviewed should be announced as early as possible. These should address the concerns that have been raised without undermining investor confidence or weakening the drive to create a competitive, efficient power sector.

28. *Tariff Policy*

In addition to the Electricity Policy required under the Act, which was issued recently, the Electricity Act requires the GOI to issue a tariff policy. This is an extremely important document since it will establish the basic framework within which investors will work. Among other things, the tariff policy would have to address critical issues such as the manner of fixing the cross subsidy surcharge to be levied. The proposed Tariff Policy should be issued no later than June, after full consultation with the Planning Commission and Finance Ministry. Thereafter the CERC should be requested to undertake a review of the Tariff orders issued by various SERCs to determine the extent to which they are in conformity with the Tariff Policy.

29. *Operationalising Open Access*

Open access provisions are extremely important to enable bulk consumers to access power from generating companies (as distinct from SEBs/distribution companies) on payment of a wheeling charge and cross subsidy surcharge to be fixed by the regulator. This will enable power producers to bypass SEBs that are not considered creditworthy and undertake direct supply to bulk consumers in the market, thus encouraging private investment in generation and avoiding power shortage. It will also put competitive pressure on SEBs/distribution companies to control their cost of supply. The Act requires open access to be introduced for all users of 1 MW and above, no later than January 2009 for which purpose SERCs have to issue regulations by June 2005. The proposed Tariff Policy should address these issues and require SERCs to allow open access in a phased manner instead of waiting for the outer limit of January 2009 set by law for the entire country.

30. *APDRP Restructuring*

The Accelerated Power Development and Reform Programme was designed to encourage reform in electricity distribution and has both an investment component which finances investment in the distribution system and an incentive component which is linked to reductions in T&D losses. The programme was originally conceived with the two components having equal weight and the incentive component was expected to expand over time. In fact, the total disbursement under APDRP is much below expectations and most of the disbursement is of the investment component. The projects approved under APDRP are said to have a payback between 10 months to 4 years with an average payback of 18 months. Clearly this is far from ground realities since many projects are still under construction even after three years. The hard truth is that after three years of the program less than Rs.5,800 crores or about 30 per cent of the approved investment program of Rs.19,489 crores has been completed. At this pace it will take several more years to complete investments before we can see the benefits that the incentive component was to reward. As a comparison, the total disbursement on incentives in three years has been only Rs.955.58 crores. More importantly, since the investment component is largely under construction, the loss reduction against which incentives have been disbursed cannot be related to APDRP investments. Finally, APDRP was supposed to bring down AT&C losses from a level of 50 per cent to 15 per cent in five yeas. This is not even remotely possible. APDRP should be restructured to link it as much as possible to incentivising improvements in distribution especially reduction in T&D losses.

31. *Rural Areas to be Notified*

The Electricity Act provides that electricity supply (generation transmission and distribution) is completely delicensed for notified rural areas. States should be encouraged to notify rural areas where this could lead to the emergence of independent rural suppliers of electricity.

Coal

Coal will remain the mainstay of thermal generation in India given our coal reserves and the expected high cost of petroleum. Coal India may find it difficult to increase coal production to meet the expanded requirements associated with faster growth. This calls for basic changes in the structure of the industry including denationalisation of the coal sector and restructuring of Coal India, especially its loss making subsidiaries. These are obviously difficult issues on which consensus may be difficult to achieve in the short run. However, the proposals listed below are feasible within existing constraints and could make a significant difference:

32. Pricing of Coal

The current system of pricing coal based on "Useful Heat Value" (UHV) is irrational as it is based on an obsolete empirical formula. UHV classification also uses excessively wide bands for grading coal. This weakens incentives for delivering better quality coal and also for washing coal to improve its quality. We should switch to pricing coal on the basis of Gross Calorific Value with narrow bands in line with current international practice. The move is resisted by the Power Sector because they feel it will raise the price of better quality coal. However, this could be calibrated to ensure that there would be a reduction in the price of poorer quality coal

33. Captive Mining

Given the limitations on Coal India in increasing total production, we should adopt a clear policy of encouraging captive mining, including setting a target of achieving say 50 million tons of captive mining per annum by 2012. On that basis, a sufficient number of blocks should be identified and allotted in a transparent manner to major coal users such as NTPC for captive mining including through Joint Ventures with established mining companies. The coal blocks should be bid out in a transparent manner which would encourage potential investors. The definition of captive mining should be broadened to include Group Captive mines, shared by more than one end user. Further, the captive mining policy may be made more flexible by allowing captive mines to sell incidental surpluses (say up to 15 per cent of their production) to Coal India under pre-negotiated agreements, or directly to end users against current linkages/fuel supply agreements with Coal India.

34. Coal Trading

Trading and marketing of coal could be liberalized by removing coal from the list notified under the Essential Commodities Act. CIL could make available about 10 per cent of the production through e-auctions open to both traders and actual users. So far, this has been attempted in an ad hoc manner and the auctions have realised premium prices for CIL. Over a longer period, we need to encourage the emergence of coal traders who would also have an incentive to develop private coal handling capacity in the ports and also to invest in bulk transport arrangements for coal.

35: Ending the system of linkages

The existing system of coal linkages is not consistent with modern energy markets and needs to be replaced in a phased manner by a system of long term fuel supply contracts. Even if existing linkages are not disturbed immediately, trade linkages can be made tradable. More generally, we could move to a system where increased coal supply is not allocated on the basis of linkages. Ministry of Coal should examine the scope for effecting such a charge beginning with some experimental steps in the remaining years of the Tenth Plan.

Petroleum

The medium term prospects for the petroleum sector are dominated by the prospect that international oil prices will remain high. We clearly need to do all that we can to secure oil and gas supplies. A number of good initiatives are underway in this sector. The most important near term policy priority relates to oil and gas pricing.

36. *Oil Pricing*

The liberalized pricing regime for oil products was never really implemented and has come under strain with the hardening of international oil prices. Since current prospects are for continuing high crude oil prices in the international market, our immediate priority should be to nudge domestic oil product prices as quickly as possible to levels that are sustainable. As the overall price level is under control, this is a favourable environment to achieve the necessary adjustment in petrol and diesel prices so that the oil companies are not unduly hurt. An adjustment in kerosene and LPG prices is also needed and is obviously a more sensitive issue. However, the under-pricing of these items is now very high. There is a very good case on economic grounds for a significant adjustment in LPG prices and also some adjustment in kerosene prices.

There is also a strong case for re viewing the current system for determining refinery gate prices which is based on import parity prices for refineries plus various cost margins. The average price paid to the public sector refineries is then paid to private sector refineries. We should move to freer price competition at the refinery gate and also the retail end.

37. *Abandoned/Marginal fields*

At present abandoned or marginal fields for recovery of oil and gas are not included under open competitive bidding. There is a case for allowing foreign companies to bid for these fields under production sharing agreements similar to NELP. This will bring in cost-effective technologies not currently available in India.

Railways

The internal structure of the Railways and its relationship to the government as well as its method of reporting to Parliament, has not changed from colonial times. Given the tremendous changes that have taken place in the economy and in competing transport sectors, there can be little doubt that deep seated reforms are needed in this area. This can only be a longer term agenda but the following initiatives are possible over the next year.

38. *Rail Tariff Rationalization:*

Several high level expert committees which were set up to go into various issues relating to the tariff policies and fare structures have recommended that the price of each service should reflect its cost as closely as possible. Considering that a large portion of the costs incurred in the railway operations are joint costs, a more precise costing methodology would enable the railways to achieve this objective. Railways have already embarked on accounting reforms projects which would facilitate such identification. Keeping these aspects in mind, and also taking note of the violent fluctuations in the price of the petroleum products which still constitute 13 per cent of the Revenue Expenditure of the Indian Railways, the Railways should move towards evolving a fare structure, even if gradually, linked to a rational indexing of the line-haul costs to the tariff. This would facilitate not only reduction of the extent of cross subsidization between the classes among the passenger fares but also between passenger fares and freight and also enable compensation to the Railways for social service obligation in a more transparent manner, as per the commitment in the common minimum programme. At the same time, Railways would, prepare a paper in consultation with Planning Commission on tariff setting mechanism including the need for a Rail Tariff Authority.

39. *Competition in Container Movement*

In pursuance of announcement of the Railway Minister in his budget speech for 2005-06 regarding allowing organization other than CONCOR for movement of container traffic, a revised policy for container movement is being formulated by the Ministry of Railways. This needs to be expedited.

Road Transport

The Committee on Infrastructure chaired by the Prime Minister has identified a road map for reform and implementation in this area which is being closely monitored by the Planning Commission. The following initiatives are particularly important.

40. Restructuring of NHAI

The NHAI is responsible for implementing the various phases of NHDP and this is a mammoth task entailing management of an enormous portfolio of projects, some of which are in the form of construction contracts and others in the form of BOT projects. Effective implementation of this portfolio calls for top class planning, project management and project financing skills. NHAI needs to be restructured by inducting multi-disciplinary skills into the organisation and enabling it to access specialised skills when needed. The NHAI Board should also be restructured with induction of professional expertise at the Board level. The restructuring should be substantially complete by the end of 2005.

41. Model Concession Agreement and Award of Thirty BOT projects

NHDP III covers 10,000 kms of highways to be four-laned on BOT basis. The project includes densely travelled sections outside the GQ and NS/EW, highways connecting state capitals to the GQ and NS/EW, and highway stretches required for connectivity to ports and places of tourist interest. The Committee on Infrastructure had approved that a Model Concession Agreement would be prepared and that 30 BOT projects would be awarded by August 2005. The Model Concession Agreement, which is under preparation, should be widely publicised and discussed in a lender's and investor's conference based on early announcement of the list of road stretches for which investors are being invited to bid. To minimise problems with implementation, NHAI should identify, based on experience thus far, the kind of problems that have delayed projects in the past, and take corrective steps to ensure effective implementation.

42. Six-laning of the Golden Quadrilateral (GQ)

The growth in traffic on the GQ fully justifies further augmentation of this critical part of the road infrastructure by expanding the heavily used sections to six lanes. The Government should announce a programme of 6-laning the GQ over the next 7 years of which at least one half should be completed within 3 years on the basis of toll based BOT. Relevant stretches should be announced early and bids invited by the end of 2005.

Civil Aviation

The Committee on Infrastructure identified several initiatives of which restructuring of Mumbai and Delhi airports through PPPs is the most immediately important.

43. Restructuring of Mumbai-Delhi Airports

The key to successful private public partnership project is to have a good concession agreement that clearly assigns responsibilities and sets the terms of operation. The Operation Management and Development Agreement (OMDA) in respect of Delhi and Mumbai airports has since been finalized and issued to the 9 pre-qualified bidders on 31st March, 2005 along with other related documents inviting technical and financial bids within a period of 12 weeks, Based on RFP bids, the joint venture partners for the two airports are expected to be selected by mid of the current financial year (2005-06). This is a high visibility project of public private partnership in infrastructure development and efforts should be made to ensure that it serves as a model.

Ports

The rapid rise in foreign trade has placed a considerable strain on port infrastructure. Expansion in port capacity and improved quality of port services is vital for trade growth and international competitiveness. In particular, ports need to be restructured for handling the rapid shift towards containerization of cargo. The following initiatives can be taken in this area.

44. PPP in Berth Expansion based on Perspective plans

Experience with JNPT and elsewhere shows that private investors are keen to invest in new private berths and the entry of such operators has already increased capacity and improved efficiency. The traffic at major ports has been increasing at more rapid pace than in the past. It is necessary to put port expansion on high priority in anticipation of faster growth in the years ahead. For this purpose, the major ports on the eastern and western coasts should prepare a perspective plan for the next twenty five years. The perspective plan for each port should be finalized keeping in view the competitive advantage of the port in providing particular specialized service(s) and in consultation and approval stake-holders / concerned agencies. Investment for new berth capacity should be preferably through private investment or Public-Private Partnership. Given economies of scale, the shipping industry is rapidly moving towards larger vessels which require deeper draft. This calls for significant investment in capital dredging. Port Trusts should be encouraged to undertake bankable schemes for leveraging their internal resources for the purpose. The budgetary support to the selected projects relating to capital dredging may be kept at the minimum level. The imposition of modest cess to fund common user facilities including dredging projects also needs to be considered.

Urban Infrastructure

The poor quality of urban infrastructure in our major cities is an aspect of infrastructure deficiency that has come to be increasingly recognised in recent years. Urban infrastructure problems are likely to intensify as our cities expand and our urban population grows. Besides, in an environment in which states are increasingly interested in attracting foreign direct investment, it is inevitable that the quality of infrastructure in urban areas will be one of the critical competitive aspects that investors will consider in making location decisions.

45. *National Urban Renewal Mission*

The Budget for 2005-06 includes a provision of Rs.5500 crore for National Urban Renewal Mission. The basic approach of the Mission is that States willing to undertake urban sector reforms will be provided with assistance that would help finance critical urban infrastructure. A key assumption in designing the urban reforms is that the urban infrastructure should be financially self sustaining subject to the provision of a reasonable amount of viability gap funding. It must be recognised however that the provision of Rs.5500 crore is far from adequate if indeed a number of states seek funds under this program. This is one of the areas where funding requirements could increase substantially in the years ahead.

Labour and Employment

The failure to generate employment in line with the growth of the labour force and the rising expectation of high quality jobs is a major weakness in economic performance. The Government has responded speedily to the NCMP commitment on establishing an Employment Guarantee by introducing a Food for Work Programme in 150 of the most backward districts as an interim measure and introducing the Employment Guarantee Bill in Parliament. This will provide a measure of support at the low end of the employment spectrum i.e. casual manual labour in rural areas, but it cannot address the problems of the educated unemployed who are typically looking for employment of a higher quality. This type of employment can only come from robust growth of the economy especially in labour using sectors. Accelerating the rate of growth of the economy, while ensuring an acceleration in agricultural growth, must be an integral part of any sustainable employment strategy and the various policy initiatives emerging from the MTA will all help to achieve this objective. Other issues that are relevant in this context are the following.

46. *Skill Development and Vocational Education and Training.*

Even as there is a lack of jobs, there is evidence that our educational system is not generating a sufficient supply of trained people, especially those trained in skills that are in demand. To illustrate, in Germany, there are 2500 trade options for skill development and these vocations cover a wide range of activities including manufacturing, training, services etc. Similarly, in China and South East countries, choices for youth to learn a vocation, a skill or a trade are abundant and wide ranging. However, in India, we have only identified about 175 trades for such skill development opportunities and these are also old trades which have little contemporary relevance. Only a small minority of our youth go in for formal vocational education and training. Industrial Training Institutes (ITIs), which are under the State Governments, require extensive upgradation and modernisation of the syllabus to cover trades with contemporary relevance of which there are a large number. A beginning has been made with the proposal to upgrade 100 ITIs, but much more experimentation is needed, with much larger role for public-private partnership. Further assistance to State Government ITIs should be made subject to the condition that the ITIs are organized as autonomous bodies, with facilities for launching a number of new training facilities with potential for vertical mobility, and that such bodies are managed by boards with substantive involvement of local industry and professional organisations.

47. *Change in Labour Laws*

It is a common complaint that our labour laws are much less flexible than in other developing countries with whom we have to compete and this impedes our ability to exploit the full potential for tapping into the global market for labour intensive manufactured products as China has done with outstanding success. Inflexibility in labour laws is by no means the only constraint on our competitiveness. There are many others which must also be tackled. However, labour flexibility is one of the problems and the scope for introducing greater flexibility while protecting the legitimate interests of the employed labour force needs to be addressed. The National Common Minimum Programme outlines the framework of government policy in this area. It rules out automatic hire and fire but it acknowledges that the need for changes in labour laws needs to be discussed. The Report of the Second Labour Commission which has made a number of suggestions which would provide additional flexibility while also protecting interests of labour can provide the starting point for such a dialogue.

48. *Social Security for Unorganised Workers*

Welfare of unorganised workers has to be pursued by State Governments with support from the insurance industry on the basis of contributory schemes that are financially viable. State Governments should enact legislation for welfare of unorganized workers, which should clearly identify the mechanism for raising resources through contribution by workers' salary coverage, employers where possible and the relevant state governments. The benefits to be given, will depend critically on resources mobilised.

Issues Concerning Industry

Over the years we have put in place a framework of industrial policy suitable for transiting to a liberalised and more open economy. The industrial sector has adjusted to the change fairly well. Policies should continue to move in this direction. Some of the policy initiatives which are feasible and could be put in place in the remaining Tenth Plan period are the following:

49. *Small Scale Industry*

The policy of reserving areas of production for the small sector was feasible when the economy was not open but in an open economy, and especially one moving towards low tariffs, it imposes artificial constraints on the efficiency of domestic production. This is now well recognised and the Government has been dereserving sectors periodically. This policy of dereserving sectors should be continued. There is no reason why the process of dereservation should be stretched out over a long period. Dereservation has not hurt the economy thus far and there is merit in implementing it at a faster pace. There is also a case for raising the investment limit for SSI and also creating a new concept of "middle scale industry".

50. *Reducing Inspector Raj*

Small and medium industry is especially burdened by the phenomenon of repeated visits by multiple inspecting agencies, each of which has excessive powers without sufficient transparency or checks on how to use them. The Planning Commission is coordinating an effort to make recommendations on what can be done by the Centre regarding inspections in this domain and what can be done by the States. Determined action by the Central Government in its area to reduce harassment by inspectors will lend credibility to the need for action in this area and may persuade the State Governments to do their bit.

51. *Mineral Sector Policy*

There is tremendous scope for attracting investments, both domestic and FDI, and associated new technology in mineral exploration and mining. However investments and injection of new technology in this sector are held up by excessively complicated procedures with considerable duplication at the State and National level. Most mineral resources occur in forest areas and clearance from forest and environmental angle compound the problem. Weaknesses in infrastructures (power, roads and rail in particular) are another big constraint. The current policies suffer from a bias against issue of large mining leases consistent with development of mines with application of new technology. The procedure regarding environmental and forest clearances is also non-transparent and highly dilatory. A high level committee needs to be set up for reviewing the National Mineral Policy and to suggest measures including possible amendments to the Mines and Minerals Development and Regulation Act and also in other Acts or procedures to attract adequate investment in this sector.

52. *FDI in Retailing*

There is a strong case for allowing FDI in modern retailing. Entry of modern foreign retailers through joint ventures in India will help develop backward linkages to sources of supply and thus develop a domestic supply chain capable of meeting international quality standards. In due course, these domestic suppliers could supply retail outlets operated in other countries. China has benefited enormously from such linkages and it is necessary to review our policy in this respect as part of a general strategy of promoting labour intensive manufacturing by the same retailers. Fears of large adverse effects on domestic retailing are grossly exaggerated, especially since modern domestic retailing has begun in any case. Allowing FDI in joint ventures is likely to provide access for domestic suppliers to international retailing which purely domestic modern retailers may not be able to offer.

53. *Balanced Regional Development*

As stated earlier, apparent regional imbalance in development is an issue of increasing concern. To address the problem, the establishment of a Backward Regions Grant Fund (BRGF) has already been announced in the budget speech of the Finance Minister and the following initiatives need to be taken in this regard.

54. *Addressing Regional Imbalance in Development*

The Backward Regions Grant Fund should be operationalised quickly. It could have two windows. Under the first window, backward districts could be identified for assistance based on objective parameters and with greater emphasis on human development indicators than in RSVY. Initially, the list could consist of districts presently under RSVY but could be enlarged to cover districts in hard-core backward states., viz., Bihar, Orissa, Jharkhand, Chattisgarh, Assam, (East) U.P. (East) M.P., more intensively. The second window could be a grant facility for core infrastructure projects (at inter district or state levels) that would otherwise be considered as financially unviable but are necessary for removing backwardness. The amounts to be made available to states covered will be in proportion to the population residing in their backward districts. Assistance under the fund could be linked to implementation by the concerned states of the constitutional provisions regarding PRIs and district planning.

GOVERNANCE

The Tenth Plan emphasizes the need for initiatives to improve governance, but this is an area where much remains to be done.

55. *Empowering PRIs*

Although the Panchayati Raj Institutions (PRIs) have been established and elections as mandated by the Constitution are taking place, the PRIs have not been empowered through effective transfer of functions, funds or functionaries. Since a large volume of resources is transferred for implementing the Centrally Sponsored Schemes (CSS), which typically deal with subjects that should be handled at the local level, these schemes provide an avenue to the Government of India to persuade State Governments to transfer financial resources and also equip PRIs with administrative support to fulfill the objectives of the CSSs. To encourage a greater role for PRIs, consideration could be given to introducing a linkage whereby releases under CSSs are made to the States only if the States transfer functions, functionaries and financial resources to the PRIs. This could be done at least in the case of the CSSs that fall within the ambit of the Eleventh Schedule of the Constitution which lists functions assigned to PRIs.

56. *Ensuring Security of Tenure to Public Servants:*

Frequent and arbitrary transfers of public servants not only affect delivery of services to the public, but also serve to demoralize sincere, hard working officers. Despite some efforts in the past, the progress in ensuring security of tenure for public servants has not been satisfactory; in fact, the problem seems to have become more acute in some States. There is, therefore, an urgent need for the Central Government to persuade the States to institute mechanisms for providing security to civil servants and discouraging their frequent and arbitrary transfers.

57. *National E-Governance Plan*

The National e-Governance Plan is an important initiative aimed at introducing e-Governance and the associated process re-engineering in various areas of interaction between the government and the citizens and businesses. Mission Mode projects under the Plan need to be put on a time line. For each mission project, the intended outcomes should be stated upfront. In light of these stated objectives, a systematic review of the legacy processes should take place and redundant processes should be eliminated, reduced, simplified or reengineered. At service level, the services to the citizens and businesses should be redefined and integrated within the G2C and G2B domains. Enterprise level reengineering would involve restructuring or merger and finally at the sectoral level reengineering would mean changes in law, redefining the mandate of institutions, regulators and service providers and reconfiguring the service delivery. An apex Committee on e-governance must ensure that a road map is drawn up in the course of next six months for a comprehensive reengineering of processes, services, enterprises and sectors relating to the Mission Mode Projects.

RESOURCE CONSTRAINTS

The priority areas indicated in this chapter include many areas which call for a substantial increase in Plan outlays in the years ahead. Some of the important areas which will require additional resources from the Centre are the following

(i) Expansion of the FFW into a full fledged Employment Guarantee will involve significant additional resources. More precise estimates can be made on the basis of experience gained with FFW in 150 districts but an additional requirement of Rs.20,000 crore per year would probably be needed for full coverage.

(ii) Investment in irrigation and water conservation in dryland areas has not taken place on the scale required. A serious effort in this area would require additional expenditure of at least Rs.7000 crores per annum.

(iii) Public expenditure on health is currently only 0.9 per cent of GDP and the target is to expand it to 2.0 per cent. Even if this is to be done by the end of the 11th Plan, it will call for significant increases annually in the years ahead.

(iv) The success of the Sarva Shiksha Abhiyan will lead naturally to a massive increase in public expenditure on secondary school infrastructure.

(v) Our infrastructure requirements are huge and while a part of the requirement can and should be met by attracting private investment, this cannot be a complete substitute for public spending on infrastructure, either directly in public sector projects where private sector will not be forthcoming or in the form of a capital subsidy (viability gap funding) for private sector BOT projects which may be needed in many cases. If the requirements of rural roads, rural electrification, rural housing, urban infrastructure in major cities, and viability gap funding for the railways and for the highway networks are added up, it would call for additional resources of at least Rs.20,000 crore per year.

It is unlikely that all these demands can be met in the remaining period of the Tenth Plan. In the longer term a determined effort needs to be made to raise resources for these essential expenditures through increased tax revenues following from efforts to reform the tax system and improve tax administration, reducing expenditure on untargeted subsidies and improve user charges. In the short term some prioritization among alternative claims for scarce resources will be necessary.

The following initiatives are potentially important for raising resources in the short term.

58. Operationalising the SPV for Financing Infrastructure.

The SPV for financing infrastructure announced in the Budget for 2005-06 needs to be operationalised at the earliest. This can provide valuable support for potentially viable infrastructure projects which may not be financeable if left entirely to market sources.

59. Resources from sale of equity in profitable PSUs

In view of the resource constraints facing the Central Government, it is necessary to exploit fully the room provided by the NCMP for sale of minority equity stakes in profit making public sector enterprises while retaining government equity at 51 per cent. Systematic pursuit of this option could yield very substantial resource mobilization in the years ahead.

The 59 policy initiatives listed above are not a comprehensive list of the many suggestions that have emerged from the Mid Term Appraisal. These are summarised at the end of each chapter and deserve careful consideration. However, the initiatives enumerated above are those which are most likely to yield results within the time period of the Tenth Plan, and for this reason most relevant in the immediate future. The other initiatives, many of which deal with longer term changes, will need to be pursued as part of the Eleventh Plan agenda.

PART II

Sectoral and Other Issues

Macroeconomic Performance and Projections

1.1 The Tenth Five-Year Plan (2002-07) set an ambitious target for growth of gross domestic product (GDP) of 8 per cent per annum, along with a key sub-target of 4 per cent growth in agriculture, set against the backdrop of a disappointing performance of only about 5.35 per cent GDP growth and 2 per cent growth in agriculture that was achieved during the Ninth Plan (1997-2002). The Tenth Plan strategy was explicitly based on the recognition that the economy was in the middle of a cyclical slowdown and that public investment in infrastructure would have to be the key to accelerate the recovery process. The existence of large unutilised capacities in manufacturing presented an opportunity to accelerate growth in those sectors without corresponding increases in investment. Agriculture was seen as the key sector of the economy for two important reasons: to generate adequate employment opportunities and thereby reduce poverty; and to provide the necessary level of domestic demand support for sustaining the high level of growth in the longer term.

1.2 The experience of the first three years of the Plan suggests that both the overall growth target as well as the agriculture sub-target will not be achieved, and these targets for the Plan period as a whole have to be scaled down significantly even as efforts are made to improve performance in the last two years of the Plan. In such a situation, the employment and poverty reduction objectives are also likely to slip and there is, therefore, a strong case for measures that can mitigate the consequences of non-attainment of the targets.

GROWTH PERFORMANCE

1.3 The Tenth Plan had targeted an average annual growth rate of GDP of 8.1 per cent for the Tenth Plan period to be achieved by a steady acceleration in the course of the Plan period from around 6.7 per cent in 2002-03 to 9.3 per cent in the terminal year 2006-07. This was expected to lay the basis for a growth rate of above 9 per cent during the Eleventh Plan period.

1.4 The expected growth rate in the first three years was about 7.4 per cent on average, and the actual performance has been 4.1 per cent in 2002-03, 8.6 per cent in 2003-04 and is estimated to be around 6.9 per cent in 2004-05, averaging 6.5 per cent for the three years. The shortfall in the first three years is, therefore, about 1 per cent per year. More disturbing is the fact is that the acceleration needed to achieve the 8.1 per cent target is too great to be achieved. Achievement of the Plan target is only possible if GDP growth in the last two years averages nearly 11 per cent per year, which is clearly infeasible on present trends.

1.5 A reassessment of the likely growth that can be achieved during the Tenth Plan has been made on the basis of the actual growth experienced in the past three years, and the behavioural relations underlying the Indian growth process. The macroeconomic parameters consistent with the revised growth scenario have been worked out on this basis. These estimates are shown in Table 1.1 below. In working out these estimates, it has been assumed that the target growth rate during the post-Plan period, i.e. the Eleventh Plan, will be 8 per cent, which is ambitious but not infeasible provided that the projected trends are realised.

1.6 As may be seen from the Table, although the growth rate of GDP in each of the last two years of the Plan (2005-007) can potentially be above 7.5 per cent, the over-all GDP growth rate for the Plan as a whole is unlikely to exceed 7 per cent. It may further be seen that the cause of the relatively slower growth is not the availability of investible resources, since the domestic savings rate has exceeded the Plan targets in the first two years of the Plan. The current account balance (CAB), which is a measure of the inflow of foreign savings, has also been positive rather than the targeted negative, indicating that the country has not been able to absorb the foreign capital inflows and has actually exported capital during the first two years of the Plan, and may do so again in 2004-05. This is reflected in the fact that although the country has experienced large inflows of external financial capital, this has only led to a burgeoning of the foreign exchange reserves of the nation without contributing to additional physical investment. It is projected that the current account balance may turn into a deficit from 2004-05 onwards, but the magnitudes are not likely to be large enough to fully absorb the external capital flows.

1.7 The inability to absorb the external capital inflows is actually understated in the figures given in Table 1.1. While working out the macroeconomic projections for the Tenth Plan period, it had been assumed that the price of the Indian basket of crude oil would be at US$ 28 per barrel, which was higher than the prevailing rate of US$ 24 in 2001-02. Oil prices have moved up steadily since then, and especially from 2003 onwards, and had touched US$ 54 at one stage. As a consequence, the value of imports has been higher only on account of the higher oil prices. If corrections are made for this factor, the current account surplus in the first two years of the Plan would be even larger than has been shown, and would almost certainly be positive in 2004-05 as well. While making projections for the last two years of the Plan, it has been assumed that oil prices will stabilize at around US$ 40 per barrel. This does, however, represent a downside risk for the economy, and if oil prices stay above the assumed level, there may have to be some moderation in the growth projections. Unlike earlier episodes, however, the threat is not really to the balance of payments, but to inflation, on the one hand, and to aggregate demand for non-oil goods and services, on the other. The appropriate macroeconomic policy responses will, therefore, have to be different from the past.

1.8 The uncertainties prevailing the international economic environment and the expectations of slower growth of the world economy in the immediate future could also pose problems. There are two major areas of concern. First, a rise in international interest rates is likely to lead to slow down or even reversal of capital flows and to corresponding upward pressure on domestic interest rates. This may not be a matter of immediate concern, since the cushion provided by our foreign exchange reserves can mitigate such pressures for atleast some time. More importantly, the growth rate of Indian exports may be adversely affected, leading to reduction in the aggregate demand in the economy. The growth rate of the economy for the next two years is based on a projected export growth rate of 16.2 per cent - which is more than double the estimates for the growth rate of world trade in 2005-06. This itself is not unreasonable since India's share in world trade is still very small, and high rates of export growth can be sustained without inviting repercussions. In fact, during the last three years (2002-2005), the growth rate of Indian exports has been significantly higher than the growth rate of world trade. Nevertheless, it is necessary to recognise that this could be a problem area. It has been estimated that every one percentage point reduction from the targeted growth rate of exports could potentially pare the GDP growth rate by nearly 0.2 percentage points, unless compensated by higher than projected growth of agriculture. Thus a 5 percentage point lower export growth rate – i.e. 11 per cent - would reduce the GDP growth rate by one full percentage point. In such a situation, agriculture would have to grow a full percentage point more than the target – i.e. at 4.5 per cent - compensate, which may not be feasible. This underscores the importance of taking innovative steps to improve the policy and procedural environment for exports.

1.9 The rate of savings as reported by the CSO shows a very sharp increase in the first two years of the Plan taking the savings rate to a level much higher than projected in the Tenth Plan. Correspondingly, the rate of investment also exceeded the plan target in the first two years of the Tenth Five Year Plan, though by a lesser amount. This higher than expected rate of savings is a welcome sign, though it is important to be cautious for future projections based on these high estimates of savings and investment in view of high level of errors and omissions in the CSO's quick estimates. Therefore for 2004-05, 05-06 and 06-07 we have adopted more conservative savings and investment rates. If they turn out to be higher, we could have higher growth rates.

1.10 It is important to note that there is a welcome reversal of the slow growth pattern observed during the Ninth Plan period. With appropriate policy changes in critical areas, the

Table 1.1
Macroeconomic indicators for the Plan

(percentage of GDP)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	**Tenth Plan**	**Post Plan**
1. GDP Growth Rate								
(a) Tenth Plan		6.8	7.4	8.2	8.8	9.3	8.1	9.3
(b) Actual/MTA*	*5.2*	*4.1*	*8.6*	*6.9*	7.6	7.8	7.0	8.0
2. Investment Rate								
(a) Tenth Plan		24.5	25.9	27.7	30.1	32.3	28.4	32.3
(b) Actual/MTA*	*23.1*	*24.8*	*26.3*	26.0	27.1	28.6	26.6	29.4
3. Public Investment Rate								
(a) Tenth Plan		7.5	7.5	7.8	9.0	9.9	8.4	9.9
(b) Actual/MTA*	*5.8*	*5.9*	*6.4*	6.9	7.6	8.6	7.1	9.1
4. Domestic Savings Rate								
(a) Tenth Plan		23.8	25.2	26.6	28.1	29.4	26.8	29.4
(b) Actual/MTA*	*23.5*	*26.1*	*28.1*	25.9	26.6	27.7	26.9	27.9
5. Public Savings Rate								
(a) Tenth Plan		-1.5	-0.6	0.3	1.2	2.1	0.4	2.1
(b) Actual/MTA*	*-2.7*	*-1.1*	*-0.3*	-0.1	0.0	0.6	-0.1	0.8
6. Current Account Balance (CAB)								
(a) Tenth Plan		-0.7	-0.7	-1.1	-2.0	-2.9	-1.6	-2.9
(b) Actual/MTA*	*0.4*	*1.3*	*1.8*	-0.1	-0.4	-1.0	0.3	-1.5

NOTES:

* : Numbers in italics are actuals and others are projected for Mid-Term Appraisal (MTA).
1. GDP refers to GDP at Market Prices, and all ratios are expressed with respect to GDPmp
2. CAB: Negative value implies Savings < Investment and vice versa.
3. The Plan does not have annual targets, and the figures shown against the Tenth Plan are obtained through intrapolation.
4. The growth rate for 2001-05 and savings and investment ratios for 2001-04, are based on National Account estimates, whereas those for other years are projected from the Plan model.

investment momentum will have to be maintained in the near future as the economy moves up the expansionary phase of the business cycle. The projected growth rate of investment in the last three years of the Plan (2004-07) has, therefore, been placed at 10.5 per cent per annum, with private investment growing at 7.6 per cent. It needs to be noted that public investment has been targeted to grow significantly faster than private during this period. This is based on three important considerations. First, the experience of the Ninth Plan suggests that the Indian economy is now much more vulnerable to business cycle behaviour, and sustained growth requires the stability provided by public investment. Second, infrastructural infirmities need to be addressed as early as possible in order to prevent them from becoming constraints on private investment and growth. Third, since most public investment is in infrastructure, almost all of which have fairly long gestation lags, the pipe-line investments necessary for creating adequate infrastructure for attaining the 8 per cent plus growth target in the Eleventh Plan have to be initiated at this stage itself.

1.11 It can be further observed from Table 1.1 that despite the high investment growth expected in the coming years, the Indian economy is unlikely to either overheat or face balance of payments problems. The domestic savings rate is projected to increase steadily, mainly on account of increases in public and private corporate savings. As a consequence, the current account will, no doubt, turn into deficit, but it should be significantly lower than the expected flow of external financial resources, which could be as high as 3.5 per cent of GDP over this period. In fact, total foreign investment alone is projected to reach $ 13.1 billion by 2006-07, which is 1.5 per cent of GDP.

1.12 Sectorally, the targets that had been set for the Tenth Plan have been missed in all the sectors during the first two years, and are likely to continue to fall short in the future as well. The sectoral growth targets for the Plan along with the actual and projected performance are presented in Table 1.2. The most worrying feature of the recent growth experience has been the performance of agriculture. The Tenth Plan had targeted growth of agricultural GDP of 4 per cent per year, aiming to reverse the deceleration in the second half of the 1990s – from 3.2 per cent in the period 1980-1996 to 2.6 per cent in the period 1996-2002. This is nowhere near being achieved. The average agricultural GDP growth in the first two years of the Plan has been only 1.35 per cent as against the targeted 3.6 per cent, and it is unlikely to be very much above 1 per cent in the 2004-05 . Therefore, in the first three years of the Plan, average agricultural growth would be about 1.3 per cent at best, which would be more than 2.5 percentage points below the target. The failure in this area is a major factor underlying rural distress which has been visible in recent years, and also the slower growth of the economy as a whole. It may be recalled that the Tenth Plan had laid considerable stress on the role of agricultural incomes in providing demand support to the non-agricultural sectors. This continues to be true despite the fact that exports have performed better than expected, with almost 18 per cent average annual growth in dollar terms during the first three years of the Plan, and thereby reduced, to some extent, the short-fall in aggregate demand emanating from the agricultural slow-down. In the longer term, however, this pattern of growth is unsustainable, even though exports are projected to grow by 16.2 per cent during the remaining years of the Plan.

1.13 Industrial growth in the first two years was 6.6 per cent, which is also short of expectations (average 7.6 per cent), though not quite as much as in agriculture. Although industrial growth has picked up strongly in 2004-05, we are still far from the rates needed to achieve Plan targets. Our projections indicate that industrial growth can accelerate substantially in the coming years, but it would require concerted efforts on both policy and infrastructure fronts. This should be of the highest importance, since failure to achieve high rates of industrial growth will limit the ability of the economy to generate high quality jobs, particularly for the educated youth. In addition, the strong backward and forward linkage effects of the industrial sector make the

Table 1.2
Sectoral Growth Rates
(at factor cost and at 2001-02 prices)

	2002-03	2003-04	2004-05	2005-06	2006-07	Tenth Plan	Post Plan
Agriculture & Allied							
(a) Tenth Plan	3.5	3.7	4.0	4.2	4.4	4.0	4.4
(b) Actual/MTA	-6.8	9.5	1.1	4.0	3.2	2.2	3.4
Industry							
(a) Tenth Plan	7.2	8.0	8.8	9.7	10.6	8.9	10.6
(b) Actual/MTA	6.6	6.6	7.6	8.2	8.9	7.6	9.1
Services							
(a) Tenth Plan	8.0	8.5	9.5	10.0	10.3	9.3	10.3
(b) Actual/MTA	7.3	8.4	8.3	8.5	8.8	8.3	9.0
GDP at Factor Cost							
(a) Tenth Plan	6.7	7.2	8.0	8.6	9.1	7.9	9.1
(b) Actual/MTA	3.7	8.2	6.5	7.5	7.7	6.7	7.8

NOTES:
1. The Plan does not have annual targets, and the figures shown against the Tenth Plan are obtained through intrapolation.
2. The figures for the first three years (2002-05) are based on National Account estimates, whereas those for the last two years are projected from the Plan model.

growth of other sectors highly sensitive to its performance.

1.14 The services sector has averaged 7.85 per cent growth in the first two years of the Plan, which is quite creditable even though below the targeted 8.3 per cent for the period. In particular, the telecommunication sector has grown much faster than expected. This strong performance of the services sector is expected to continue for the remainder of the Plan, although it may not actually touch the targets that had been set originally, mainly because the commodity-producing sectors (agriculture and industry) are growing slower than expected and are not likely to provide the level of demand support that had been anticipated.

1.15 One of the brightest spots in India's economic performance in recent years has been the emergence of knowledge-based industries as the front-runners in the global marketplace. The early successes of the software sector are being replicated in a number of other activities such as business process outsourcing (BPO), bio-technology, pharmaceuticals, industrial design, tertiary health-care, etc. There is vast potential in these activities, but it is clear that a number of other developing countries have also identified them as areas of focus for the future. In order to prevent an erosion of India's present pre-eminence from these emerging threats, the factors behind the country's success will have to be identified and it has to be ensured that we strengthen and creatively build upon them. The entrepreneurial dynamism and competitiveness of these sectors suggest lessons about the policy and operating environment that promotes dynamism, and these lessons can be fruitfully applied to other segments of Indian industry.

1.16 The revision of the aggregate as well as sectoral growth targets for the economy as a whole will necessitate changes in the state-wise growth targets that have been specified in the Plan document. Unfortunately, the data on Gross State Domestic Product (GSDP) are not available after 2002-03, thereby precluding any meaningful assessment of state-wise performance *vis-à-vis* the targets.

SECTORAL PROGRESS AND PROSPECTS

1.17 A key assumption in the Tenth Plan was that the high growth rate of 8 per cent could be achieved with only a relatively modest investment rate of around 28 per cent, instead of 32 per cent or so suggested by traditional incremental capital-output ratio (ICOR) relationships. This was felt to be justified because of the existence of two types of unutilised capacities:

- Those which have arisen out of the demand constraint
- Those which are more structural in nature and arise out of policy rigidities in transfer and utilisation of capital assets.

It was visualised that much of the growth during the first two years of the Plan would come from the former. In later years, policy reforms (including legal changes) were expected to facilitate more effective use of structurally hampered capacities.

1.18 In taking stock of the progress made in utilising productive capacities and the success achieved on the investment front, the sectoral status of capacity utilisation has been recomputed using the latest investment and production data. The methodology used for computing the assessed capacity (or, alternatively, the potential output) is briefly described in Box 1.2. The extent of excess capacity is defined as the percentage deviation of the actual output of the sector from its assessed capacity. These are presented in Table 1.3. These results should be used with caution, since they are very sensitive to the ICOR estimates, but they throw interesting light on some features of the Indian economy, and offer pointers towards future action.

1.19 Although the notion of capacity is very difficult to apply to agriculture & allied activities due to the complexity of factors intermediating the relationship between investment and output, the existence of such high 'excess capacities' in recent years as indicated in Table 1.3 demands careful reflection, especially in view of the tendency to ascribe poor agricultural performance entirely to the lack of adequate investment. Historically, the agricultural sector has never displayed excess capacity except in years of poor rainfall, and even then the magnitudes have been small (never more than 5.5 per cent). This pattern changes dramatically from 1997-98, and the series displays a secular increase in excess capacity, rising to above 18 per cent in the drought year of 2002-03. Even the bumper year of 2003-04 has not led to

BOX 1.1
Estimating capacities

The assessed capacity of each sector for the Tenth Plan as well as for the mid-term appraisal (MTA) has been computed on an annual basis using the sectoral investment data generated by CSO and the incremental capital-output ratios (ICORs) estimated by the Planning Commission. The key elements of the methodology are:

- **ICORs used for this purpose take into account the gestation lags in each sector using a procedure described in the Tenth Plan document.**
- **The year in which the actual output exceeded the assessed capacity by the highest amount was taken to be the base year with zero excess capacity and the series recalibrated around it. Thus the base year varies from sector to sector.**

This methodology is, therefore, based on actual investments made in each sector and not on any trend analysis, which is the common way of estimating potential output. It is, however, driven purely by investment and does not take into account other influences which may affect output behaviour, such as weather conditions, technological change or X-efficiency factors. To this extent, it tends to underestimate actual capacity.

Table 1.3
Sector-wise Excess Capacity in the Economy
(percentage of assessed capacity)

SECTORS	2001-02	2002-03	2003-04	2004-05
Agriculture & Allied	8.8	18.4	14.7	17.6
Mining & Quarrying	7.3	2.1	0.0	0.1
Manufacturing-Registered	18.6	16.5	15.8	12.7
Manufacturing-Unregistered	3.7	2.1	0.8	0.0
Electricity	6.3	9.2	10.7	9.6
Construction	3.2	2.9	0.2	0.0
Trade	7.0	5.2	0.0	0.0
Hotels	0.0	0.7	0.0	0.0
Railways	0.0	0.0	0.0	0.0
Other Transport	2.8	1.9	0.0	0.0
Storage	11.3	26.1	26.6	30.1
Communications	0.0	0.0	0.0	0.0
Banking & Finance	7.8	4.7	2.5	0.5
Real Estate	3.2	3.9	4.3	3.8
Public Administration, etc	5.8	8.7	9.8	11.8
Other Services	3.3	12.4	14.1	14.7
All Sectors	**7.4**	**9.9**	**7.9**	**8.1**

NOTE: The capacity calculations are based on the sectoral investment figures of the CSO which are obtained from the Commodity Flow Approach (CFA). These numbers are, therefore, not comparable with the aggregate investment figures given in Table 1.1, which are based on Flow of Funds Approach (FFA).

any perceptible divergence from the trend. This suggests that the agricultural sector has lost about 2 percentage points of annual growth on the average for a period of more than seven years continuously. Clearly, there are factors at work which are retarding the ability of this sector to obtain full advantage from even the limited investments that are being made. Therefore, focus needs to shift away from an 'investments only' approach — although acceleration in agricultural investment no doubt remains essential — to addressing the range of *malaise* affecting this sector.

1.20 On the supply side, irrigation and effective water resources management are the most critical issues for agricultural development, and it is possible that much of the problem may lie here. The following issues need consideration:

- The Accelerated Irrigation Benefit Programme (AIBP), which was designed to bring on-going irrigation projects to quick completion, does not appear to have had sufficient tangible benefit. The area under irrigation is still expanding very slowly despite additional allocation of funds. The Comptroller & Auditor General (CAG) has criticised the functioning of the scheme on a number of grounds.
- The continuing neglect of existing irrigation assets in terms of repairs and maintenance may have led to a situation where the loss of irrigation

potential is larger than the new potential created.

- Existing irrigated areas are displaying serious water-stress, as ground water sources seem to be depleting and reservoirs are not being adequately recharged. Consequently, the agricultural output from irrigated areas also seems to be more vulnerable to weather shocks than earlier.
- There is no effort at either restoring the natural recharge systems of primary water sources or creating artificial recharge mechanisms.
- Watershed development has been given high priority in name for several years, but it does not appear to be making much headway except in isolated cases. A possible reason could be that there is insufficient technical expertise available for this purpose. In addition, there are too many agencies of the Centre and state governments implementing watershed schemes. This opens the possibility of large-scale misuse. Lack of community participation is now regarded as the principal reason why earlier efforts failed. However, the ability to achieve effective community participation varies enormously across states.
- Traditional water harvesting structures have become virtually defunct. Their restoration involves not only the physical and financial aspects of the task, but a clear demarcation of water rights and entitlements. Indeed, assignment of water entitlements may lie at the heart of successfully implementing decentralised irrigation systems.
- The existing institutional structures and manpower deployment in state Irrigation Departments were designed essentially for major and medium irrigation projects. There is further potential for these, but much more attention must now be paid to watershed development and micro-irrigation. The departments may need to be completely reconstituted to provide necessary technical expertise for such purposes.

1.21 Bringing wastelands and degraded lands into productive use was an important component of the Tenth Plan agricultural strategy. To this end, two major initiatives have been launched – the National Mission on Bamboo Technology and Trade Development and the National Mission on Bio-Diesel. Although there has been some progress in this direction, it appears that the issue of land rights is yet to be resolved for the most part, and this is proving to be the major constraint. For both forest and government lands, it is difficult to involve local communities unless land ownership is given to them.

1.22 Revival of agricultural dynamism will also call for corrective steps to deal with the near collapse of the extension systems in most states and the decline in agricultural research universities. Research efforts will need to be more strategic in nature and should harness the expertise available in the private sector as well.

1.23 The supply side apart, the demand side also needs to be addressed. Recent evidence suggests that the traditional assumption of more than adequate demand for all kinds of agricultural products may no longer be valid. Agricultural diversification has to be a major element in the strategy for accelerating agricultural growth and this calls for action on several fronts. Ideally, there should be a shift of land from cereals to non-cereals (increasing both farm incomes and employment) combined with an increase in productivity in cereals to ensure that per capita availability of cereals does not decline. Diversification is unlikely to be a feasible strategy all over the country but it could hold great promise in some areas. The shift from cereals to horticultural crops requires a supportive policy framework in other respects, notably a much greater focus on: marketing arrangements, including encouragement of private sector involvement in marketing, encouragement of downstream food processing and research linked to market requirements for diversifying into horticulture.

1.24 Non-farming rural activities, which are synergistically related to agriculture, have seen a secular decline in recent years. To some extent this may be related to the slow down in agriculture, but there does not appear to be any strategic approach to this issue in terms of policies and programmes. Little has been done in this matter, other than the initiatives taken on self-help groups (SHGs). Much greater focus is clearly necessary on agro-processing and a range of other rural services, which require infrastructural support beyond what is traditionally considered necessary for rural areas.

1.25 The other major problem is the lack of credit availability and the inability of the farmers to repay debt. This is due, in part, to the pervasive sickness of the co-operative credit system and also the unwillingness or inability of the banks to extend direct credit.

1.26 As far as the policy framework is concerned, it is necessary to consider changes for promoting market institutions needed for diversified agriculture. The Essential Commodities Act (ECA) is a major impediment to the development of modern markets and there is a strong case for replacing it with suitable provisions which could deal with emergency situations without hampering normal market activity. The Agricultural Produce Marketing Committee (APMC) Acts in the states also restrict the growth of agricultural marketing and are not conducive to development of horticulture, and should be replaced by a new model legislation which would allow co-operatives and private parties to set up modern markets. A number of items have been taken off the ECA, but the relatively rigid rules framed under the Act by various states continue for the most part. The NCMP states that the Act will not be diluted, but it is necessary to examine this issue in depth so that changes which are necessary in the interest of accelerating growth of farm incomes can be made. A model APMC Act has been drafted and circulated to the states, but there is little movement towards its adoption. There has also been little progress in rationalising the multiple food safety laws, which hamper the development of a modern food processing industry.

1.27 In so far as mining & quarrying is concerned, whatever little excess capacity existed at the beginning of the Plan period has clearly been exhausted. This is cause for concern, since there has been inadequate investment in this sector in recent years, other than in petroleum and natural gas. To make matters worse, this sector typically has long gestation lags, usually more than seven years for major projects, which demands adequate advance planning. Unfortunately, the policy framework for this sector is still not conducive for substantial private participation, and a number of public sector undertakings (PSUs) have not invested even the internal resources available to them. Therefore, little dynamism can be expected in the short to medium run. On the other hand, immediate shortages can be overcome through higher imports, even though the international markets for most such products are fairly tight at the moment. In the longer run, however, this sector may prove to be a binding constraint unless measures are taken immediately.

1.28 The registered manufacturing sector, with nearly 19 per cent excess capacity in 2001-02, was viewed as being the source of much of the growth during the initial years of the Plan, with output increasing rapidly as the demand constraint was eased through higher public investment. In the later years of the Plan, as excess capacities were used up, fresh investment demand from this sector was expected to be the principal driver of growth in the economy. Table 1.3 suggests that capacity utilisation in this sector has no doubt improved, but not to the extent that had been expected. This would mean that, on the one hand, there is ample scope remaining for high growth of this sector in the coming years; but, on the other hand, new investment in this sector may not be as high as could be hoped.

1.29 The unregistered manufacturing or the small and medium enterprises (SME) sector has been a dynamic segment of Indian industry and has proved its competitive ability in recent years. It never displayed the kind of excess capacities seen in the registered sector even during the trough of the industrial slowdown. Indeed, much of the investment activity in manufacturing during the low investment years between 2000 and 2003 took place in this sector. This was partly the outcome of the resources released by slack investment activity in the corporate sector. There is, however, reason to believe that the growth of this sector has been and is likely to be hampered by the lack of a sufficiently dynamic financial sector. In fact, as corporate investment demand rises in the coming years, it may 'crowd out' the SME investment unless appropriate policy interventions are made.

1.30 The capacity utilisation in the electricity sector presents a conundrum, which needs to be resolved. It can be nobody's case that the power sector is either demand constrained or has received more than necessary investment in recent years – indeed, quite to the contrary. Also, the plant load factor has increased over this period, which should have led to a decline in the excess capacity. The causes of the estimated 'excess capacity' must therefore lie elsewhere. In this sense it is similar to the discussion on agriculture. The emergence of this excess capacity begins in 2001-02, and increases quite rapidly thereafter. It may be the case that this is the outcome of the greater emphasis that is being placed on transmission and distribution in recent years, which improves the quality and efficiency of the power sector without materially contributing to its output or value-added. This is, of course, eminently desirable. It could also be the case that there has been a recent spurt in the investment activity in this sector, and the capacities have yet to come into production due to longer gestation lags than has been assumed.

1.31 The other infrastructure sectors – construction, railways, other transport, and communications – expectedly have little or no excess capacity, which may cause problems in the coming years. Infrastructure was recognised to be a critical constraint needing large investments in the Tenth Plan, and it was expected that policies would be evolved which would allow a large contribution of private investment to support expanded public investment in these areas. It is becoming increasingly clear that with the exception of a few sub-sectors, such as telecommunications, ports and airports, private participation will require not only policy support but some financial support as well. Developing credible public-private partnership (PPP) models and backing these with adequate public resources, in terms of both long-term debt and viability-gap support, will be the key to ensuring that infrastructure does not become the binding constraint to sustained high growth rates in the country.

1.32 The most surprising feature of Table 1.3 is the large excess capacities that have appeared in the services sectors excluding trade, banking & finance, and hotels & restaurants. It is difficult to comment on this since the services sectors comprise of a large number of disparate sub-sectors, each with its own particular characteristic. On the whole, it appears that the under-capitalisation, which has traditionally characterised services in India, is beginning to change, and the country is starting to witness the emergence of more organised service activities. This has both pros and cons, and care will have to be taken to ensure that the unorganised service sectors, which provide livelihoods to a large number of the poor, are not adversely affected. In the case of public services, however, since the value-added is measured as the real wage bill, it may well be the case that facilities are being created without adequate provisioning of staff due to the desire to contain revenue expenditures. This may not augur well for the effectiveness of these investments.

SOCIAL DEVELOPMENT

1.33 A basic shift in priorities signalled by the NCMP was the need to give greater importance to social sector expenditures as part of the effort to promote development with social justice, in particular for the scheduled castes and scheduled tribes. The Tenth Plan specifies monitorable targets for certain indicators of social development in health, education and gender equality. These targets are not identical to the Millennium Development Goals (MDGs) but it is believed that if these targets are met, then the other MDGs are also likely to be achieved. It is a matter of deep concern that at the current pace of progress, it appears unlikely that many of these targets will be met.

1.34 The targets regarding education required that 100 per cent enrolment in primary schools be achieved by 2003 and 100 per cent retention be achieved immediately thereafter. The slow pace of roll-out of the Sarva Shiksha Abhiyan (SSA) has led to a situation that the 100 per cent enrolment target is unlikely to be achieved even by 2005. There are a number of issues that need to be addressed in this context:

- The fiscal implications of SSA, especially for state finances, does not seem to have been factored in adequately in the TFC award. Unless the Planning Commission provides adequate support, the programme is likely to run into financial constraints rapidly.
- Since elementary education has been declared a Fundamental Right, there is always the possibility of the courts intervening, which could prove disruptive. In order to forestall such a possibility, it is necessary to clearly lay down the roll-out plan and to adhere to it strictly. This will require close coordination between the Centre and the states.
- An important instrument for improving retention in schools is the Mid-day Meal scheme. This scheme has worked well in some states but its operation has not been satisfactory in a number of others. At the moment, however, the Mid-Day Meal is operating under Supreme Court direction as a component of the right to food, and the Centre has been charged with providing adequate financial support, but the financial aspect may not in fact be the most important consideration in achieving the desired objective.
- The Tenth Plan had pointed out that if the SSA succeeded, it would place heavy demands on the secondary school system, which may become difficult to meet unless steps are initiated right away. This concern remains valid even though the progress of SSA has been slower than planned.

1.35 Inadequate progress on the health and family welfare front is a matter of grave concern. Unless prompt and decisive steps are taken, the Plan targets on infant mortality rate (IMR) and maternal mortality rate (MMR) will not be met, and the MDG targets too will almost certainly be missed. Unlike the case of primary education, where a well-designed intervention in the form of SSA exists, there is no real blue-print for the development of the primary health sector. There is need to initiate a fresh approach in this area that can be initiated within the Tenth Plan period even if it can be fully operationalised only in the Eleventh Plan period. It may also be necessary to identify more limited interventions within the existing health framework e.g. focusing on the empowered action group (EAG) states identified for family welfare purposes. In particular, the health needs of the rural areas of the country have to be addressed in a mission-mode if the MDG targets are to be achieved.

1.36 Concerns about gender equity are reflected in the monitorable targets of the Plan, but little appears to have been done about empowering women so that these intentions are backed by gender-sensitive institutional structures. More generally, inadequate attention has been paid to finding ways of mainstreaming gender concerns in our policies and programmes. This is an issue which needs careful consideration while designing intervention strategies.

1.37 Social justice and empowerment of backward classes by and large continues to be followed as a set of special programmes rather than as an integrated strategy. The needs of the tribal population in particular have to receive focus, since the available evidence indicates that the gap between the scheduled tribes and the rest of the population in almost all social indicators is widening despite some improvement in absolute terms.

1.38 Over the years, a number of programmes have come into existence for providing food and nutritional support, especially for the poor. At present, from the Centre, the schemes which provide food support are the Targeted Public Distribution System (TPDS), Antyodaya Anna Yojana, Mid-day Meal Scheme, Integrated Child Development Services (ICDS) and Food for Work scheme. In addition, some states have their own schemes for similar purposes. These schemes have increased in recent years as a result of a perceived worsening of the nutritional problem. However, there has been no stock-taking of the overlap between these various schemes in terms of the target groups. There is need to rationalise the overall food and nutritional interventions being made by government. The issue of adequacy of nutrition needs to incorporate the fact that certain vulnerable groups, particularly children, lactating mothers and adolescent girls, require interventions that go beyond the calorie-protein norms currently sought to be met through foodgrains alone.

INVESTMENT STRATEGY AND NEEDS

1.39 The investment strategy of the Tenth Plan reflected the fact that in the base year of the Tenth Plan (2001-02), the economy was in the middle of a cyclical slow-down, with the investment rate at 23.1 per cent of GDP as against the peak of 26.2 per cent achieved in 1995-96. Capacity utilisation was low in a number of sectors, especially in manufacturing. Agricultural output, and thereby rural incomes, had shown relatively low growth and high volatility through the Ninth Plan period (1997-98 – 2001-02). International markets had gone into a recessionary phase.

1.40 It was felt that private investment demand was unlikely to revive until the capacity utilisation in industry increased to significantly higher levels. Revival of rural consumption demand was expected to contribute to investment expansion, but this would only happen over time if agricultural growth targets were met. Exports were unlikely to provide adequate demand support due to depressed international market conditions. Moving into a high growth trajectory from this base level situation, therefore, required a sustained demand impetus from public expenditures, especially public investment, even if it required some relaxation of fiscal discipline. There was little danger of "crowding out", since private investment demand was well short of the resources available, especially if one included the potential availability of external resources which went into a build up of reserves.

1.41 The strategy adopted, therefore, was to accelerate the recovery process through an early stimulus to public investment, which, in turn, was expected to lead to a revival of private investment to take the momentum forward in the later years. Since private investment would really start to pick up only some time during 2003-04, the level of investible resources available to the private sector would not be a major concern until then, but it would become so in the last two years of the Plan. It was, therefore, envisaged that the process of fiscal correction should focus on the revenue deficit and not the fiscal deficit, which could remain as high as 4.3 per cent of GDP for the Centre and 2.2 per cent for the states even in the terminal year of the Plan. The consolidated revenue deficits, however, was envisaged to go down to around 2.4 per cent of GDP by the terminal year 2006-07 in order to provide the requisite amount of public savings for financing sustained high levels of public investment.

1.42 In the event, growth has been slow in the first three years of the Plan,and despite the high rate of investment, capacity utilisation in industry appears to have increased, although not to the extent that had been anticipated in the Plan. Some excess capacity remains for tapping in the immediate future, but increasingly future growth prospects will now depend on sustained growth of private investment and also public investment in critical infrastructure. However, as indicated in Table 1.3, there is enough excess capacity available to

Table 1.4
Investment trends and projections

	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07
Public	7.2	7.0	7.4	6.6	6.4	5.9	6.4	6.9	7.6	8.6
Corporate	8.7	6.8	6.9	5.4	4.8	4.7	5.2	6.0	6.9	8.0
Household	8.7	8.9	11.0	11.9	11.9	14.2	14.7	13.1	12.6	12.0
TOTAL	24.6	22.6	25.3	23.8	23.1	24.8	26.4	26.0	27.1	28.6

ensure that the growth process in the rest of the Tenth Plan period will not be hampered by a lack of capacity or that the economy will overheat. The principal areas of concern are in the infrastructure sectors, which have exhausted what little surplus capacity existed at the beginning of the Plan period. The existence of excess capacities in demand-constrained sectors also implies that the need for investment buoyancy to provide adequate demand impetus continues to be relevant.

1.43 The behaviour of investments by type of institutions in the recent past is given in Table 1.4, and brings out quite clearly the investment dynamics in the Indian economy. As can be seen, the Ninth Plan period (1997-98 to 2001-02) was characterised by a more or less steady decline in the public investment rate, and a precipitous reduction in the corporate investment rate. The only reason that the economy did not go into recession was the dynamism shown by the household sector, which partially filled the space vacated by the organised sectors.

1.44 The declining trend in the public investment rate continued in the first year of the Tenth Plan (2002-03), and has reversed only thereafter. Interestingly, in the first two years of the Plan, public savings increased by 2.4 per cent of GDP, but public investment by only 0.2 per cent. One part of this problem, other than the declining trend in Plan allocations as a percentage of GDP, is the inability or unwillingness of public sector undertakings (PSUs) to fully utilise their internal resources. During the first three years of the Tenth Plan, for instance, PSU savings averaged nearly 4 per cent of GDP, while their investment was around 3 per cent. The problem is actually even worse, since several Central PSUs, especially in the energy and telecommunication sectors, have invested significantly more than their internal accruals. Thus, there is considerable scope for increasing the public investment rate simply by removing the controls and constraints on PSU decision-making.

1.45 Data on private corporate investment are not available beyond 2003-04, but there is evidence that the economy is well into the recovery phase of the business cycle and private investment has picked up. However, this still appears tentative, and more should be expected in 2005-06. Despite this optimistic outlook, there is still a substantial unfinished agenda that needs to be addressed before the manufacturing sector can embark upon a sustained high growth path. A few of the critical elements are:

- Inadequate progress has been made in releasing capacities which are locked up due to structural factors. The Securitisation Act for the banking sector has been the only major step forward so far. Other Tenth Plan proposals were: repeal of the Sick Industrial Companies Act, (SICA) and the winding up the Board for Industrial and Financial Reconstruction (BIFR); passage of bankruptcy and foreclosure laws; reform of the Industrial Disputes Act; release of excess lands held by PSUs and privatisation of sick PSUs. There has been little progress on these.
- There is an unfinished agenda as far as creating an investor-friendly climate is concerned. The Plan had identified a number of critical policy and

procedural constraints, particularly in the domain of states, that may be holding back private investment, including foreign direct investment (FDI). These need to be addressed early.

- The Plan had also indicated that FDI is an important instrument for expanding private investment in the economy. FDI flows have continued, but the perception remains that there are bottlenecks holding up FDI, which could be much larger if these are addressed.

1.46 The projections made for private corporate investment in Table 1.4 are driven mainly by cyclical factors, with capacity utilisation steadily improving in manufacturing and public investments addressing infrastructural needs. They do not, however, entirely take into account the effects of further policy reforms, which may lead to even higher corporate investment rates.

1.47 The revival in organised sector investment demand, both public and private, in the coming years, however, is likely to lead to a decrease in the household sector investment rate, since it has only residual access to investible funds, unless the recent upsurge in domestic savings rate is maintained in the future. While this may not affect the growth performance of the economy, it could have adverse implications for the pace of employment creation.

1.48 Revision of the growth targets for the remainder of the Tenth Plan period as well as for the Eleventh Plan necessitates a revision of the investment programme presented in the Tenth Plan document. A reassessment of the sectoral investment requirements, and also the corresponding public investment, has been made reflecting the likely behaviour of the economy in the next two years, and is shown in Table 1.5. As may be seen, there is an almost 12.5 per cent reduction in the total investment necessary for attaining the growth

Table 1.5
Sectoral investment requirements

(Rs. '000 crore at 2001-02 prices)

Sector	**Tenth Plan**		**Mid Term Appraisal**	
	Total	**Public**	**Total**	**Public**
Agriculture & Allied	219.6	132.2	175.7	95.7
Mining & Quarrying	89.4	106.4	98.2	105.8
Manufacturing	1476.9	97.2	1196.6	71.3
Electricity, Gas & Water Supply	412.5	251.6	316.1	174.5
Construction	61.0	71.0	53.5	56.4
Trade, Hotels etc:	136.6	16.0	115.1	12.2
Rail Transport	81.9	60.6	77.8	52.1
Other Transport	237.6	80.7	230.0	70.7
Communications	296.4	91.0	431.4	119.9
Financial Services	151.2	26.5	129.4	20.5
Public Administration & etc	273.1	156.3	213.1	110.4
Other Services	645.3	119.8	545.3	91.6
Total	**4081.5**	**1209.3**	**3582.2**	**981.1**

NOTE: The reasons why public investment is larger than the total requirement in mining & quarrying and construction are explained in detail in the Tenth Plan document.

rate now projected for the Plan. However, public investment requirements have been reduced by nearly 19 per cent. The main reason for this is that public investment has fallen seriously short of the targets in the first two years of the Plan, especially in agriculture, manufacturing, electricity, and public administration, community, social & personal services, and it appears unlikely that these backlogs can be made up in the remaining three years. As far as manufacturing and electricity are concerned, the main problem has been the inability of the concerned public sector units to generate the requisite amount of internal resources, while in the other two, it has been the lack of sufficient budgetary resources. On the other hand, investment in two infrastructure sectors, namely mining & quarrying (which includes the hydrocarbon sector) and communications, have been and are expected to be nearly as high or even higher than originally targeted, mainly due to higher than expected internal resource generation by the concerned Central public sector undertakings (CPSUs). However, within mining & quarrying, the non-hydrocarbon sub-sectors have invested well below the target.

1.49 The above estimates of investment requirements should be treated with some caution, since they represent a minimalist position determined by a business-as-usual projection for the short- to medium-run. Consequently, historical under-investment behaviour is embedded in these estimates. In particular, investment in infrastructure, including social infrastructure, has to be driven by longer term considerations and, therefore, should not be reduced below a point. A similar situation also exists for agriculture, which would probably require significantly higher investment, both total and public, than indicated in the Table if the sector is to be placed on a higher growth trajectory on a sustainable basis. The principal reason why such minimal requirements are being projected at this time is that the fiscal position of governments, both at the Centre and in the states, are projected to be such that even these levels of public investment may be difficult to attain given the constraints imposed upon them.

FISCAL RESOURCES FOR THE PLAN

1.50 Table 1.6 presents Plan outlays for the Centre and the states separately for the first three years. It is clear that Plan allocations have been considerably below expectations. The revised requirements consistent with the macroeconomic balances and sectoral investment needs discussed above are also presented in the same table. With the allocations made for 2004-05, the Central sector Plan (including PSU plan) for the first three years will be about 44.2 per cent of the total Plan against a normal expectation of 54 per cent. The Central PSUs, in particular, appear to have performed exceptionally poorly in terms of their internal resource generation, which, in turn, has affected their investment, despite more than adequate support from the Central government. The performance of the states may have been marginally better than that of the Centre, but it has been at the cost of much higher levels of borrowings than had been planned. In this situation, meeting the public investment requirements indicated in the previous section may not be easy. It is, therefore, necessary to examine the likely fiscal positions of the Centre and the state governments in some detail.

1.51 The fiscal position of the Central government is presented in Table 1.7 (the detailed budgetary projections are given at Annexure 1.1). It may be noted that the gross budgetary support (GBS) to the Plan consistent with the revised public investment requirements and after removing Plan loans to States averages more than 1 percentage points of GDP below the original during 2005-06 and 2006-07. Despite this, the fiscal position is not likely to improve very much beyond the original projections.

1.52 In working out these budgetary estimates, it has been assumed that the interest rates will remain benign and control over Central government employment will continue, so that both interest payments and pay & allowances as percentages of GDP will decline significantly from the base year (2001-02). However, non-Plan grants to states arising from the award of the Twelfth Finance Commission (TFC) will virtually double over the period.

Table 1.6
Structure of Public Sector Outlays and Resources

(Rs. crore at 2001-02 prices)

	Tenth Plan 2002-07	MTA 2002-07	Realisation 2002-05	Realisation as % of Tenth Plan	Realisation as % of MTA
Centre:					
Central Plan Outlay of which	706000	644003	342164	48.5	53.1
(a) Support to State Plans	300265	247395	138721	46.2	56.1
(b) Support to CPSEs	76250	69554	44519	58.4	64.0
(c) Support to Ministries	329485	327054	158924	48.2	48.6
(i) Investment	181217	163527	72251	39.9	44.2
(ii) Current Outlay	148268	163527	86673	58.5	53.0
Financed by:					
(a) Borrowings	678574	679240	376995	55.6	55.5
(b) Other Resources	27426	-35237	-34831	-127.0	98.8
States:					
State Plan Outlay of which	588325	539300	289920	49.3	53.8
(i) Investment	357096	307401	148698	41.6	48.4
(ii) Current Outlay	231229	231899	141222	61.1	60.9
Financed by:					
(a) Central Support	300265	247395	138721	46.2	56.1
(b) Borrowings	300951	336596	227491	75.6	67.6
(c) Other Resources	-12891	-44691	-76292	591.8	170.7
PSEs:					
Outlay/Investment	674490	510185	234888	34.8	46.0
Financed by:					
(a) Central Support	76250	69554	44519	58.4	64.0
(b) Savings (IR)	401240	269025	105128	26.2	39.1
(c) Borrowings (EBR)	197000	171606	85241	43.3	49.7
Total Budgetary Resources	994060	935908	493363	49.6	52.7
Total Investment (Centre +State + PSEs)	1212802	981113	455837	37.6	46.5
Total Public Sector Outlay	1592300	1376539	683732	42.9	49.7

NOTES:

(1) All Union Territories (UTs) are clubbed with the states.

(2) A part of the investment outlay of the states will be towards budgetary support to state PSEs for investment purposes. Since this quantum is not yet known, it is being carried in the state budgets.

(3) The 'borrowings' of PSEs include all market related funds including new equity issues, if any.

(4) 'Other resources' of the Centre and the states include balance on current revenues (BCR), miscellaneous capital receipts (MCR) and external grants, less non-Plan capital expenditures.

(5) PSEs includes both Central PSEs and State PSEs in the Tenth Plan and MTA targets. However, the corresponding realised figures are only for Central PSEs since the requisite data is not available for state PSEs.

(6) Central support to State Plan includes loan component of Central Plan assistance. However, as per the Twelfth Finance Commission recommendations, from 2005-06 onwards, loan assistance from Centre to states may stop and the states may raise loans directly from the market.

Table 1.7
Central government finances

(Percentage of GDPmp)

	2002-03	2003-04	2004-05	2005-06	2006-07
1. Gross Budgetary Support					
(a) Tenth Plan	4.4	4.7	4.9	5.1	5.4
(b) Actual/MTA	4.5	4.4	4.4	4.1	4.1
2. Total Expenditure					
(a) Tenth Plan	16.0	15.9	15.7	15.5	15.3
(b) Actual/MTA	16.8	17.1	16.3	14.6	14.2
3. Total Non-Debt Receipts					
(a) Tenth Plan	10.7	10.9	10.9	10.9	11.0
(b) Actual/MTA	10.9	12.6	11.8	10.3	10.3
4. Gross Fiscal Deficit					
(a) Tenth Plan	5.3	5.0	4.8	4.5	4.3
(b) Actual/MTA	5.9	4.5	4.5	4.3	3.8
5. Revenue Deficit					
(a) Tenth Plan	3.7	3.5	3.1	2.6	2.2
(b) Actual/MTA	4.4	3.6	2.7	2.7	2.2

Despite this, total non-Plan expenditures as a percentage of GDP is expected to reduce by nearly 1.5 percentage points over the Plan period, which is more or less in line with the decline projected in the Tenth Plan. This, taken with the lower GBS projections, imply that total Central government expenditures, both in absolute terms and as a percentage of GDP, will be somewhat lower than the original Tenth Plan projections.

1.53 On the tax revenue front, the projections made in the Union Budget 2005-06, suggest that the Tenth Plan targets of the gross tax/GDP ratio will be met, because of the introduction of new taxes and cesses, increased coverage of the services sectors and better compliance through tax reform and simplification. The possible introduction of a national VAT or of a unified goods and services tax (GST) has not been factored into the estimates. The higher tax devolution to states arising from the TFC award has been included, but it makes little difference. Despite this positive outlook on taxes, it appears very likely that the total non-debt receipts of the Centre will fall significantly short of the Tenth Plan projections. The primary reasons for this are the expected short-fall in disinvestments receipts, the lower interest receipts from states on account of the debt swap which has taken place in recent years and the reduction in the interest rate on outstanding debt recommended by the TFC, and the lower recovery of loans from states due to consolidation and rescheduling of the debt stock.

1.54 As a consequence, the gross fiscal deficit (GFD) of the Centre (without adjusting for the change on account of states borrowing directly) is likely to rise above the current level of about 4.5 per cent of GDP, rather than declining slowly as had been projected earlier. The revenue deficit position, however, is expected to be somewhat better, but not very much so. However, neither of these magnitudes is a cause for alarm, and is perfectly compatible with fiscal sustainability, provided growth accelerates in future and tax reforms lead to further improvements in the tax ratio. It may be noted that the total government borrowing by both Centre and States is unlikely to change and therefore it would not have an impact on the interest rate.

1.55 However, the importance of sustained and substantial improvement in the tax/GDP ratio cannot be overemphasised. The Fiscal Responsibility and Budget Management (FRBM) Act, and particularly the statutory Rules notified under it, introduces targets for the fiscal and revenue deficits, which have implications for the size of GBS to the Plan in the years ahead, unless tax revenues achieve the targets laid down in the Medium Term Fiscal Policy Statement (MTFPS) tabled with the Union Budget 2005-06. The main fiscal indicators presented in the MTFPS, and extended by one year to fully cover the critical period by which the FRBM Act targets are to be met, are given in Table 1.8. As can be seen, achievement of the MTFPS milestones and the FRBM targets rest crucially upon the projected tax receipts. Over the four-year period, 2004-05 to 2008-09, taxes would have to grow at over 22 per cent annually, implying a buoyancy of around 1.7, which is significantly higher than the buoyancy of 1.2 achieved during the first three years of the Tenth Plan. The requirements are particularly stringent in the first two years of the Eleventh Plan (2007-09), when the buoyancy will have to be upward of 1.9. This is a cause for concern since, as can be seen from Table 1.1, public investment will have to rise to 31 per cent of total investment in the country in the post-Plan period, as compared to a likely 27.5 per cent during the Tenth Plan, if a 8 per cent growth target has to be achieved during the Eleventh Plan. Longer run considerations, therefore, require that suitable strategies be evolved to ensure that public expenditures in infrastructure and critical social sectors are protected in the event of the tax targets not being met. In doing so, it may be necessary to draw a balance between excessive monetary expansion, on the one hand, and deflationary impulses, on the other.

1.56 The fiscal deficit does not appear to be a binding constraint at this stage, since the decision to move state borrowings off the Central Budget, which was recommended by the TFC and has been accepted, leads to the Centre's fiscal deficit ratio being reduced by about 0.8 percentage points. However, much will depend upon the ability of states to exercise their option to shift loans directly to market borrowings. This, in turn, will be determined by the conditions likely to prevail in the financial markets and the terms the Centre will offer to state borrowings. With the expected increase in private investment demand, and the consequent hardening of market terms, it appears quite likely that states may require Central borrowing support unless at least a minimum shift is made mandatory and/or the terms of Central lending made relatively unattractive. In such a situation, the fiscal deficit targets of the FRBM may indeed turn out to be a more binding constraint than the revenue deficit insofar as the size of the Plan is concerned.

1.57 It should be noted, however, that the projections in Table 1.5 could prove to be over-optimistic if the commitments made in the National Common Minimum Programme

Table 1.8
Achieving FRBM Act targets

(% of GDP)

	2003-04*	2004-05	2005-06	2006-07	2007-08	2008-09**
Revenue Deficit	3.6	2.7	2.7	2.0	1.1	0.0
Fiscal Deficit	4.5	4.5	4.3	3.8	3.1	3.0
Gross Tax Revenue	9.2	9.8	10.6	11.1	12.6	13.2 - 13.7

* Actuals
** Projected for achieving FRBM Act targets

(NCMP) lead to rapid increases in expenditure because of the compulsions of spending in critical areas such as health, education, irrigation, watershed management, railway modernisation and employment programmes. While some of these priorities can be subsumed under the public investment requirements reflected in the projected GBS, others will involve higher revenue expenditures which would require a further expansion in the GBS, and, thereby, worsening of both the fiscal and revenue deficits. The exact position in this regard is difficult to ascertain at this stage, since much will depend upon the extent to which it is possible to converge and gain synergies between various existing schemes and the new ones.

1.58 It is clear that the resource position of the Centre in the remainder of the Tenth Plan period will be more difficult than was envisaged at the time the Plan was formulated. Nevertheless, the problems are by no means insuperable, and the overall position does not in itself contradict macroeconomic stability, though it may prove difficult to meet the requirement of the FRBM Act, especially on the revenue deficit. As far as macroeconomic balance is concerned, it appears that there is sufficient slack in the savings-investment balances of the economy (including external inflows) to be able to absorb higher fiscal deficits without any perceptible "crowding out". However, care would need to be taken to ensure that the widening of the fiscal deficit does not lead to a spiralling interest burden on the exchequer, which would have sustainability implications, or to an increase in inflationary pressures. Fortunately, the accumulated stock of foreign exchange reserves of the country provides a measure of assurance that even if the fiscal deficit is exceeded, it will be possible to neutralise the effect of any excess demand by encouraging a larger inflow of imports. The decision to form a Special Purpose Vehicle (SPV) to fund viable infrastructure projects is an instrument which relies on this comfort.

1.59 The principal source of the contradiction between the intent of the FRBM and its impact in practice is the budgetary classification that is followed in India, especially with regard to Central support to the states' development activities, whether through Additional Central Assistance (ACA) or Centrally sponsored schemes (CSS). Since both these forms of support are by way of grants, they are routinely classified as 'revenue expenditures' regardless of the purpose for which they are applied. Therefore, it seems to be more rational to change the classification system, somewhat along the lines used for Central sector schemes, rather than go through the tortuous devices that are sought to be adopted for meeting the FRBM targets. The difference between the budgetary classification and the economic classification used in the National Accounts suggests that the revenue deficit overstates government dissavings by about 1 percentage point of GDP, even after accounting for depreciation of departmental enterprises, which gives a clear indication of the extent to which capital expenditures are being misclassified as current expenditures. Nevertheless, the conclusion is inescapable that between the TFC award and the FRBM, the Central budget will have to walk a tightrope in the coming years.

1.60 The position of the states, however, is likely to be even more difficult than of the Centre despite the substantial relief that has been granted by the TFC. States have passed through difficult times since they have not received as much resources as were envisaged through devolution because: the economy has grown more slowly than projected; the Centre's ratio of tax revenue to GDP has not increased as was projected in the Plan; the states' performance has also been below targets, but it has been better than the Centre's; the losses of the SEBs continue to impose a very heavy burden; and the Pay Commission effect on the states, though it is beginning to wear off, has left most of the states with a very heavy debt overhang. As a consequence, if the states are to fully meet their public investment responsibilities, their fiscal condition could be in serious jeopardy, unless Central transfers by way of devolution and Plan support meet the provisions made in the projections of the Central budget.

1.61 The likely fiscal position of the states taken collectively for the Tenth Plan period is presented in Table 1.9 (details are given in Annexure-1.2). As may be seen, although the Plan expenditure of states as a percentage of GDP has been significantly lower than the Plan targets, their non-Plan expenditure has continued to balloon despite the relief arising from the debt swap. Fortunately, much of the increase in the non-Plan expenditure in 2002-03 and 2003-04 is the consequence of early repayment of Central loans, which is a capital account transaction and should, therefore, be omitted while computing the fiscal deficit. On the other hand, their tax revenues have failed to achieve the projected buoyancies. The net effect is that both the adjusted fiscal and the revenue deficits have in fact contracted in the manner that had been expected, which goes to the credit of the state governments. The projections for the future, however, do not hold out too much hope for any substantive fiscal correction on current trends, despite the sizeable difference made by the TFC award in 2005-06.

1.62 Although the position of the states as a collective in this regard is not very different from that of the Centre, their ability to sustain these levels of deficit is much less. Moreover, there are substantial differences between states in terms of their fiscal position, and there are a number of states which are chronically debt stressed. The position of the various states in this regard is discussed in detail in Chapter 15.

1.63 The TFC award, the salient features of which are given in Box 1.2, will be implemented from 2005-06, and is expected to ameliorate the fiscal condition of these states to some extent. However, it is unlikely to be enough unless other conditions are met, some of which are not within the control of the states. It is, therefore, imperative that the assumptions underlying the figures in Table 1.7 are realised. In particular, the above projections are critically dependent upon the Centre achieving its tax collection targets, which, as has already been mentioned, may be open to doubt. The assessment made by the Planning Commission in this regard suggests that both the fiscal and revenue deficit of the states may be 0.2 percentage points of GDP higher than shown in Table 1.9. Although the TFC has reduced the extent of dependence of

Table 1.9
State government finances

(Percentage of GDPmp)

	2002-03	2003-04	2004-05	2005-06	2006-07
1. States Plan Expenditures					
(a) Tenth Plan	4.0	4.0	4.1	4.2	4.2
(b) Actual./MTA	3.6	3.7	4.0	4.0	4.1
2. Total Expenditure					
(a) Tenth Plan	17.2	17.0	16.7	16.3	15.8
(b) Actual/MTA	17.1	18.3	17.6	16.5	16.4
3. Total Non-Debt Receipts					
(a) Tenth Plan	12.2	12.4	12.5	12.6	12.9
(b) Actual/MTA	11.5	12.0	12.2	12.8	12.9
4. Gross Fiscal Deficit					
(a) Tenth Plan	4.3	3.9	3.5	2.9	2.2
(b) Actual/MTA	4.1	3.8	3.5	2.7	2.6
5. Revenue Deficit					
(a) Tenth Plan	2.5	2.1	1.6	1.0	0.2
(b) ActualMTA	2.2	1.9	1.6	0.9	0.8

BOX 1.2
Main recommendations of Twelfth Finance Commission

- Share of the states in the net proceeds of shareable Central taxes shall be 30.5 per cent.
- Statutory grants include grant for panchayati raj institutions and urban local bodies; grant for calamity relief; non-Plan revenue deficit grant; grants to specific states for education and health sector; maintenance grant for roads and bridges; grants for maintenance of public buildings and forests; heritage conservation grant and grant for states specific needs.
- Central loan to the states contracted till 31 March 2004 may be consolidated and rescheduled for repayment in 20 equal annual installments with an interest rate of 7.5 per cent per annum subject to the state enacting the fiscal responsibility legislation.
- A debt write off scheme linked to the reduction of revenue deficit of states may be introduced in which the quantum of write off would be linked to the absolute amount by which the revenue deficit is reduced in each successive year during the award period.

states on Central devolution by recommending higher level of grants and debt restructuring, devolutions nevertheless constitute a sizeable fraction of state resources, especially for the fiscally weaker states. The expected additional impact of the TFC recommendations on state finances is given in Table 1.10. As can be seen, on past trends, there was likely to have been a net transfer of resources from the states to the Centre on the non-Plan account, which has been reversed by the TFC award.

1.64 Second, it has been assumed that the states will be able to raise market loans at around 150 basis points above the Centre's borrowing rate. Although this has been true in the recent past, the indications are that it may not obtain in the future, especially if the Centre reduces its role in intermediating between the financial markets and the states. In any case, there is no doubt that the average maturity profile of state debt will shorten over time despite the immediate relief that has been provided by the TFC through consolidation and rescheduling of outstanding Central loans to states. Debt stressed states will be hit particularly hard, since their ability to roll over past debts will be impaired. In addition, the TFC has recommended that the debt and interest relief would be provided only to those states which enact FRBM Acts targeting zero revenue deficit by 2008-09. Although this measure is eminently desirable in the long-run, it can have serious repercussions on State Plan expenditures given the normal time taken for legislative action in the country and because of

Table 1.10
Impact of Twelfth Finance Commission on state finances

(% of GDP)

	Without TFC		With TFC		Gain to States	
	2005-06	2006-07	2005-06	2006-07	2005-06	2006-07
Interest payment	2.62	2.50	2.42	2.30	0.20	0.20
Share in Central taxes	2.70	2.77	2.75	2.92	0.05	0.15
Non-Plan grant	0.61	0.62	1.00	0.80	0.39	0.18
Debt repayment	1.01	1.00	0.85	0.83	0.16	0.17
Total	-0.32	-0.11	0.48	0.59	0.80	0.70

NOTE: Interest and debt repayment are treated as negative items in state budgets while tax share and non-Plan grants as positive.

short-run rigidities in non-Plan expenditures. The problem is likely to become even more acute in the future since the NCMP commitments will require states to increase Plan expenditures beyond what has been indicated in Table 1.9, especially in terms of current expenditures.

1.65 Third, Plan grants from the Centre, which constitute about 12 per cent of the non-debt receipts of states and are not statutory in nature, have been assumed to remain fixed as a proportion of the total GBS. However, if these are reduced due to pressures on the revenue deficit of the Centre, it will erode the states' ability to comply with their own FRBM targets.

1.66 Finally, as greater functions and resources are devolved to the panchayati raj institutions (PRIs) as mandated by the 73rd and 74th Constitutional Amendments, the states will face exactly the same disjunction between budgetary and economic classification of their expenditures as the Centre faces today *vis-à-vis* the states. More importantly, it is quite likely that the Centre may pass on a portion of its support to states directly to the PRIs, which would further erode the revenue flow to the state budgets.

1.67 Therefore, it should be clear that states face uncertainties and limitations that are considerably more onerous than those faced by the Centre. Unless some method is devised to correct this situation expeditiously, some of the states may rapidly sink into acute fiscal distress and will have to cut back on their Plan expenditures. This will have serious repercussions on public investments in the country and will inevitably affect both the growth rate and the pace of progress in our social indicators. Consequently, the fiscal position of government as a whole, including both the Centre and the states, will remain vulnerable unless appropriate steps are taken at both levels of government. The options available to the Centre have already been discussed, but for the states there appears to be little choice except to increase revenues either through higher tax collections or enhanced user charges, especially in power.

1.68 In recognition of their fiscal problems, most states have entered into a process of fiscal correction. The most important of these is the implementation of the state Value-added Tax (VAT), which has come into effect from 2005-06. However, operation of the VAT will take some time to stabilise and, in the interim, will introduce yet another element of uncertainty to state finances, despite the Centre's commitment to make good any losses on this account in a phased manner. In the meantime, every effort will need to be made to ensure that the legitimate borrowing needs of the states can be met without disruption and at reasonable terms in a situation where uncertainties are increasing. The TFC recommendation that the Centre should gradually withdraw from its role as financial intermediator is an eminently desirable one, but the states can be left to cope with market realities only after their 'balance sheets' have been cleaned up to a significant extent.

1.69 In this regard, the TFC has also recommended a debt write-off mechanism whereby states which reduce their revenue deficits according to a pre-specified calendar will be entitled to have their annual debt repayment liability to the Centre written off in proportion to their revenue deficit reduction. At the limit, a state which reduces its revenue deficit to zero by 2009-10 would get 25 per cent of its outstanding debt to the Centre written off through this mechanism. This is certainly a step in the right direction, but it may not be enough. In the first instance, the projections made suggest that if the Plan expenditures are to be met, the revenue deficit of states will reduce only very slowly after 2005-06. Indeed, if the state component of the NCMP commitments are to be fully funded, even this may not happen. Second, as has already been mentioned, there are too many sources of revenues of state governments that are beyond their control. This implies that it would be very difficult for states to comply with a pre-specified time-line on revenue deficit reduction unless appropriate adjustments are made for the Centre's failures. It is, therefore, felt that a more case-sensitive proposal for debt write-off be evolved on the basis of the TFC recommendation so that the transition to a fully market-based borrowing for states can be effected expeditiously.

Annexure 1.1

Central Government Finances- MTA of the Tenth Five Year Plan

(in Rs. Crore)

	2002-03	2003-04	2004-05	2005-06	2006-07
I Gross Budgetary Support					
a. Tenth Plan (as % of GDP)	113500 4.4%	134985 4.7%	159993 4.9%	189892 5.1%	231073 5.4%
b. Actual/MTA (as % of GDP)	111455 4.5%	122280 4.4%	137387 4.4%	143496 4.1%	162571 4.1%
II Total Non Plan Expenditure					
a. Tenth Plan (as % of GDP)	296809 11.6%	324966 11.3%	355243 10.8%	388577 10.4%	425085 9.9%
b. Actual/MTA (as % of GDP)	302710 12.3%	349089 12.6%	368405 11.9%	370849 10.6%	400088 10.1%
III Total Expenditure					
a. Tenth Plan (as % of GDP)	410309 16.0%	459951 15.9%	515236 15.7%	578469 15.5%	656158 15.3%
b. Actual/MTA (as % of GDP)	414165 16.8%	471369 17.1%	505792 16.3%	514345 14.6%	562659 14.2%
IV Gross Tax Revenue					
a. Tenth Plan (as % of GDP)	235800 9.2%	272145 9.4%	317735 9.7%	373133 10.0%	440736 10.3%
b. Actual/MTA (as % of GDP)	216266 8.8%	254348 9.2%	306021 9.8%	370025 10.5%	430755 10.8%
V Non Debt Receipts					
a. Tenth Plan (as % of GDP)	274785 10.7%	315042 10.9%	357250 10.9%	408799 10.9%	470551 11.0%
b. Actual/MTA (as % of GDP)	269092 10.9%	348096 12.6%	366561 11.8%	363200 10.3%	410224 10.3%
VI Gross Fiscal Deficit					
a. Tenth Plan (as % of GDP)	135524 5.3%	144909 5.0%	157985 4.8%	169670 4.5%	185606 4.3%
b. Actual/MTA (as % of GDP)	145072 5.9%	123272 4.5%	139231 4.5%	151145 4.3%	152436 3.8%
VII Revenue Deficit					
a. Tenth Plan (as % of GDP)	95687 3.7%	100588 3.5%	100795 3.1%	98539 2.6%	95891 2.2%
b. Actual/MTA (as % of GDP)	107880 4.4%	98262 3.6%	85165 2.7%	95312 2.7%	88086 2.2%

Annexure 1.2

State Government Finances- MTA of the Tenth Five Year Plan

(in Rs. Crore)

	2002-03	2003-04	2004-05	2005-06	2006-07
I States Plan Expenditure					
a. Tenth Plan (as % of GDP)	101308 4.0%	116504 4.0%	135145 4.1%	156768 4.2%	181851 4.2%
b. Actual/MTA (as % of GDP)	88603 3.6%	101784 3.7%	124675 4.0%	142129 4.0%	162027 4.1%
II Total Non Plan Expenditure					
a. Tenth Plan (as % of GDP)	338468 13.2%	374809 13.0%	413349 12.6%	454032 12.1%	497074 11.6%
b. Actual/MTA (as % of GDP)	331860 13.5%	402496 14.6%	423655 13.6%	437883 12.5%	489357 12.3%
III Total Expenditure					
a. Tenth Plan (as % of GDP)	439776 17.2%	491313 17.0%	548494 16.7%	610800 16.3%	678925 15.8%
b. Actual/MTA (as % of GDP)	420463 17.1%	504280 18.3%	548329 17.6%	580012 16.5%	651384 16.4%
IV Tax Revenue					
a. Tenth Plan (as % of GDP)	216645 8.5%	252248 8.7%	294060 9.0%	344686 9.2%	406237 9.5%
Of which share from Centre (as % of GDP)	62835 2.5%	75256 2.6%	88161 2.7%	103863 2.8%	123048 2.9%
b. Actual/MTA (as % of GDP)	198798 8.1%	227128 8.2%	262442 8.4%	308666 8.8%	360369 9.1%
Of which share from Centre (as % of GDP)	56655 2.3%	65296 2.4%	77887 2.5%	96558 2.7%	116136 2.9%
V Non-tax Revenue					
a. Tenth Plan (as % of GDP)	85985 3.4%	95366 3.3%	106431 3.2%	119508 3.2%	136899 3.2%
Of which plan grant from Centre (as % of GDP)	35469 1.4%	42183 1.5%	49998 1.5%	59341 1.6%	72210 1.7%
b. Actual/MTA (as % of GDP)	81541 3.3%	101822 3.7%	110790 3.6%	138394 3.9%	146646 3.7%
Of which plan grant from Centre (as % of GDP)	30440 1.2%	39132 1.4%	43595 1.4%	50362 1.4%	56939 1.4%
VI Non Debt Receipts					
a. Tenth Plan (as % of GDP)	311643 12.2%	356627 12.4%	409504 12.5%	473207 12.6%	552148 12.9%
b. Actual/MTA (as % of GDP)	284243 11.5%	332218 12.0%	380207 12.2%	451073 12.8%	511028 12.9%

(in Rs. Crore)

	2002-03	2003-04	2004-05	2005-06	2006-07
VII Gross Fiscal Deficit					
a. Tenth Plan (as % of GDP)	109727 4.3%	113150 3.9%	113794 3.5%	108112 2.9%	92284 2.2%
Of which plan loan from Centre (gross) (as % of GDP)	24119 0.9%	28684 1.0%	33999 1.0%	40352 1.1%	49103 1.1%
b. Actual/MTA (as % of GDP)	102126 4.1%	104732 3.8%	109926 3.5%	93633 2.7%	101361 2.6%
Of which plan loan component from Centre (gross) (as % of GDP)	22021 0.9%	23534 0.9%	25002 0.8%	0 0.0%	0 0.0%
VIII Revenue Deficit					
a. Tenth Plan (as % of GDP)	63467 2.5%	60122 2.1%	51417 1.6%	36602 1.0%	10553 0.2%
b. Actual/MTA (as % of GDP)	55113 2.2%	53643 1.9%	50838 1.6%	33136 0.9%	33304 0.8%

Human Development

2.1 Human development and the quality of life of citizens are central to any development planning. Human development indicators such as access to basic education and health services have a strong linkage with eradication of poverty and economic progress. The strong focus on universal basic education and health in the 10th Plan, which laid down specific monitorable targets in these areas, shows a visible shift in the approach to development planning. For improving the quality of life, the use of new technologies and scientific knowledge in the delivery of education and health services and promotion of scientific and technological interventions in these social sectors is likely to have a significant impact not only on the quality of health and education services but also on their accessibility to the urban and rural poor and the disadvantaged sections.

2.2 Clear policies to improve programmes and their delivery in social sectors like education and health, supported by increased public sector spending in these areas, as also efficient use of new technologies such as ICT, is essential for development of human capital. However, social sectors like education and health have, in the past, not received the desired level of financial support both from the Centre and the States due to financial constraints. Increased public spending on health and education and successful public-private partnership, for creating social infrastructure and successful delivery of services, is the need of the hour.

2.3 To bridge the divide between the 'haves' and 'have-nots' and to ensure economic progress of the latter, access to quality basic education and health care is imperative not only to reduce social and regional disparities, but also to achieve balanced growth and development. States, which have given high priority to investment in the education and health sectors, have shown greater economic progress also in recent years.

EDUCATION

2.1.1 The Tenth Five Year Plan recognised education as a critical input in human resource development and in the country's economic growth. It also reiterated the fact that though the major indicators of socio-economic development - growth rate of the economy, birth rate, death rate, infant and maternal mortality rates and literacy rate - are interlinked, the literacy rate is a major determinant of the rise and fall of other indicators.

2.1.2 It was in recognition of this that three of the 11 monitorable targets of the Tenth Plan focused on elementary education and literacy:

- All children in schools by 2003; all children to complete five years of schooling by 2007;
- Reduction in the gender gap in literacy by at least 50 per cent by 2007; and
- Increase in literacy rates to 75 per cent within the Plan period

2.1.3 There has been good progress in achieving some of these targets. The enrolment drive launched during the second year of Tenth Plan to bring all children in the age group of 6-14 in schools has resulted in a reduction in the number of out-of-school children from 42 million at the beginning of Plan period to 8.1 million in September 2004. Universal enrolment is expected to be achieved by 2005 and accordingly, the Tenth Plan target of 2003 will need to be revised with consequential revisions in targets for retention and completion.

2.1.4 The gender gap in literacy had already started narrowing in the 1990s. The gap had come down to 21.59 per cent in the 2001 Census from 24.85 in the 1991 Census. The total literacy rate improved significantly from 52.21 per cent in 1991 to 64.84 in 2001, a quantum jump of 12.63 percentage points in a decade. The country is expected to achieve the Tenth Plan target of literacy rate of 75 per cent by 2007 through the combined efforts of the ongoing elementary and adult education programmes.

2.1.5 No quantitative target was fixed for secondary education in the Tenth Plan. The only target that was fixed for the university and higher education sector was increasing the access parameter for the eligible age-group (18-23) from 6 per cent in 2002 to 10 per cent by 2007, which means that enrolment in the university/colleges should increase from 7.5 million in the beginning of the Plan period to 12.5 million in 2007. Although the enrolment has increased at an accelerated rate in the first two years of the Plan, the enrolment ratio is likely to be lower than the target of 10 per cent for 2007.

2.1.6 The United Progressive Alliance (UPA) government is committed to universalising access to basic quality education with greater emphasis on covering all the unreached segments and social groups, including minorities. This commitment is reflected in a substantial increase in the allocation of funds for elementary education by 56 per cent from Rs 5750 crore to Rs 8982 crore in the mid-year of the Annual Plan 2004-05. The budget allocation for 2005-06 has been further stepped up by 36 per cent to Rs 12241.76 crore. The levy of an education cess of 2 per cent of major direct taxes with the proceeds being paid into a non-lapsable fund, the Prarambhik Shiksha Kosh is a concrete step towards providing assured funding for education. The long-term goal, as spelt out in the National Common Minimum Programme (NCMP) is to raise educational expenditure to 6 per cent of Gross Domestic Product (GDP).

ELEMENTARY EDUCATION AND LITERACY

2.1.7 The 'Education For All' decade of the 1990s witnessed a massive countrywide exercise for achieving the international commitment of universalisation of basic education. This was done through several programmes such as the District Primary Education Programme (DPEP), and the subsequent Sarva Shiksha Abhiyan (SSA) programme launched in 2001, the Teacher Education Programme, the National Programme of Nutritional Support to Primary Education (commonly known as the Mid-day Meal Scheme), activities under the National Literacy Mission, special programmes for promotion of Early Childhood Care and Education, inclusive education etc.

2.1.8 These efforts seem to have borne fruit, with the total literacy rate at 64.84 per cent in 2001. For the first time, the number of illiterates declined in absolute terms by 23 million, from 329 million in 1991 to 306 million in 2001. Nine states are in the high literacy rate category and 13 states have shown a higher rate of increase than the national average (12.63 per cent) during 1991-2001. These include some of the states that were lagging behind - Rajasthan (21.86 per cent), Madhya Pradesh (19.07 per cent) and Uttar Pradesh (15.56 per cent). Female literacy rate too increased at a faster rate (14.39 per cent) than that for males (11.13 per cent) in this decade. A majority of low female literacy states like Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Andhra Pradesh have shown significant improvement.

2.1.9 However, a lot more needs to be done. Regional, social and gender variations in literacy continue to remain serious areas of concern. There are at least seven major states with more than 15 million illiterates each, accounting for nearly two-thirds of total illiterates in the country. Though the gender gap has narrowed since 1991, it is still big. The literacy rates for SCs (54.69 per cent) and STs (47.10 per cent) are far below the national average.

PLAN ALLOCATION AND EXPENDITURE

2.1.10 Elementary education gets the lion's share of the allocations for the education sector. The Tenth Plan provided an allocation Rs.30,000 crore in the Central sector for the schemes relating to elementary education and literacy. The Annual Plan allocation for 2002-03 and 2003-04 was Rs.4,900 crore, each. Against this, the expenditure in 2002-03 was Rs.4,476 crore and in 2003-04 was Rs.5,436 crore, which was higher than the outlay. There was a substantial step up in allocation by 70 per cent to Rs.9,232 crore in 2004-05 from Rs 5436 crore in 2003-04. This includes the additional amount of Rs.3232 crore for the NCMP commitments relating to education and literacy (Annexure-2.1.1). The allocation for elementary education and literacy schemes was further enhanced to Rs.12,531.76 crore for 2005-06. With this, the aggregate allocation for four years, at Rs.31,675.76 crore, exceeded the Tenth Plan allocation by 5.6 per cent. Almost 90 per cent of the allocation for 2005-06 has gone to the two major programmes of SSA and Mid-Day Meal Scheme. Thus, adequate funds have been provided for universalisation of elementary education in the Plan.

2.1.11 State governments also incur expenditure in the state sector on elementary education. The bulk of the state expenditure is on the non-plan side. The plan expenditure of the States/Union Territories on elementary education (including adult education) is Rs.4269.39 crore in 2002-03. Firm figures for the subsequent years of the Tenth Plan are not available.

2.1.12 In some of the major States like Uttar Pradesh, Punjab, West Bengal, Orissa, Bihar and Jharkhand there seems to be a problem of resource absorption under SSA. These states will have to build up resource absorption capacities by strengthening institutional arrangements. Some States like Assam, Gujarat, Himachal Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Tripura and West Bengal are not providing their full mandatory share of 25 per cent in their budgets for SSA. It becomes very difficult to provide this amount at the revised estimates (RE) stage. This distorts the SSA perspective plans and leads to other problems like holding up infrastructure projects and delays in salaries for teachers.

UNIVERSALISATION OF ELEMENTARY EDUCATION

2.1.13 The Working Group on Elementary and Adult Education for the Tenth Plan had estimated that enrolment for primary education

Box 2.1.1
Major steps taken for strengthening UEE

The first three years of the Plan period witnessed major steps being taken towards the goal of universalising elementary education. These are:

- The 86th Amendment of the Constitution in December 2002 made free and compulsory education for all children in the 6-14 age group a justiciable fundamental right.
- The Centrally Sponsored Schemes for elementary education were streamlined and rationalised, through a zero-based budgeting exercise and all the schemes were converged under five major schemes: Sarva Shiksha Abhiyan (SSA); National Programme for Nutritional Support to Primary Education (Mid-Day Meals Scheme); Teachers Education; Kasturba Gandhi Balika Vidyalaya (KGBV); and Mahila Samakhya.
- The Mid-Day Meal Scheme was universalised at the primary level, with the Central government providing conversion cost, enhanced transport subsidy in addition to supplying foodgrains free of cost to States/Union Territories.
- A 2 per cent Education Cess has been levied on income tax, excise duty, custom duty and service tax since 2004 for financing basic quality education.
- A Prarambhik Shiksha Kosh, a non-lapsable fund for funding SSA and the Mid-Day Meal is being established and the proceeds of the Education Cess will go into this.

would have to grow at an average annual rate of 1.12 per cent for boys and 4.16 per cent for girls in order to achieve the goal of universalisation of elementary education (UEE) by 2010.

SARVA SHIKSHA ABHIYAN

2.1.14 The Sarva Shiksha Abhiyan (SSA), launched in 2001, is the main vehicle for achieving the goals of UEE, through a time-bound integrated approach in partnership with the states, local government and the community. The programme addresses the needs of about 210 million children in 11 lakh habitations through 8.84 lakh existing primary and upper primary schools and non-formal education centres, including Education Guarantee Scheme (EGS) and Alternative Innovative Education (AIE) centres.

2.1.15 The specific objectives of SSA are:

- All children to be in schools by 2003
- All children to complete five years of primary schooling by 2007
- All children to complete eight years of schooling by 2010
- Focus on elementary education of satisfactory quality with emphasis on education for life
- Bridge all gender and social disparities at the primary stage by 2007 and at the elementary level by 2010
- Universal retention by 2010.

2.1.16 The SSA subsumed most of existing programmes on elementary education. The fund-sharing pattern of SSA is 75:25 between the Centre and the states, and expenditure covers, among other things, construction of school building, additional class rooms, distribution of textbooks to all girls and children belonging to SCs/STs, developing teaching-learning materials and appointment of new teachers.

2.1.17 Though SSA was launched towards the end of the Ninth Plan, it took a while to operationalise and the preparatory work continued during the first year of the Tenth Plan. State governments had to arrange for minimum institutional arrangements, acceptance of the concept of community ownership of schools, establishment of Village Education Committees (VEC), Mother-Teachers Associations (MTA) and Parent-Teachers Associations (PTA), undertaking an intensive habitation based household survey, preparation of village education registers and district perspective plans.

2.1.18 The primary focus of SSA has been on improving the existing infrastructure of regular schools as well as on alternate strategies for mainstreaming out-of-school children. The delayed start of SSA made it necessary for the target of getting all children in school by 2003 to be extended to 2005 with consequential revisions in the targets for school retention and completion.

2.1.19 The interventions under SSA - and its predecessor, the District Primary Education Programme (DPEP) - had a positive impact on school enrolments, substantially improved accessibility as well as the school environment.

2.1.20 According to provisional estimates of the Seventh All India Education Survey, enrolment in the primary stage increased from 114 million in 2001-02 to 122 million in 2002-03. Dropout rates also declined significantly from 39.03 per cent to 34.89 per cent during this period.

2.1.21 The number of out-of-school children, estimated at 42 million at the beginning of the Tenth Plan has come down to 23 million in April 2003 and further to 8.1 million in September 2004. Various strategies have been evolved to mainstream street children, working children and differently abled children. Adequate teaching-learning materials and provision of other joyful learning conditions in schools should be ensured, and the child tracking system should be intensified. There is need for a greater social mobilisation to tackle the chronic problem of child labour, which negates the fundamental right to education. Therefore, anti-child labour campaigns should become an integral part of SSA publicity.

2.1.22 Achievements must not overshadow the fact that there are wide gaps in terms of learner's achievement. The poor quality of education is one of the reasons for high dropout rates. Improving the quality of education is, therefore, a high priority item for SSA.

2.1.23. In the infrastructure front, for the period 2001-2005, arrangements have been made to open 1.37 lakh new schools, construct about 80,000 school buildings and 1.92 lakh additional class rooms, appoint 7.48 lakh new elementary teachers, besides 1.8 lakh EGS/AIE instructors. The construction of 1.57 lakh toilets and 1.12 lakh drinking water facilities has also been sanctioned under SSA.

2.1.24 Tenth Plan envisaged a revision in the funding pattern of SSA to 50:50 in the Eleventh Plan. Considering the resource constraints of the states, it is recommended that the existing ratio of 75:25 should be maintained till end of SSA Mission period. With the money coming in from the education cess, the Central funding under SSA has gone up by 3.2 times in 2004-05 as compared to 2002-03, necessitating increased state contributions in absolute terms. Some Special Category States have sought for revision of the state's share from 25 per cent to 10 per cent, and some other states have even requested for a share of the cess revenue. The financing pattern for all CSS including SSA in North East is being examined and a decision would be taken in this regard. At present, a significant proportion of the SSA allocation goes to non-plan expenditure items - school grants, maintenance grants, and teaching-learning material grants and teacher's salary, fee/honorarium for instructors and free supply of books and uniform - that states should actually take over as a committed liability at the end of the Plan/Programme period. Plan funds should increasingly go towards building educational capacity and infrastructure. Adequate attention has not been given to financing SSA perspective plans with pooling of resources at the district level, although SSA framework provides for such pooling of resources.

2.1.25 The erstwhile DPEP covered 273 districts in 18 states and focused on hard-core low female literacy districts. No further expansion of DPEP is envisaged after the launch of SSA. The project has already been closed in 26 districts of Madhya Pradesh and Chhattisgarh in 2002. Phase-I and Phase-II of DPEP was closed in 118 districts in 2003. DPEP is now operational only in 129 districts of nine states - Andhra Pradesh, Bihar, Gujarat, Orissa, Uttar Pradesh, West Bengal, Rajasthan, Jharkhand and Uttranchal. It should be merged with SSA when external assistance ends. Lok Jumbish, the 'Education For All' project, launched in 1992, and the Shiksha Karmi project, initiated in 1987, both in Rajasthan, appear to have had a positive impact in school enrolment and attendance in the state, particularly for the weaker sections including girls in remote, arid and socio-economically backward villages. Merger of these schemes with SSA will, however, result in increased requirement of funds for SSA. The SSA guidelines should be reviewed to ensure that these optimise investment, meet output targets and cater to special regional circumstances

SCHEMES IN THE NON-FORMAL EDUCATION (NFE) STREAMS

2.1.26 The Seventh All India Education Survey (2003) anticipates the coverage of children under EGS/AIE at 12 million to reach 19 million by 2004-05. Contrary to the general perception, alternative schooling efforts under EGS/AIE, Lok Jumbish, Shiksha Karmi, residential and non-residential bridge courses under DPEP and SSA were not lacking in quality. These evolutionary schools are best suited for the transition period for mainstreaming a large proportion of out-of-school children and should be treated as an interim arrangement. These schemes should be merged with the SSA and states will have to plan for the sustainability of these schools. Although a substantial proportion of out-of school children have been covered under the non-formal and formal streams, the interim arrangement is likely to continue for quite some time so as to net the groups that are very hard to reach, particularly in the Empowered Action Group (EAG) states. The EAG states will also have to increase the spending on basic education.

EARLY CHILD CARE EDUCATION

2.1.27. Early Child Care Education (ECCE), an optional component under DPEP and Mahila Samakhya, facilitates opening of pre-primary classes where no Integrated Child Development Services (ICDS) centre exists. It operates on a small scale under SSA 'innovation' funds provided to each district. Since the education component of Anganwadis under ICDS is very weak, the repetition rate in primary classes is quite high due to enrolment of underage children. There is a heavy casualty of dropouts in Class I and II. This wastage has to be stemmed by strengthening pre-school education. SSA should have a separate component for ECCE, where ICDS is not in operation. Even where ICDS is operating, pre-school component of ICDS should be covered under SSA. This component should include inter-alia need based training of anganwadi workers, supply of TLM like play-way kits, supporting development of curriculum and materials for ICDS and honorarium for ICDS workers for extension of anganwadi timings to the duration of school hours. Efforts should be made to locate ICDS centres within school premises or in the close proximity of primary school. It is also essential that joint training programmes are organised for primary school teachers and ICDS workers to facilitate transition of preschool children to Class I of primary school. This will have a significant impact on increasing enrolment of girls in regular schools as the scheme, along with ICDS, would relieve the girl child from the burden of caring for siblings and familiarise young children to the school atmosphere and check the heavy casualties in the second year of primary schooling. The mass media, including electronic media, should be utilised effectively for enhancing awareness among people about the utility of elementary education.

NUTRITIONAL SUPPORT TO PRIMARY EDUCATION

2.1.28 Under the National Programme of Nutritional Support to Primary Education or Mid-Day Meal Scheme, cooked meals are provided to children in primary schools with a view to increasing enrolment and improving attendance and improving the nutritional status of children (Box 2.1.2).

2.1.29 The Mid-Day Meal Scheme is expected to significantly improve school attendance and bring down dropout rates by about 5 percentage points per annum, resulting in increase in retention of additional 1.5 million children, every year. The programme now requires proper institutional mechanism and management structure to be established for effective implementation, including quality checks at the state, district and block levels. Its expansion to higher classes should be done in a phased manner after proper evaluation of the implementation at primary level.

2.1.30 There are wide inter-state variations in the implementation of the scheme. Arrangements made in Karnataka with good NGOs for centralised cooking of mid-day meal and delivery to various schools is worth replicating in urban areas of other states. In some states, cooked meals are transported to schools in public transport and licensed private buses. A number of non-government organisations (NGOs) and self help groups (SHGs) are already engaged in providing cooked meals in Andhra Pradesh, Karnataka, Orissa and Uttar Pradesh. These organisations are provided foodgrains and conversion costs, in line with state norms, as well as transportation subsidy in some cases where they have to lift foodgrains from FCI godowns. In some states, Anganwadis workers along with SHGs take up the task of cooking the meals and serving the children.

2.1.31 The Mid-day Meal Scheme has been revised with effect from 1st September, 2004. The State Government should provide for proper management structures and monitoring arrangements including social audit, accountability and public-private partnership. The scheme should be evaluated by independent agencies.

INSTITUTIONAL SUPPORT FOR TEACHERS EDUCATION

2.1.32 The Teachers Education Scheme, launched in 1987-88, involved setting up of

District Institute of Education & Training (DIET), College of Teachers Education (CTE), and Institute for Advanced Studies in Education (IASE) and strengthening of State Council of Educational Research and Training (SCERT). The objective was to create a viable institutional infrastructure for orientation and training of school teachers and continuous updating of their knowledge, competence and pedagogical skills. The DIETs and SCERTs play a major role in the development of textbooks, teaching-learning material, quality monitoring of schools, running of 6,000 Block Resource Centres and 15,000 Cluster Resource Centres. Though a Seventh Plan scheme, it is being implemented in the Tenth Plan with 100 per cent Central government funding as a special case. Upto 31st March, 2005, 550 DIETs/DRCs have been approved of which 436 DIETs are operational.

2.1.33 The Joint Review Missions (JRM) of DPEP have noted that vacancies have not been filled in many DIETs, affecting various training programmes. The position of the Block Resource Centres was no better. To develop these institutions as centres of excellence, the selection criteria should be transparent and clear-cut responsibilities should be fixed. The institutional support organisations for teacher education and development of curriculum are closely linked with the learning achievement of children and performance of teachers. Teachers' vacancies at all levels should be filled up urgently and there should be advance planning for future requirements too. Pre-service and in-service training of teachers should be strengthened and all the DIETs, BRCs, CRCs be made fully functional by filling up the vacant faculty positions. Transfers of teachers should be effected during the vacations

Box 2.1.2
Mid-Day Meals Scheme

The National Programme of Nutritional Support to Primary Education or the Mid-day Meal Scheme was launched on 15th August 1995 to give a boost to universal primary education. It was expected to increase enrolment, attendance and retention and improve the nutritional status of children in primary classes in government, local-body and government-aided schools. From October 2002, the programme has been extended to children studying in the EGS/AIE centres.

The programme provides cooked meals to children through local implementing agencies. The Central government provides foodgrains (wheat and rice) free of cost at the rate of 100 grams per child per school day where cooked meals are served and 3 kg per student per month where foodgrains are being distributed.

The cost of transporting foodgrains from the nearest Food Corporation of India godown to the schools up to Rs. 50 per quintal is also reimbursed to district authorities/state agencies. The state/Union Territory governments meet the cost of conversion of foodgrains into cooked meals. About 64 million children, accounting for 59 per cent of the total target group were supplied with cooked meals during 2004-05. Twenty-seven states/Union Territories have reported full coverage under the scheme and the rest partial coverage.

MDMS has been revised and universalised at the primary level from 1 September 2004. In addition to providing foodgrains free of cost to the States, the Central government also provides assistance towards cost of conversion of foodgrains into cooked meals at the rate of Re.1 per child per school day. The transportation subsidy has been enhanced from Rs. 50 per quintal to Rs. 75 per quintal for all states and to Rs 100 per quintal for the special category states. Mid-day meals are now being supplied to children in drought-affected areas during summer vacations also. The scheme is implemented in convergence with ongoing rural and urban development schemes for adequately meeting infrastructure requirements and with the involvement of local community, self-help groups and non-government organisations.

only. The performance of the institutional arrangements for teacher's education should be closely and regularly monitored, preferably by external agencies. Presently, adequate mechanism for this at the state level does not generally exist. The Teacher Education Programme has been restructured and scheme should be merged with SSA in the XI Plan for effective organisational tie-ups for quality education. Local community should also be involved in monitoring school performance through Village Education Committees and the institution be made responsible for outcomes in terms of quality education.

2.1.34 A large number of local unemployed youths, who have the necessary qualifications, have been appointed as para teachers, instructors and part-time teachers under SSA/DPEP. They are very enthusiastic about their assignment and the joint review mission teams found their performance quite satisfactory, in some cases a shade better than regular teachers. A mechanism, therefore, needs to be devised to provide them professional training and induct them as regular teachers after screening in a well-planned way.

SOCIAL EQUITY AND GENDER

2.1.35 Specific steps have been taken for correction of various imbalances in access to education, especially gender imbalances. Apart from launching a National Programme for Education of Girls at Elementary Level (NPEGEL) as a component of the SSA in educationally backward blocks, at least 50 per cent of teachers recruited under SSA/DPEP have to be women. These initiatives are in addition to the DPEP in low female literacy districts, the Shiksha Karmi project and Lok Jumbish in Rajasthan. The Shiksha Karmi project has led to 75 per cent coverage of SCs/STs in the remote areas of Rajasthan. Building toilets for girls is an important component of programmes for providing infrastructure facilities. Free textbooks, scholarships and other incentives for girls reduce the private cost of education, particularly for those belonging to SCs/STs and BPL families. A new initiative of providing integrated education to physically challenged children has been incorporated in the DPEP/SSA.

2.1.36 The Mahila Samakhya was initiated in 1998 as a programme for education and empowerment of women in rural areas, particularly those from socially and economically marginalised groups. Currently implemented in 33 districts of seven states, the scheme is targeted to cover 240 districts in 17 states during the Tenth Plan. The Mahila Shiksha Kendras are running some of best residential bridge courses with vocational training, including life skills, for out-of-school children.

2.1.37 The Kasturba Gandhi Balika Vidyalaya (KGBV), a special school programme for girl children from the SC/ST/ other backward classes and minorities in low female literacy districts, was launched in 2004-05. It aims to ensure access and quality education to girls through 750 residential schools and boarding facilities at elementary level. KGBV scheme should be merged with the SSA, given the similar objectives.

ADULT EDUCATION

2.1.38 The adult education programme includes the schemes for Total Literacy Campaign (TLC), Post Literacy Project (PLP) and Continuing Education Programme (CEP) and covers 596 districts, thus creating a favourable climate for universalisation of education. The Continuing Education Programme in 276 districts provides a thrust to the National Literacy Mission (NLM) by linking literacy with upgrading of skills and improvement in the quality of life. In 2003-04, the TLC (for teaching the 3Rs) and PLP (application of literacy skills by the neo-literates) were combined for continuity, efficiency and convergence. The literacy schemes like PLP, TLC, Continuing Education should be transferred to the State Governments along with funds to ensure better participation/involvement and effective monitoring. Literacy programmes cover illiterate / neo-literate persons in the age group of 15-35 only. There are about 31 crore illiterate persons as per Census 2001 and a very sizeable proportion is in the age group of 35 years and above and remain uncovered under literacy programmes. Considering significant improvements in the life expectancy, a new scheme should be launched as a part of literacy programmes operated through NGOs to impart functional literacy to 35 plus age group to eradicate illiteracy.

2.1.39 The Jan Shikshan Sansthan (JSS) scheme was initiated in 1988 to promote educational, vocational and occupation development of literates, neo-literates, semi-literates and unlettered persons. So far, 158 centres have been sanctioned to run vocational programmes of varying duration for different skills. Thirty of these have been identified for extending their activities to the neighbouring districts. Efforts should be made to bring down the administrative expenditure of the Jan Shikshan Sansthan scheme, which is unsustainable.

2.1.40 One of the major areas of concern in schemes implemented by NGOs with direct funding from the Government of India is the lack of effective mechanisms for monitoring and evaluating their activities. They appear to be duplicating government's activities in many cases. The state governments are also not aware of their activities. All NGO operated schemes under adult education should be amalgamated into a single comprehensive CSS with individual components as in SSA, if required, with different norms and funds routed through the State Governments.

2.1.41 Evaluation showed that only 16 Jan Shikshan Sansthans (20 per cent) out of 80 JSSs could be rated as 'very good' and 23 JSSs (29 per cent) were graded either 'average or below average'. Some of the JSSs are not functioning well, calling for urgent remedial and corrective steps to improve their activities. The quality of NGOs and their performance under JSS should be regularly monitored and an accreditation process evolved by the Central or state governments to weed out those who have not performed.

2.1.42 About 26 State Resource Centres have been set up to provide resource support, including teaching-learning material for adult education and other programmes. These resource centres are not mandated to monitor and evaluate adult education programmes run by state government and NGOs. The role of the State Resource Centres should formally be extended to cover monitoring and concurrent evaluation of adult education programmes.

ICT IN ELEMENTARY EDUCATION

2.1.43 Information and communication technology (ICT) has a great potential for enhancing learning and improving the quality of education. At present, the use of ICT is limited because of infrastructure and technical manpower constraints. The Vidya Vahini programme initiated in 2002-03 covers 140 schools in seven districts. It is meant to ensure that an effective education technology system is put in place. Broadband VSAT (Very Small Aperture Terminal) connectivity needs to be considered for connectivity in rural areas. The EDUSAT network has enormous capacity for providing a variety of options for interactive/broadcast/ telecast modes, and online communication networks at national, regional and state level. Besides, conventional television broadcasting, which is available in extended C-Band, the EDUSAT network can provide computer connectivity through Ku-Band, facilitating virtual classrooms, access to databases and audio network. The emphasis should be on regular training of existing teachers and para teachers. The distance education programme is likely to give a boost to the utilisation of EDUSAT by providing necessary infrastructure such as direct reception centres in SCERTs, State Institute for Educational Management and Training (SIEMAT) and DIETs, as well as developing software on curricular contextual pedagogy.

SECONDARY EDUCATION

2.1.44 Given the liberalisation and globalisation of the Indian economy, the rapid changes witnessed in scientific and technological world and the general need to improve the quality of life, it is essential that school leavers acquire a higher level of knowledge and skills than what they are provided in the eight years of elementary education. It has been established beyond doubt that the rate of return to secondary education is not only positive but also very large. The average earnings of secondary school certificate holders, according to a World Bank study is 2.9 times higher than that of illiterate workers and 1.7 times that of workers with primary school education.

2.1.45 The SSA has already set the stage for an exponential growth of demand for secondary education. While the growth of enrolment in the secondary school, had increased at an annual rate of 2.83 per cent during 1990s, it increased at 7.4 per cent, per annum between 2000 and 2003. The full impact of SSA is likely to be reflected only during the terminal years of the Eleventh Plan. As the enrolments during the Tenth Plan period are determined by the transition rate of children already enrolled in upper primary schools, the secondary school enrolments in the Tenth Plan are anticipated to increase from the base level of 20 million to 26.4 million by 2006-07. If SSA achieves the goal of universal enrolment and retention in full or near full measure, the total secondary enrolment is expected to reach approximately 50 million, with an annual growth rate of 7.2 per cent between 2003 and 2011. In order to plan for a major expansion of secondary education in the event of achievement of full or near full retention under SSA, setting up of a new Mission for Secondary Education, on the lines of SSA, should be considered.

2.1.46 The following steps are needed in order to cope with the increased enrolment.

- Opening of new secondary schools in unserved areas.
- Organising second shifts in thickly populated areas.
- Upgrading existing upper primary schools into secondary schools in specified locations.
- Successfully and effectively diverting 25 per cent secondary students to the vocational stream

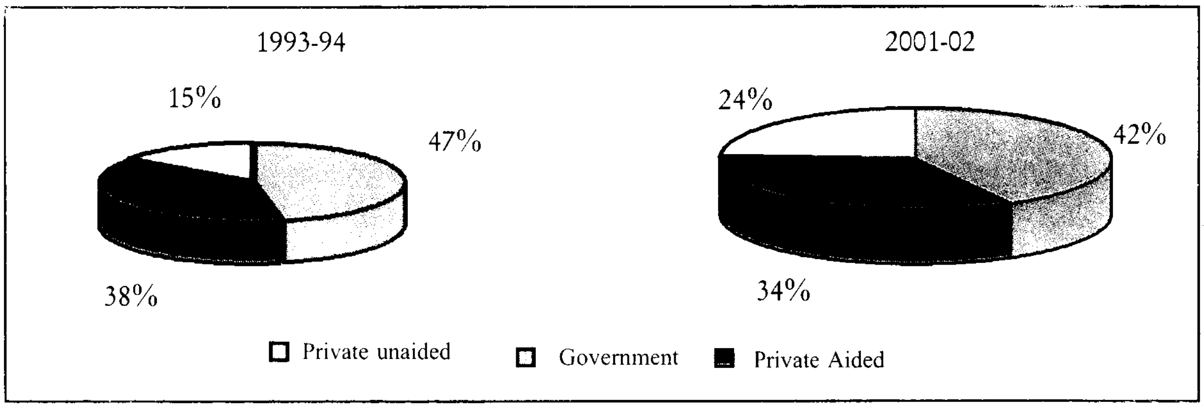
2.1.47 The country should plan for expansion of 'basic education' up to Class X in consonance with the requirement of the baseline qualification of the workforce already in vogue in industrialised countries. Public expenditure on education was 4.02 per cent of GDP in 2001-02, with secondary education accounting for 1.25 per cent of this. This will have to be substantially increased in future.

2.1.48 The expansion of secondary education raises issues related to the number of private or public schools. There are 1.38 lakh secondary schools, 58 per cent of which are run by the private sector and the rest by government and local bodies. The share of private schools in secondary education has been rising steadily. The share of private unaided schools increased from 15.17 per cent in 1993-94 to 23.56 per cent in 2001-02, while the share of government sector schools declined by 5 percentage points and government-aided private sector school by 4 percentage points. The increase in private unaided school reflects the willingness of the parents to pay for education, as their perception is that the education in private sector is superior. One factor underlying this perception is the fact that private schools involve much more extensive education in English which is widely perceived as improving job opportunities. There are regional variations in accessibility to secondary schools and urban areas are apparently better served than rural areas.

2.1.49 There is considerable scope for greater private participation in this sector. Suitable taxation and land policies are needed to encourage expansion of secondary schools in the private sector, along with concessional loans for NGOs, trusts and registered societies. All unrecognised schools that meet the minimum basic norms should be accorded recognition. The public sector should concentrate on opening new secondary schools in unserved and difficult areas, organising second shifts in thickly populated areas and upgrading existing upper primary schools into secondary schools in specified locations.

2.1.50 The duration of secondary education varies across the country. Most states have two years of secondary education, while nine states have three years. Nagaland has four years of secondary education. However, all states have

Figure 2.1.1. Secondary schools by management



two years of higher secondary education. As envisaged in the National Policy on Education, 1986, adoption of a uniform educational structure of 10+2+3 would remove the handicap faced by the students of those states who follow a different system when seeking admission to higher education institutions and also when tapping national and international labour markets.

KEY ISSUES AND FOCUS IN TENTH PLAN

2.1.51 The key issues relating to secondary education highlighted in the Tenth Plan are: greater focus on improving access; reducing disparities by emphasising the Common School System; renewal of curricula with emphasis on vocationalisation and employment-oriented courses; expansion and diversification of the Open Learning System; reorganisation of teacher training and greater use of ICT.

2.1.52 The social, gender and regional disparities need to be addressed. The gender gap should be bridged, with district levels targets being fixed. Educationally backward districts should receive greater support for school infrastructure. Besides providing new schools, need-based upgradation of upper primary schools will have to be given greater priority. The quality of education needs to be improved with investments in teacher education, training, laboratories, libraries and encouraging parents to invest in their children's education. The State Boards of Secondary Education needs to be strengthened.

Box 2.1.3
Tenth Plan objectives for secondary education

The Tenth Plan objectives for secondary education are in consonance with the broad parameters and strategy of the National Policy on Education (NPE) of 1986 and the Programme Of Action of 1992. These include:

- **Extending access in unserved areas and educationally backward areas with concentration of SC/ST population**
- **A uniform educational structure of 10+2+3, with the first 10 years envisaged as a stage of general education with undifferentiated courses providing basic knowledge in languages, science (including social and natural science) and mathematics**
- **The higher secondary stage to provide for diversified courses with emphasis on vocationalisation**
- **Vocational education is to become a distinct stream, intended to prepare students for identified occupations spanning several areas of activity, at the +2 stage.**

2.1.53 Secondary education is primarily the responsibility of the state governments. Figures provided by the State Plans Division of the Planning Commission show that state governments incurred an expenditure of Rs.459.31 crore in 2002-03. Firm figures for the subsequent years of the Tenth Plan are not available.

2.1.54 The approved outlay for secondary education (including vocational education) in the Central sector in the Tenth Plan is Rs.4,325 crore. The actual expenditure in 2002-03 was Rs.578.14 crore, which increased to Rs.639.08 crore in 2003-04. The revised outlay for 2004-05 is Rs.653.60 crore. The allocation for secondary education for 2005-06 was further enhanced to Rs.875 crore, taking the aggregate allocation for four years for the sector to Rs.2745.82 crore. While the plan allocation upto 2005-06 for elementary education has already exceeded the Tenth Plan outlay, in the case of secondary education it accounts for only 63 per cent.

2.1.55 At present, the Centre's intervention in secondary education is at two levels:

- through apex national level bodies like Navodaya Vidyalaya Samitis (NVS), the Kendriya Vidyalaya Sanghthan (KVS), National Council of Educational Research and Training (NCERT), the National Institute of Open Schooling (NIOS), and the Central Tibetan School Administration (CTSA).
- through four Centrally Sponsored Schemes - Access with Equity, Quality Improvement in Schools, ICT in Schools and Integrated Education for Disabled Children.

APEX INSTITUTES

2.1.56 **Jawahar Navodaya Vidyalaya (JNV):** The JNV scheme was launched in 1985-86 with the objective of setting up one school in each district for providing good quality modern education to talented children in rural areas. The annual intake of the schools is about 30,000. The total number of JNVs has increased from 449 at the beginning of the Tenth Plan to 506 in 2003-04. JNVs cover 34 States/Union Territories with a total enrolment of 1.58 lakh children. The provisions of the scheme include computer literacy and library facilities to these schools, and also community services like adult literacy drives, tree plantation, environment education etc.

2.1.57 Between 1999 and 2003 the JNVs showed an improvement in pass percentages in the secondary examinations. Three-fourths of the seats in the schools are reserved for rural areas with proportional representation for SCs/STs and one-third seats are reserved for girls. However, the actual numbers enrolled in both these groups was higher than the quota. SCs/STs enrolments accounted for 38.5 per cent of total enrolment and that of girls 34.01 per cent.

2.1.58 **Kendriya Vidyalas:** The Kendriya Vidyalayas were set up in 1962 primarily to cater to the educational needs of the wards of transferable Central Government employees. At the beginning of the Tenth Plan, there were 854 Kendriya Vidyalayas with an enrolment of 7.2 lakh students. During the first three years of the Tenth Plan, 79 more schools were added, taking the total number of schools to 933 and the enrolment to 7.3 lakh students. The Kendriya Vidyalayas topped at the senior secondary examinations during 2003 with a pass percentage of 88.67.

2.1.59 In order to strengthen the training needs and academic excellence of the Kendriya Vidyalayas, five Zonal Institutes of Education & Training (ZIET) are being set up in Gwalior, Mumbai, Kolkata, Chandigarh and Mysore, of which the ZIETs at Mumbai and Gwalior have become functional.

2.1.60 The Tenth Plan allocations for the Navodaya Vidyalaya and Kendriya Vidyalayas is Rs.2420 crore (Rs.2,000 crore for Navodaya Vidyalaya Samitis and Rs.420 crore for Kendriya Vidyalayas) and the actual expenditure during the first two years of the Plan period is Rs.988.13 crore. The Annual Plan 2004-05 provided an outlay of Rs.477 crore for these two schemes. Thus, against the Tenth Plan outlay of Rs.2420 crore, the anticipated expenditure during the first three years of the

Plan period is Rs.1528.13 crore accounting for 63 per cent of plan outlay.

2.1.61 **National Council of Education, Research and Training (NCERT):** The NCERT provides technical and academic support to the Ministry of Human Resource Development and state governments for quality improvement through curriculum and development and preparation of school textbooks. The Tenth Plan outlay for NCERT is Rs.60 crore and the anticipated expenditure for the first three years of the Plan period is Rs.52.31 crore, which accounts for 87.2 per cent of outlay.

2.1.62 **National Institute of Open Schooling (NIOS):** The NIOS is an autonomous organisation providing continuing education, including vocational education, to those who have missed the opportunity to complete school. It has 120 million students on rolls and 2,500 study centres, which is almost double the number of 1278 centres in 2000. The Tenth Plan outlay for NIOS is Rs.65 crore and the anticipated expenditure during the first three years of the Plan period is Rs.20.33 crore, accounting for 31.3 per cent of outlay.

2.1.63 **Central Tibetan School Administration (CTSA):** The CTSA runs 79 schools for children of Tibetan refugees. The Tenth Plan outlay for this is Rs.15 crore and the anticipated expenditure during the first three years of the Plan period is Rs.8.38 crore, accounting for 55.8 per cent of the outlay. During the years under review, the schools reported a pass percentage of 80 percent in Class X and XII examinations conducted by the Central Board of Secondary Education.

CENTRALLY SPONSORED SCHEMES

2.1.64 **Access with Equity:** The main scheme for increasing access to secondary education in the Tenth Plan period is the Access with Equity scheme which has two components: strengthening of boarding and hostel facilities for girls and setting up of schools in educationally backward blocks through provision of a one-time Central grant to state governments, NGOs and registered societies. The Tenth Plan outlay for the scheme is Rs.305 crore. During the first three years of the Plan period, an expenditure of only Rs.30.90 crore was incurred accounting for 10.13 per cent of Plan outlay. The Annual Plan 2005-06 has provided an outlay of Rs.10 crore. The revised scheme was approved only in January 2004, which explains the low pace of expenditure. The response to the revised scheme appears to be quite good and its implementation is likely to accelerate during the remaining two years of the Plan.

2.1.65 **Quality Improvement in Schools:** This Centrally Sponsored Scheme is an amalgamation of the Ninth Plan schemes of Improvement in Science Education, Mathematics Olympiads, Environment Orientation, Promotion of Yoga and Population Education and has a new component of Educational Libraries. Under the scheme, state governments and registered societies are given grants for the specified activities under each of the erstwhile programmes. The Tenth Plan outlay for the scheme is Rs.110 crore and the expenditure during the first three years of the Plan period is Rs.43.93 crore, accounting for 40 per cent of the Plan outlay. The pace of implementation of the revised scheme is expected to accelerate during the remaining years of the Tenth Plan.

2.1.66 **ICT in Secondary Schools:** This Centrally Sponsored Scheme attempts to spread computer literacy by providing grants to schools for the procurement of hardware, software and other related infrastructure. The Central government shares 75 per cent of the expenditure, subject to a ceiling of Rs.5 lakh per school, with the states contributing 25 per cent. Each school is to be provided with 10 Personal Computers with printers, education software, furniture, computer stationery, teacher training, Internet facilities etc. at an estimated cost of Rs.6.70 lakh, including monitoring cost of Rs.24,000. The scheme has three major components: partnership with States/Union Territories for providing computer aided education; universalisation of computer literacy through the network of Kendriya Vidyalayas and Navodaya Vidyalayas to neigbouring schools;

and establishment of SMART schools for technology demonstration.

2.1.67 The Tenth Plan outlay for this scheme is Rs.800 crore and the actual expenditure during the first three years is only Rs.60.52 crore. An outlay of Rs.50 crore has been provided for the Annual Plan 2005-06. In view of the relevance of ICT to open schools, all regional centres of NIOS have been provided with basic computing facilities. The scheme has yet to expand.

2.1.68 **Inclusive Education for Disabled Children (IEDC):** Under this scheme, grants are provided for aids and appliances, learning materials, teacher salaries and other related expenditure with the objective of bringing disabled children into the mainstream. The scheme is being implemented in 27 States and four Union Territories covering 17 million children in about 50,000 schools. The Tenth Plan approved outlay for the scheme is Rs.200 crore and the expenditure during the first three years of the Plan period is Rs.110.32 crore, 55.2 per cent of outlay.

VOCATIONAL EDUCATION

2.1.69 The vocationalisation of secondary education provides for diversification of educational opportunities so as to enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and an alternative for those pursuing higher education.

2.1.70 The Centrally Sponsored Scheme of vocationalisation of secondary education at the +2 level, initiated in 1988, provides for financial assistance to the states to set up administrative structures, area-vocational surveys, preparation of curriculum guides, training manual, teacher training programme, strengthening technical support system for research and development, training and evaluation etc. It also provides for financial assistance to NGOs and voluntary organisations for implementation of specific innovative projects for conducting short-term courses. The scheme so far has created a massive infrastructure of 20,600 sections in 73,00 schools. Grants to the tune of Rs.700 crore have been released so far.

2.1.71 However, the scheme was not very successful. For vocational education to be a success, trades and disciplines should be carefully selected, keeping in view the employment potential and demand by the industry. Curricula, including the practical training, must meet the demand for specific skills. The vocational stream should also aim at developing courses, which do not require expensive infrastructure for practical training and do not replicate the training in the Industrial Training Institutes (ITI). New emerging areas such as information technology, tourism, banking and insurance, services etc. should be part of the curricula. The secondary schools should thus focus on reorientation of vocational education and impart vocational training in non-engineering and tertiary sector activities rather than conventional subjects relating to manufacturing sector.

2.1.72 The vocational system should address these issues and be a separate stream within the secondary education system, rather than being imparted through separate educational institutions. It should also establish greater linkage with vocational training and academic education to provide for vertical mobility for students aspiring for higher professional programmes in polytechnics, universities and engineering colleges.

2.1.73 Based on the recommendations of various review groups/committees, the scheme is being revised and a new scheme of Vocational Education and Training (VE&T) has been formulated and is being examined by various Ministries/Departments.

2.1.74 The salient features of the new scheme are:

- The vocational education stream is envisaged as a distinct stand-alone stream.
- The courses offered should be modular, competency based with multi-point entry and exit.
- These will be demand-driven and based on the 'need' surveys conducted for the industries/user organisations.

- Recognition and equivalence of the courses will be provided based on the National Vocational Education Qualification and Certification Framework (NVEQCF).
- There will be a provision for recognition of prior learning through a system of testing and assessment of skills.
- A system of testing of skills and bridge courses will be developed to facilitate people without any formal education to get enrolled in the regular system of courses.
- Nationally Recognised Certification will be provided by the National Competency Testing Agency (NCTA).

2.1.75 The revised scheme is likely to be implemented in the last two years of Tenth Plan, which has set aside an outlay of Rs.350 crore for it. An expenditure of only Rs.34.01 crore has been incurred under the existing vocational education scheme during the first three years of the Plan period. Hopefully, the revised scheme – with greater flexibility, mobility, and close linkages with industry – will be more effective for skill development and employment potential. It must be implemented in secondary schools with modular courses, with flexible durations ranging between six months to three years, primarily in high-quality vocations in the non-industrial and non-agricultural tertiary sub-sectors.

UNIVERSITY AND HIGHER EDUCATION

2.1.76 Knowledge is at the core of economic and social development and the Tenth Plan recognised that the higher education system should equip students with adequate skills to enable their full participation in the emerging – and changed – social, economic and cultural environment. India's higher education system has witnessed exponential growth in recent years (Table 2.1.1).

2.1.77 However, many universities and colleges, especially in smaller towns, lack proper infrastructure and function out of ramshackle buildings, without basic facilities. Decline in the quality of faculty is also a major area of concern. Issues relating to access and quality of education, therefore, still remain to be addressed. The Knowledge Commission should comprehensively review university education and address some of the deep-seated problems of varying standards, outdated syllabi, inadequate facilities and also recruitment procedures and policies in order to reduce the disparities in academic standards of various universities.

TENTH PLAN OBJECTIVES FOR HIGHER EDUCATION

2.1.78 Raising the enrolment of the population in the 18-23 age group from 6 per cent at the start of Tenth Plan to 10 per cent by the end of 2007 was a key objective of the Tenth Plan.

Table 2.1.1
Growth of higher education system in India

Items	**Status up to end of Ninth Plan (March 2002)**	**Status up to Mid-Term Appraisal of Tenth Plan (2004-05)**
State/Central Universities (Nos.)	133	229
Deemed Universities (Nos.)	27	95
No. of colleges	12342	16000
Women's colleges (Nos.)	1500	1650
No. of students enrolled	75 lakh	92.28 lakh
Allocation (Rs. in crore)	2500 (Ninth Plan)	**4176 (Tenth Plan)**

Among the other issues it flagged were: improving the quality of education; adoption of state-specific strategies; liberalisation of the higher education system; relevance of the curriculum, vocationalisation, networking through information technology; convergence of formal, non-formal education; increase in private participation; research in frontier areas of knowledge and meeting the challenges of internationalisation of Indian education.

2.1.79 Related to the issue of increasing the access ratio was the emphasis in the Plan period on reducing disparities in higher education opportunities between the urban and rural areas by supporting universities and colleges located in backward areas and narrowing social and gender disparities through increased access and equity for marginalised groups like women, SCs/STs, backward and minority groups.

2.1.80 The NCMP also addressed the issue of increasing access by pledging that "the UPA government will amend the Constitution to establish a Commission for Minority Educational Institutions that will provide direct affiliation for minority professional institutions to central universities" and that "the UPA will ensure that nobody is denied professional education because he or she is poor".

ACHIEVEMENTS AND ISSUES

2.1.81 Increasing the access parameter from 6 per cent to 10 per cent over the Tenth Plan period means that the enrolment in the university/colleges should increase from 7.5 million in 2002 to 12.5 million in 2007. The enrolment at the beginning of the 2003-04 academic year was 9.22 million, including 1.18 million students in the distance education / correspondence courses under the Indira Gandhi National Open University (IGNOU) and other open universities.

2.1.82 In order to achieve the goal of increasing the access ratio, new colleges and universities must be set up, especially in the educationally backward districts, existing institutions must be strengthened and also the open and distance education system expanded. State-wise disaggregated targets need to be fixed for all of these. A long-term plan should be devised for setting up new colleges and universities, especially in educationally backward districts, strengthening existing institutions and also for expanding 'open' and 'distance' education. These activities should be undertaken in a phased manner, based on a clear perspective plan.

2.1.83 Hardly any Indian university figures among the world's top universities. A separate programme is needed to improve and upgrade selected universities to world standards. To make these universities globally competitive, faculty, funds and infrastructure of international standards should be provided and supported by appropriate policy changes. A separate programme should be launched to improve and upgrade select universities and make these globally competitive. Expert faculty, funds and infrastructure of international standards should be provided to these institutions and supported by appropriate policy changes. Part of the upgradation should be financed by increased fee income.

2.1.84 All this requires higher levels of resources for the higher education sector, apart from appropriate policy and other interventions. Of the Tenth Plan total outlay of Rs.13,825 crore for the Department of Secondary and Higher Education, Rs.4176 crore is allocated for the university and higher education sector, which amounts to 30.20 per cent of the total allocation. The University Grants Commission (UGC), which is the nodal agency for coordinating and maintaining standards of higher education in the country, accounts for a major share of this allocation - Rs.3294 crore.

2.1.85 In order to provide more resources for increasing access and improving quality, apart from a substantial increase in public funding, increasing the fees paid by students is equally necessary. The Planning Commission has carefully considered the issue and feels that a substantial increase in fees combined with an aggressive means-based scholarship and loan programme is the need of the hour. The Central Government can give a lead in this area by introducing the system in the Central

Universities. A clear policy for inviting private sector investment in higher education should also be formulated.

INITIATIVES TAKEN IN TENTH PLAN

2.1.86 The UGC has taken several steps in the Tenth Plan period to improve the quality of education in universities and colleges.

- Five universities - Jawaharlal Nehru University, University of Hyderabad, University of Madras, Jadavpur University and the University of Pune - have been identified for granting the status of "Universities with potential for excellence".
- During the first three years of the Tenth Plan, 51 Academic Staff Colleges continued their orientation programme and refresher courses for in-service teachers and newly appointed lecturers. A total of 296 orientation programmes/workshops and 1271 refresher courses have been approved in 117 universities.
- The number of vocational courses for introduction in universities and colleges identified by UGC has increased from 35 to 42 during the period under review. In 2002-03, an amount of Rs.19.77 crore was paid to 335 colleges for implementation of the Career Orientation to Education programme.
- The UGC has taken a number of steps for leveraging the use of ICTs. UGC INFONET allows teachers and students to have access to a storehouse of information in the form of e-formatted journals, besides links to other research. The network will be run and managed by ERNRET India. Information for Library Network (INFLIBNET), an autonomous Inter-University centre for UGC, is the nodal agency for coordination and facilitation of the linkage between ERNET and universities.
- The UGC launched an e-journal, Consortium of Universities, in October 2003. The Consortium will use the Internet to provide electronic access to scholarly literature in all areas of learning. This programme is to cover the universities coming under the UGC's purview and it will be gradually extended to the colleges as well. The programme needs to be accelerated.

2.1.87 The Ministry of Human Resource Development and the UGC have taken the following steps in order to increase the role of the private sector in higher education and to improve the quality of private universities and self-financing colleges:

- A Committee of Academics has been constituted to review the implications of the Private Universities (Establishment and Regulation Bill) 1995 proposed to be introduced in Parliament. This Bill is an enabling legislation, which would lay down broad uniform guidelines for ensuring academic standards, prevents commercialisation, mismanagement and greater investment in higher education by the private sector.
- The National Accreditation Assessment Council (NAAC), an autonomous body under the UGC, is to be strengthened with the opening of four regional centres so as to speed up the accreditation process. NAAC has so far completed the process of accreditation of 113 universities and 2,089 colleges. According to the UGC mandate, NAAC has proposed review of approximately 1000 colleges per year, for the next five years. The accreditation process for higher and technical education institutions should be made transparent and very effective.
- The objective of granting autonomy to colleges is to provide academic freedom in designing curricula, evolving new methods of teaching and research, prescribing courses for study, setting examination papers, etc. In the Tenth Plan, the target is to give autonomy to 10 per cent of eligible colleges. At

present 132 colleges under 29 universities are autonomous. A study should be conducted to assess the impact of autonomy in improving the quality of education and of infrastructure in universities and colleges.

TECHNICAL EDUCATION

2.1.88 The technical education system covers courses and programmes in engineering, technology, management, architecture, town planning, pharmacy, applied arts and crafts. The Ministry of Human Resource Development caters to programmes at the undergraduate, postgraduate and research levels.

2.1.89 The technical/management education system at the Centre comprises the All India Council of Technical Education (AICTE), the seven Indian Institutes of Technology (IITs), six Indian Institutes of Management (IIMs), the Indian Institute of Science (IISc), 17 Regional Engineering Colleges (RECs)/National Institutes of Technology (NITs), two Indian Institutes of Information Technology at Allahabad and Gwalior, the North Eastern Regional Institute of Science & Technology or NERST (Itanagar), Sant Longowal Institute of Engineering and Technology (Punjab), National Institute of Foundry and Forge Technology (Ranchi), School of Planning and Architecture (New Delhi), and National Institute of Industrial Engineering (Mumbai).

2.1.90 **Tenth Plan Objectives for Technical Education:** The key issues relating to technical and management education during the Tenth Plan are:

- a continuing focus on increased intake capacity;
- improving quality;
- faculty development;
- optimisation of resources through networking;
- development of information technology education;
- improving the quality and quantity of research in technologies;
- modernisation/development of curriculum;
- international benchmarking;
- developing capacity in new and emerging technology areas;
- strategic planning and management of the technical education system;
- informal sector development.

2.1.91 There has been a significant increase in the number of technical education institutions and total intake of students.

2.1.92 Of the Tenth Plan outlay of Rs.13,825 crore for the Department of Secondary and Higher Education, Rs.4,700 crore was earmarked for 16 programmes of technical education. Of this, the major share goes to the World Bank-aided Technical Education Quality Improvement Programme (TEQIP) with an outlay of Rs.900 crore; AICTE with an outlay of Rs.600 crore and IITs with an outlay of Rs.612 crore.

PROGRESS IN THE TENTH PLAN

2.1.93 The first cycle of the first phase of TEQIP is being implemented in six States – Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra and Uttar Pradesh. The programme aims at upscaling and supporting the on-going efforts of the Government of India in improving quality and enhancing existing capacities of the Institutions. Eighteen lead institutions (including five Centrally funded NITs) and 70-80 state engineering/network institutions will participate in the programme in the first phase, which coincides with the Tenth Plan period. The programme will benefit 10,000 graduating students, each year by imparting superior skills and training and will also enhance the professional development of 1000 teachers.

2.1.94 Two Indian Institutes of Information Technology, Design and Manufacturing (IIITDM) were set up at Kancheepuram and Jabalpur in 2003-04. These institutes are to provide a sustainable competitive advantage to the Indian industry in the area of design and manufacturing of new products.

Table 2.1.2
Growth and intake of technical education institutions

	No. of Institutions		No. of Students	
Institutions	April	March	April	March
	2002	2004	2002	2004
Degree level institutes				
i) Engineering & Technology	1057	1265	295796	380803
ii) Pharmacy	274	320	13941	16410
iii) Architecture	107	107	3972	3408
iv) Hotel Management	40	49	2100	2640
Postgraduate level institutes				
i) MBA/PGDM	819	958	65102	71251
ii) MCA	865	1034	40797	56338

2.1.95 Efforts are made to strengthen the Community Polytechnics, which are wings of the existing polytechnics mandated to undertake rural/community development activities in their vicinity through the application of science and technology, by providing a one-time non-recurring grants-in-aid of Rs.7.00 lakh, and an annual recurring grant of up to a maximum of Rs.7 lakh. Community polytechnics provide a platform for transfer of appropriate technologies to rural masses for development on scientific lines, and provide technical/ support services to the local community. At present, there are 672 community polytechnics in the country.

2.1.96 The zero-based budgeting exercise initiated by Planning Commission led to several schemes relating to improvement in quality in technical education being clubbed under the umbrella scheme of Programme for Quality Improvement in Technical Education (PQITE) for effective implementation. Four of these schemes - the National Programme for Earthquake Engineering Education (NPEEE), Support for Distance Education and Web Based Learning, National Programme for Technology Enhanced Learning (NPTEL) and Programme for Quality Textbooks in Technical Education - have already been launched. Three major schemes - National Programme for HRD in IT, Programme of Bio-Sciences and Bio-Engineering Education and Networking of Premier Academic Institutions and CSIR Labs - are being initiated.

2.1.97 The seven IITs have been effectively enhancing the country's techno-economic strength and technological self-reliance. These institutes have distinguished themselves by the excellence of their academic activities and research programmes. The total Tenth Plan outlay for these institutions is Rs.612 crores and it is necessary to plan for new IITs that could be set up in the 11th Plan period to meet the demand for highly skilled engineers in the years ahead.

2.1.98 The IIMs are institutions of excellence, established with the objective of imparting high quality management education and training, conducting research and providing consultancy services in the field of management to various sectors of the Indian economy. These institutes conduct research to cater to the needs of non-corporate sectors like agriculture, rural development, energy, health, education, habitat etc. Expansion of such institutions of excellence, providing globally competitive manpower, should be a priority.

EDUCATIONAL DEVELOPMENT IN THE NORTH EAST REGION

2.1.99 The north-eastern region has a high literacy rate but lacks infrastructure and educational facilities. The important Central sector institutes in the region are IIT, Guwahati, NERIST, Itanagar, Regional Centre of IGNOU, Central Universities of Mizoram and Nagaland and the North Eastern Hill University (NEHU). The Kendriya Vidyalaya Sangathan is running 89 schools in the region. While the Department of Secondary and Higher Education has been able to spend 10 per cent of the earmarked allocation in the region, the Department of Elementary Education and Literacy could spend only about seven per cent during 2002-03 and 2003-04.

EDUCATION FOR SCs/STs/ WOMEN/MINORITIES

2.1.100 The National Policy on Education emphasised that education must play a positive and interventionist role in correcting social and regional imbalances, empowering women and in securing a rightful place for the disadvantaged, linguistic groups and minorities. The major elementary education programmes accord priority to areas with a concentration of SCs/STs. Seats are reserved for SCs/STs in institutes of higher education and the qualifying cut-off stages for admission in universities/ colleges and technical institutions are also relaxed for them. The UGC has established SC/ST Cells in 113 universities to ensure proper implementation of the reservation policy. In addition, SC/ST students are entitled to scholarships under the relevant programmes.

2.1.101 While the 2001 Census shows an increase in the female literacy rate and a reduction in the male-female literacy gap, it is a matter of concern that 46 per cent of women are still illiterate. The school education programmes focus on enrolment and retention of girls through provision of incentives likes free uniforms, scholarships, textbooks, etc. The Kasturba Gandhi Balika Vidyalaya (KGBV) and the National Programme for Education of Girls at Elementary Level ((NPEGEL) attempt to address the issues relating to girls education. In the higher education sector, emphasis is laid on construction of women's hostels, day-care centres and strengthening infrastructure for women students and teachers.

2.1.102 The Area Intensive and Madrasa Modernisation Programme for education of educationally backward minorities is being revised to have two components – improvement of infrastructure and facilities in schools located in areas of minorities concentration and modernisation of madrasas. The Central government will fund salaries of teachers in subjects like science, mathematics, english and social studies and will provide grants for purchase of science and maths kits, book banks and strengthening libraries. The revised scheme will be launched shortly.

YOUTH AFFAIRS AND SPORTS

Sports

2.1.103 Successive Plans have laid emphasis on sports and physical education. The sector got additional importance in 1984 when a separate department for sports was created, which was made a separate ministry in 1999.

2.1.104 The role of the government in the sphere of sports is to create a network of basic sports infrastructure throughout the country. A number of initiatives are required to be taken to improve the performance of Indian sportspersons in international competitive sports, which include provision of modern equipment and training facilities, greater transparency in the working of Sports Federation/Associations, etc.

2.1.105 It is necessary to set up sports academies for training Indian sportspersons in those sports where they have an international edge. Intensive training through coaches of international repute as also development of sports medicines and sports research facilities at these academies are necessary. Talent search contests should be held country-wide for various sports and the selected persons put through rigorous training, well before the international events.

Youth

2.1.106 The thrust in the Tenth Plan is to involve the youth, who constitute nearly 40 per cent of the population, in the process of national planning and development and making them the focal point of development strategy by providing educational and training opportunities, access to information, employment opportunities, developing qualities of leadership, tolerance, open mindedness, patriotism, etc.

2.1.107 The activities under the redefined National Service Scheme (NSS) covers the population in the 13-35 years age group. The NSS currently has over 2 million student volunteers on its rolls spread over 178 universities and 39 senior secondary schools and vocational institutions. So far, more than 26.9 million students have benefited from NSS activities.

2.1.108 The Programmes of NSS have been included as one of the priority areas under the NCMP, which emphasised the need to provide opportunities for the youth to involve themselves in national and social development through educational institutions. The NCMP also reiterates provision of adequate facilities to ensure that all students participate in one or the other existing schemes particularly, NSS and the National Cadet Corps (NCC). The NSS should be restructured in terms of funding, training, management and coverage in the XI Plan.

2.1.109 The objective of the Nehru Yuva Kendra Sangathan (NYKS) is to harness and channelise the power of youth on the principle of voluntarism and self help through its regular and special programmes. At present, two lakh active youth clubs/mahila mandals with a membership of over eight million are functioning under district Nehru Yuva Kendras. There is a need to further expand and strengthen the NYKS network for effective and meaningful mobilisation of youth energy to promote communal harmony, national values and solidarity, and to develop a dedicated, motivated and trained cadre of youth leaders and youth volunteers. Disaster preparedness should be included as one of the regular activities of Nehru Yuva Kendra Sanghathan (NYKS) during the current plan itself. However, a major restructuring of NYKS should be undertaken only after a detailed study of the scheme including the feasibility of setting up State Level Centres. As against the Tenth Plan outlay of Rs.191.49 crore, the anticipated expenditure for the first three years of the Plan is Rs.92.97 crore.

2.1.110 The approved outlay for the Tenth Plan for Ministry of Youth Affairs & Sports is Rs.1825 crore, a 121 per cent increase over the Ninth Plan outlay. The expenditure during the first three years of the Tenth Plan is Rs.1038.05 crore, which is 56.87 per cent of approved outlay. The Ministry of Youth Affairs and Sports is implementing 24 Plan schemes of which, NSS and Creation of Sports Infrastructure are Centrally Sponsored Schemes. There are 18 schemes related to youth welfare and all the sports schemes have been merged into six umbrella schemes during the Tenth Plan. Two new schemes have been introduced for the promotion and development of sports – Scheme of Dope Test and State Sports Academy – during the Tenth Plan. Other major schemes are the NYKS and Sports Authority of India (SAI);

2.1.111 There is a need for greater dovetailing of the resources of the Ministry of Youth Affairs and Sports with those of the various state governments to avoid duplication of efforts. The thin spread of resources over a large number of schemes is not yielding the desired results. Promotion and development of sports at village, block and district levels should primarily be left to the state governments. Intervention of the Central government should be selective and support provided only to those talented sportspersons who have achieved excellence at the district/state levels for grooming them for major national and international events.

ART & CULTURE

2.1.112 The Tenth Plan thrust in the sphere of art and culture has been on the implementation of a comprehensive plan for the preservation of archaeological heritage and development of monument complexes, modernisation of museums and preservation of archival heritage; promotion of classical, folk and tribal art, crafts and oral traditions which are in danger of dying out. A National Mission for

Monuments should be launched for documentation and conservation of monuments not protected by ASI. A programme for preservation of such monuments and development of selected monuments for promoting tourism in different regions should be taken up. Various folk and tribal art and culture of different tribes in the country should not only be documented but also conserved, promoted and integrated with tourism related activities.

2.1.113 The focus has also been on computerisation of the work of museums with the assistance of National Informatics Centre (NIC), digitisation of collections, micro filming of manuscripts and the introduction of equipment for audio tours. Emphasis has been placed on strengthening of inter-organisational networks to introduce a management-oriented approach in cultural institutions. Networking amongst central museums, undertaking of in-service training of staff and organising exhibitions have also been priority areas.

2.1.114 The Tenth Plan outlay for the Ministry of Culture is Rs.1720 crore and the anticipated expenditure during the first three years of the Plan period is Rs.904.38 crore, accounting for 53 per cent of outlay. A Memorandum of Understanding (MoU) has been signed between the Government of India and the Government of Cambodia for conservation of the Ta Prohm. Temple in Sien Reap, Cambodia. During the Tenth Plan, National Missions on Antiquities and Built Heritage are also proposed to be launched and the Central Institute of Himalayan Cultural Studies is to be set up in Arunachal Pradesh. Three new galleries – Nizam Jewellery Gallery, Folk and Art Gallery and Central Asian Antiquities were set up in the National Museum at Delhi. The pace of modernisation of preservation facilities relating to repairing and rehabilitation of records under the Archives and Records scheme picked up during the period under review.

2.1.115 An amount of Rs.362.43 crore was provided for Promotion and Dissemination of cultural heritage in the Tenth Plan and the expenditure up to 2004-05 is Rs.208.81 crore. There is a need to ensure that benefits under the scheme reach all the states/Union Territories and the schemes providing grants-in-aid to individuals and NGOs, which are similar in nature should be merged into one umbrella scheme of Financial Assistance to Institutions and Individuals.

2.1.116 Financial assistance is provided to voluntary organisations/individuals engaged in preservation and promotion of tribal/folk and culture under the scheme, Promotion of Classical, Folk and Tribal Art Crafts. An amount of Rs.4.55 crore has been provided during the Tenth Plan for this scheme and expenditure up to 2004-05 is Rs.2.53 crore.

THE WAY FORWARD

Elementary Education and Literacy

- The Tenth Plan target of enrolling of all children in schools and EGS/AIE centres by 2003 should be revised to 2005 as about 8.1 million children are still out of school as on September 2004 and the targets for retention and completion should have consequential revisions.
- The remaining 8.1 million hard to reach out of school children should be enrolled in regular schools/EGS-AIE Centres and plans to mainstream 12 million children already enrolled in non-formal education streams into regular schools should be pursued rigorously.
- High dropout rates and quality of education, the two main areas of concern of SSA, should be addressed through specific measures. The teacher-related issues like vacancies, absenteeism, untrained teachers and ineffective training should be addressed urgently.
- Adequate teaching-learning materials and provision of other joyful learning conditions in schools should be ensured,

and the child tracking system should be intensified.

- SSA funding pattern of 75:25 between the Centre and states should be maintained till the SSA Mission period.
- The SSA guidelines should be reviewed to ensure that these optimise investment, meet output targets and cater to special regional circumstances.
- SSA should have a separate component for ECCE, where ICDS is not in operation. Even where ICDS is operating, pre-school component of ICDS should be covered under SSA. This component should include inter-alia need based training of anganwadi workers, supply of TLM like play-way kits, supporting development of curriculum and materials for ICDS and honorarium for ICDS workers for extension of anganwadi timings to the duration of school hours.
- Under MDMS, the States should ensure proper management structures and monitoring arrangements, including social audit, accountability and public private partnership. A concurrent evaluation of MDMS should be launched in all States.
- The factors leading to low learner's achievement, including poor classroom transactions, lack of pupil evaluation and low proportion of female teachers should be addressed effectively.
- Local community should also be involved in monitoring school performance through Village Education Committees and the institution be made responsible for outcomes in terms of quality education.
- Teachers' vacancies at all levels should be filled up urgently and there should be advance planning for future requirements too. Pre-service and in-service training of teachers should be strengthened and all the DIETs, BRCs, CRCs be made fully functional by filling up the vacant faculty positions.
- Teacher Education Scheme should be merged with SSA in the XI Plan in order to ensure effective organisational tie up for quality education.
- The literacy schemes like PLP, TLC, Continuing Education, should be transferred to the State Governments along with funds to ensure better participation/ involvement and effective monitoring.
- A new scheme should be launched as a part of literacy programmes, operated through NGOs, to impart functional literacy to 35 plus age group as a sizeable proportion of the 31 crore illiterate persons is in the said age group.
- All NGO operated schemes under adult education should be amalgamated into a single CSS and funds routed through the State Governments.

Secondary Education

- In order to plan for a major expansion of secondary education in the event of achievement of full or near full retention under SSA, a new Mission for Secondary Education, on the lines of SSA, should be considered.
- The expansion of secondary education should recognize the scope for promoting public-private partnership in view of the substantial share of private sector in secondary education.
- Suitable taxation and land policies, concessional loan programmes should be evolved to encourage expansion of secondary schools by NGOs, trusts and registered societies in the private sector.
- The focus of public sector should be on opening of new secondary schools in unserved and difficult areas, organising second shifts in thickly populated areas, upgrading existing upper primary schools into secondary schools in specified locations.
- Urgent steps should be initiated to bring about reforms in curricula, review of examination system and the State Boards

of Secondary Education should be strengthened to improve the quality of education.

- The main emphasis should be on investment in teacher education, pre-service and in-service training, and setting up of laboratories, libraries and greater usage of ICT.
- The secondary schools should focus on reorientation of vocational education and impart vocational training in non-engineering and tertiary sector activities rather than conventional subjects relating to manufacturing sector.
- Vocational education should be geared to meet the local demands and necessary linkages with the local industry, business and trade should be established.

University & Higher Education

- The Knowledge Commission should comprehensively review university education and address some of the deep-seated problems of varying standards, outdated syllabi, inadequate facilities and also recruitment procedures and policies in order to reduce the disparities in academic standards of various Universities.
- A long-term plan should be devised for setting up new colleges and universities, especially in educationally backward districts, strengthening existing institutions and also for expanding 'open' and 'distance' education. These activities should be undertaken in a phased manner, based on a clear perspective plan.
- A separate programme should be launched to improve and upgrade select universities and make these globally competitive. Expert faculty, funds and infrastructure of international standards should be provided to these institutions and supported by appropriate policy changes. Part of the upgradation should be financed by increased fee income.
- A substantial increase in university fees should be combined with an effective scholarship for the deserving students and loan programme by public sector banks should be considered on a priority basis to improve the resource position of Universities and Colleges. The Central Government can give a lead in this matter by introducing the system in the Central Universities.
- A clear policy for inviting private sector investment in higher education should also be formulated.
- The accreditation process for higher and technical education institutions should be made transparent and very effective.
- The expansion of institutions like IITs, IIMs should be considered so that these set standards for technical and management institutions.

Youth Affairs and Sports

- Sports Academies should be set up at different locations for training and developing sports infrastructure of international standards and making it accessible to those being trained for international competitive events.
- There should be greater transparency in the functioning of Sports Federations/ Associations.
- Disaster preparedness should be included as one of the regular activities of Nehru Yuva Kendra Sanghathan (NYKS) during the current Plan itself.
- Greater dovetailing of the resources of the Ministry of Youth and Sports Affairs with those of the various state Governments should be ensured to avoid duplication of efforts.
- Promotion and development of sports at village, block and district levels should be the responsibility of the State Governments.
- Intervention of the central government should be restricted to providing

support only for grooming the talented sports persons who have excelled at the district/state levels for major national and international events.

ART AND CULTURE

- A National Mission for Monuments should be launched for documentation and conservation of monuments not protected by ASI.
- A programme for preservation of such monuments and development of selected monuments for promoting tourism in different regions should be taken up.
- Various folk and tribal art and culture of different tribes in the country should not only be documented but also conserved, promoted and integrated with tourism related activities.

HEALTH, FAMILY WELFARE AND NUTRITION

2.2.1 Improvement in the health status of a population is recognised as instrumental for increasing productivity and economic growth, as well as an end in itself. The health system in India is a mix of the public and private sectors, with the NGO/civil society sector playing a small but important role. The Tenth Five Year Plan (2002-07) envisages devolving responsibilities and funds for health care to panchayati raj institutions (PRIs), reorganising and restructuring public healthcare systems, mainstreaming Indian Systems of Medicine (ISM), and strengthening interventions for the management of communicable and non-communicable diseases. Three of the eleven monitorable targets of the Tenth Five Year Plan focus on health. India is on course in respect of the decadal growth rate of population, close to eradicating leprosy and polio, and health outcomes are slowly improving. However, it is evident that the Tenth Plan targets and goals on maternal and infant mortality will be missed. Malnourishment is an issue, and the proportion of chronically under-nourished children and anaemic women remain high. Devolution of responsibilities and funds to the panchayati raj institutions (PRIs) has not happened. Containing and reversing the spread of HIV/AIDS is a huge challenge. The management of tuberculosis is progressing well, while cancer and malaria remain significantly under-funded, although the management of malaria is being revitalised. Several new initiatives in the health, family welfare and AYUSH sectors between 2002 and 2005 are highlighted.

THE HEALTH TRANSITION

2.2.2 The Tenth Plan recognised a health transition. It is becoming clear that India is in the midst of a health care transition across four dimensions:

- *Demographic*: With declining mortality and fertility, we find that in 2020 as compared to 2002, the percentage of total population in the age group 15-64 years will increase from 59 per cent to 67 per cent, and that above 64 years, from 7 to 9 per cent. The percentage of population below 15 years of age will drop from 35 to 28 percent. *This window of "demographic opportunity" in India (major increases in the working age group population), will last for a quarter century. Among the increasing older population, many may be widows, without family support. This demographic shift has implications for the way in which health care is delivered and accessed.*
- *Epidemiological*: We are encountering a *"double burden of disease"*. A high proportion of the population continue to die from preventable infections like diarrhoea, pneumonia, under-nutrition, childbirth related complications, TB, malaria, and HIV/AIDS. Simultaneously, the growing incidence of non-communicable, chronic conditions of ill-health like cardio-vascular disease, diabetes and cancer attributed to changing life-styles, is stretching the capacity of the health care system, since it must continually attend to the "unfinished agenda".
- *Social*: There is on the one hand, a *rising demand for high quality health care*, including a preference for multi-speciality hospitals even if these entail higher costs. On the other hand, there is an unwillingness (even across metropolitan cities and in progressive states), to discard myths and misconceptions, for example, those contributing to adverse sex selection; and finally,
- *Managerial*: We need to develop health financing systems (inclusive of risk pooling), that will address the shift in disease burden, the increase in health costs, and inefficiencies across health care management.

PERFORMANCE REVIEW

2.2.3 A major concern in this performance review of the health sector is how best to reach out to the bottom 300-400 million people who perceive health services as unavailable and inaccessible. We note that achievement towards the health related goals and targets among the Millennium Development Goals (MDGs) is not on track (Annexure 2.2.1). We begin with health expenditure and attempt to understand the health spend, review progress made in achieving the monitorable targets of the Tenth Plan, addressing the disease control programmes and nutrition, and we examine what is ailing the health sector. On the basis of all of the above, the Mid Term Appraisal makes several specific recommendations to improve the management of health care, and finally, lists the way forward.

UNDERSTANDING HEALTH EXPENDITURE

LOW PUBLIC EXPENDITURES ON HEALTH IN THE DECADE 1994-2004

2.2.4 The resources allocated towards the health sector over the past decade indicate that the *public expenditures on health* (through the central and state governments), as a percentage of total government expenditure, *have actually declined* from 3.12 per cent in 1992-93 to 2.99 per cent in 2003-04. Similarly, the combined expenditure on health as a percentage of GDP has also marginally declined from 1.01 per cent of Gross Domestic Product (GDP) in 1992-93 to 0.99 per cent in 2003-04. A small increase in central government expenditures between 1994 and 2004 is accompanied by a reduction in health expenditure by state governments. All of this is captured in Table 2.2.1.

Table 2.2.1
Public expenditures on health, disaggregated

Year	As % of Total Government Expenditure			As % of GDP		
	States	Centre	Total	States	Centre	Total
1992-93	4.96	1.31	3.12	0.79	0.22	1.01
1993-94	5.16	1.49	3.28	0.81	0.25	1.05
1994-95	4.85	1.62	3.26	0.77	0.25	1.01
1995-96	4.98	1.78	3.39	0.75	0.26	1.00
1996-97	4.85	1.50	3.21	0.72	0.21	0.93
1997-98	4.94	1.55	3.32	0.74	0.21	0.95
1998-99	4.98	1.58	3.33	0.76	0.23	0.99
1999-2000	4.80	1.75	3.34	0.78	0.26	1.04
2000-01	4.65	1.87	3.33	0.77	0.28	1.05
2001-02	4.41	1.99	3.25	0.73	0.30	1.03
2002-03	4.27	1.67	3.06	0.77	0.26	1.03
2003-04	4.12	1.69	2.99	0.73	0.26	0.99

Source:National Accounts Statistics, 2004, Table Sl.1, p196-197
Expenditures by state governments extracted from Reserve Bank of India, Handbook of Statistics on State Government Finances, 2004
Total expenditures by central government obtained from Indian Public Finance Statistics, 2002-03, and 2003-04, pp12-14, and pp17-19.
Expenditures on Health, obtained from Ministry of Health & FW

Low per capita public expenditures on health, 1994-2004, in real and nominal terms

2.2.5 The real and nominal expenditures on health from 1994-2004 are captured in Table 2.2.2. In nominal terms, the per capita expenditure increased from Rs.89 in 1993-94 to Rs.214/ in 2003-04 (US $ 5), which in real terms is Rs.122/ (US $ 3).

2.2.6 The growth of public health expenditures in nominal and real terms through the central and state governments is in Figure 2.2.1.

State level per capita expenditures

2.2.7 For a clearer understanding of the distribution of health spend, the state level per capita expenditures (2003-04), are estimated in Table 2.2.3. Health care is financed primarily by state governments (Table 2.2.1), and state allocations on health are usually affected by any fiscal stress they encounter. The extent and quality of health care provision varies widely across states and reflects primarily, the stage of the health transition in the state, their health sector priorities and their current and past investments in health.

Health Spending in India and Comparator Countries

2.2.8 The combined central and state health spend is low in comparison with many other developing countries (Table 2.2.4, Column 4), as a percentage of the GDP, but compares even more unfavourably on a per capita basis (Table 2.2.4, Column 5). There is another aspect, though. While the public expenditure on health is low in India, private expenditure is relatively high (Table 2.2.4, Column 6). Health spending in India and comparator countries is captured in Table 2.2.4.

Plan Outlays and Expenditure

2.2.9 A statement on plan outlays and expenditures in the health sector by the central

Table 2.2.2
Total and Per Capita expenditures, in real and nominal terms, 1994-2004

Year	NOMINAL		REAL	
	Health expenditure (Rs. in crore)	Per capita expenditure	Health expenditure (Rs. in crore)	Per capita expenditure
1993-94	7938.36	89.00	7,938.36	89.00
1994-95	8935.54	98.19	7921.58	87.0
1995-96	10412.83	112.21	8521.14	91.82
1996-97	11299.35	119.44	8876.16	93.83
1997-98	12978.06	134.63	9772.64	101.38
1998-99	15325.27	155.90	10884.42	110.73
1999-00	17535.56	175.18	12068.52	120.56
2000-01	18806.67	184.5	12078.79	118.54
2001-02	19026.18	183.47	11795.52	113.75
2002-03	21334.19	202.22	12790.28	121.23
2003-04	23028.30	214.62	13091.70	122.01

Source: National Commission on Macro Economics and Health

Table 2.2.3
State level per capita health expenditure 2003-04

(In Rupees)

States	Per Capita Public Expenditure 2001-02	Per Capita Public Expenditure 2003-04**
Andhra Pradesh	179.45	208.22
Assam	135.14	156.80
Bihar	66.13	76.73
Delhi	417.98	484.98
Gujarat	143.82	166.87
Haryana	152.25	176.66
Karnataka	205.45	238.38
Kerala	237.45	275.51
Madhya Pradesh	84.77	98.36
Maharashtra	189.39	219.75
Orissa	122.15	141.73
Punjab	253.83	294.52
Rajasthan	176.45	204.73
Tamil Nadu	195.44	226.77
Uttar Pradesh	78.80	91.43
West Bengal	176.26	204.51
All India	184.97	214.62

** *State-wise figures on per capita expenditure for 2003-04 have been extrapolated from the state level per capita expenditure, 2001-02 (RBI) read together with the all-India per capita expenditure for 2003-04*

government during the Ninth and Tenth Plans is at Annexure 2.2.2. State Plan outlays and expenditures during the Ninth and Tenth Plans is tabulated at Annexure 2.2.3.

Analysing the health expenditure

2.2.10 During the first three years of the Tenth Plan, we note that the three Departments of the Ministry of Health and Family Welfare have respectively utilized plan outlays up to 87.64 per cent (Health), 88.63 per cent (Family Welfare) and 82.89 per cent (AYUSH). Higher utilisation of funds is called for by central government hospitals, towards development of nursing services, training of health providers, social marketing of contraceptives, area projects for districts and urban slums, strengthening of pharmacopoeial laboratories, development of institutions (across Indian Systems of Medicine) and publication of manuscripts.

2.2.11 Over the same period, we record the distribution of central plan funds between centrally sponsored and central sector schemes, by Ministry of Health & Family Welfare (Figure 2.2.2). The relative share of centrally sponsored and central sector schemes is indicative of the extent to which any sector is engaged in decentralized, state-centric activities. We find that centrally sponsored schemes engaged 98 per cent of the plan funds in family welfare, 70 per cent in AYUSH and 54 per cent only in the Department of Health. There is need for significantly higher decentralization across the Health and AYUSH sectors

Table 2.2.4
Health Spending in India and Comparator Countries

Country	GDP per capita US $ (2001)	GDP per capita (as % of GDP growth) 2001-02	Health Expenditure		
			Public exp. as per cent of GDP (centre + states) 2000	Private exp. as per cent of GDP 2000	Total health exp. (per capita) US $ 1997-2000
India	460	2.8	0.9	4.0	23
Brazil	3070	0.3	3.4	4.9	267
Thailand	1940	4.5	2.1	1.6	71
Sri Lanka	840*	1.7	1.8	1.8	31
China	890	7.2	1.9	3.4	45
Pakistan	420	1.9	0.9	3.2	18
Malaysia	3330	2.1	1.5	1.0	101

Source: World Development Report 2004
* Sri Lanka: This is the Gross National Income

2.2.12 A report of the Confederation of Indian Industry-McKinsey, 2002 estimates current private expenditure on health care at 3.2 per cent of the GDP or Rs.72,000 crores, and predicts that it will double to Rs.156,000 crores by 2012. In the event that the market for health insurance develops, this figure could be much higher. Over 68 per cent of the 15,393 hospitals (cited by Ministry of Health & Family Welfare), and 37 per cent of the hospital/clinic based beds are contributed by the private sector. It is clear now that for a variety of reasons, private spend will continue to dominate the expenditures on healthcare. Changes in the socio-economic mix within population (higher incomes available to larger numbers) will increase the ability to pay for rising costs of treatment, as also for the volumes of treatments required. The epidemiological transition will promote a decrease in acute infections and a corresponding shift in demand to expensive, lifestyle diseases with higher need for inpatient hospitalisation for cancer, cardio-vascular disease and accidents/injuries. This will inevitably

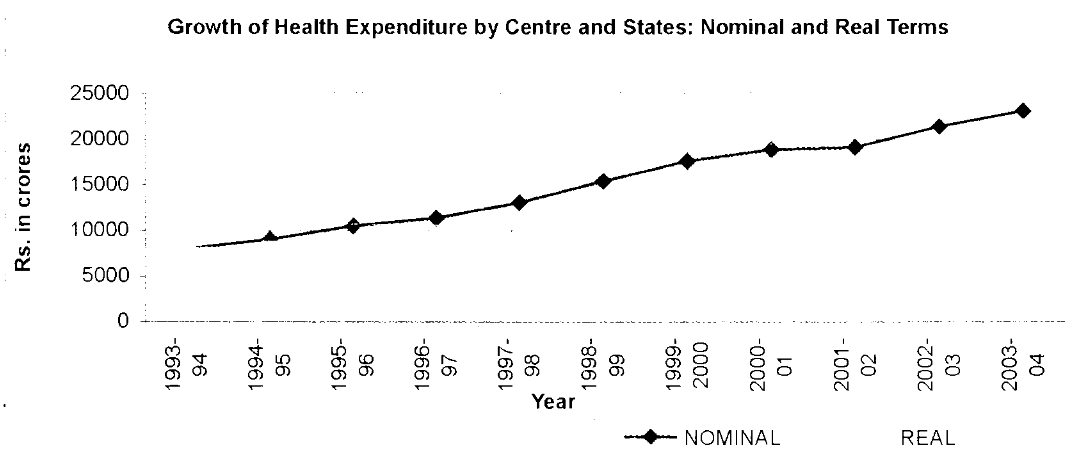


Figure 2.2.1. Source: National Commission on Macro Economics and Health

Distrbution of Central Plan funds between CSS and CS

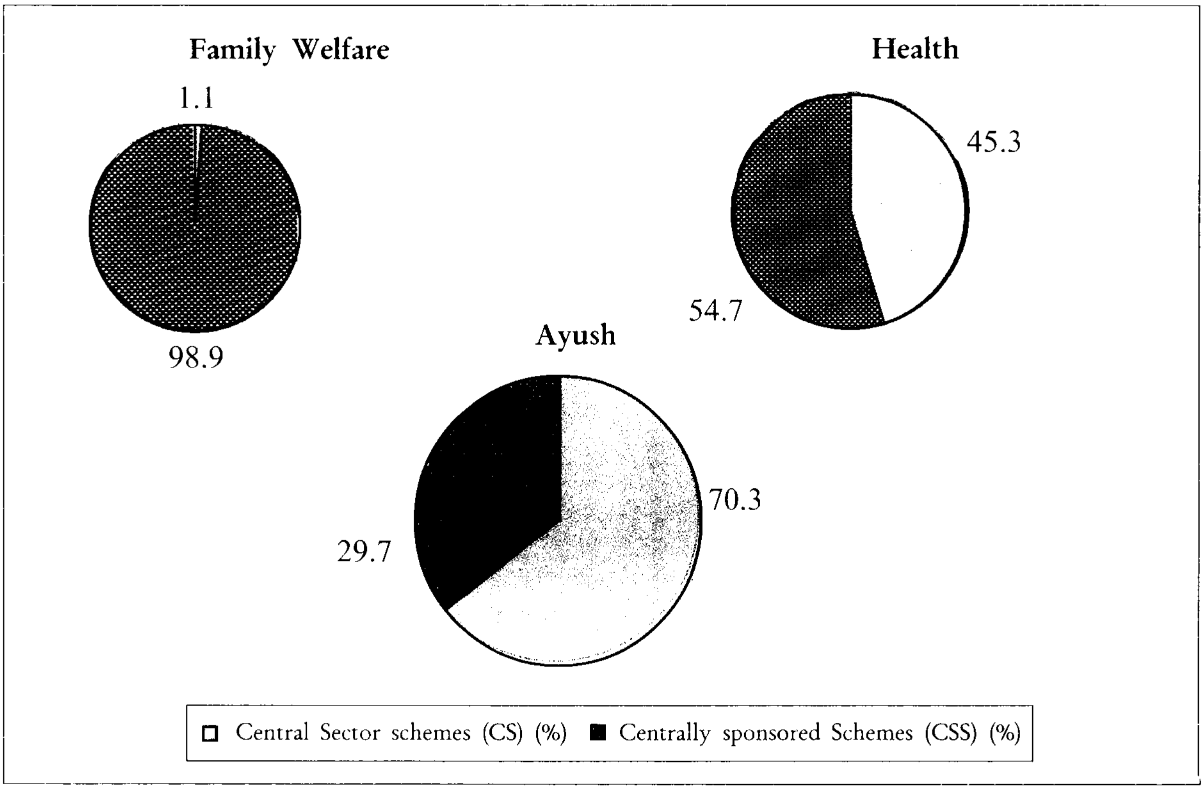


Figure 2.2.2

trigger a rising demand for high quality secondary and tertiary care. To meet this rising demand, heavy investments will become necessary over the next five to ten years in health infrastructure, building hospitals and developing human resources through training and continuing medical education.

RECOMMENDATIONS ON HEALTH EXPENDITURE

A. Enhance Outlays for Health Care

India has set ambitious goals for the health sector in the Tenth Plan. These require a massive scaling up of investment in health, across the primary sector (towards reorganising health delivery, supporting community based initiatives, bringing in skilled birth attendants and setting up community hospitals at CHC levels), as well as across the tertiary sector (particularly towards medical colleges, hospitals and human resource development). Low levels of investment in public health coupled with inefficient utilisation, has bred an unregulated private sector (often the de facto provider of health care services), and a dysfunctional public health system. The National Common Minimum Programme adopted by the United Progressive Alliance in 2004 aims at increasing public expenditures on health from 0.9 per cent up to 2-3 per cent of GDP. The central government BE 2005-06 for health and family welfare provides 20 per cent higher central plan outlays over the previous year, 2004-05. These are steps in the right direction. However, for any sustainable improvement in coverage, quality of care and health outcomes, the per capita expenditure on health care needs to be raised significantly within a short period of time. Some suggestions are:

i. On humanitarian grounds and as an exception for health, treat external grant money with zero debt liability, as an additionality to the domestic budget. In other words, do not constrain access to and utilisation of external grant money, by the budgetary ceiling on external aid. For life-saving public health causes like HIV /AIDS, TB, Malaria, and maternal and child health, the Ministry of Health needs to pro-actively access external grant money outside of the budgetary process. This will immediately augment resources for the health sector.

ii. Introduce a "*Sarwa Swasthya Abhiyan*" (Health for All), driven by the central government, along the same lines as the flagship "*Sarwa Shiksha Abhiyan*" (Education for All) programme that has been underway since 2001. Avail of the IDA credit from the World Bank which is the single largest flow of low cost development assistance to developing countries. Ministry of Health accesses IDA credit for the national disease control programmes, and for reproductive and child health. The Sarwa Shiksha Abhiyan is enhancing the outreach and quality of primary education for all. There is a strong case to replicate this in the health sector.

b. Motivate state governments to allocate higher outlays for health care

While the central government makes every effort to augment resources for health, state governments should be persuaded to assign at least 7 per cent of state expenditures towards health care. Uttar Pradesh has already begun in 2005-06 to assign nearly 6.5 per cent towards health care. However, merely increasing financial resources will have little impact unless health systems are energised to function. Increases in resources must be accompanied by more appropriate targeting of resources received through central plan support. For any sustainable improvements in health outcomes, the per capita spend on outreach, coverage, and quality of care must be enhanced. The objective of every state should be to increase competition among providers, create options for consumers and ensure oversight through elected local bodies and panchayats. Health outcomes are not affected only by direct expenditures on health. Accordingly, state governments need to also focus on integrating public health programmes with public interventions across known determinants of health outcomes, for example, drinking water, sanitation, nutrition, primary education, roads and connectivity. State governments should be persuaded to allocate more resources for these sectors through better fiscal management and reprioritisation.

c. Target resources to community and household levels through PRIs

There is a realization that somewhere along the line we have overlooked community-based, pro-poor, mutual solidarity kind of initiatives towards health care, which usually have a direct bearing on improving health outcomes. Traditionally, health care was embedded in societal reciprocities. These are assets often invisible to the planner and the professional. Innovative models need to be developed at community levels, covering technology outreach, social mobilization, provision of basic services, self-help schemes and micro-credit facilities. These area-based community development projects could provide platforms for convergence of programme elements to optimise their impact. This is in keeping with decentralising functional authority and resources for health care to elected Panchayati Raj Institutions. *Target resources to the elected Panchayati Raj Institutions (PRIs) and through them, to community and household levels. This will empower the communitisation of health care as already successfully being implemented in Nagaland.*

MONITORABLE TENTH PLAN TARGETS

2.2.13 Of the eleven monitorable targets of the Tenth Plan, three relate to the health sector. Each of these is reviewed below:

(i) Reduce the decadal rate of population growth between 2001 and 2011 to 16.2 per cent;

(ii) Reduce Maternal Mortality Ratio (MMR) to 2 per 1000 live births by 2007 and 1 per 1000 live births by 2012; and

(iii) Reduce Infant Mortality (IMR) to 45 per 1000 live births by 2007, and 28 per 1000 births by 2012

2.2.14 Population growth in India peaked in 1981 and has since been on the decline. The current (Census 2001) decadal growth rate of population is 21.34 per cent, largely on account of the momentum built from high levels of fertility in the past. Prior to the 1970s, women on average, gave birth to more than six children in their lifetime (commonly known as the Total Fertility Rate [TFR]). This has now reduced, on average, to three children during a lifetime. A reduction of only one more birth per woman is required, to ensure population stabilisation. The National Population Policy, 2000 and the Tenth Five Year Plan (2002-07) reiterate voluntary and informed consent as the ground rule for fertility regulation and population stabilization.

2.2.15 The good news is that, India is right on course in respect of the first of the three Tenth Plan monitorable targets pertaining to the health sector. The projected decadal population growth rate is 16.1 per cent for 2001-11 (Census Commissioner, India) and 12.3 per cent for 2011-21.

2.2.16 Efforts made and progress achieved in population stabilisation can be appraised realistically only in the context of striking regional differences. In the year 2000, the eight Empowered Action Group (EAG) states (Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Jharkhand, Uttaranchal, Chhatisgarh and Orissa) had an estimated combined Total Fertility Rate (TFR) of 4.1. Under the current rate of decline, it would take another 26 years for these states to reach replacement level fertility (2.1) in these eight states. Without accelerating fertility decline in the EAG states, India cannot hope to achieve replacement fertility. Table 2.2.6 indicates that Bihar has had a mean fall in TFR of only 0.23 in the last 10 years.UP is somewhat better with a mean fall of 0.84 in TFR, over the same period. On the basis of strong performance across the southern states, Maharashtra and Punjab, India is in a position to aspire for a TFR of 2.7 (a state weighted average) by 2010. Population projections indicate that the TFR in India will reach 2.1 (replacement value) only by 2021. The state level estimates of expected TFR in 2010 are indicated in Table 2.2.6.

2.2.17 What then is constraining progress across several states towards more rapid population stabilisation? Crucial impediments are the unacceptably high infant mortality rate and high maternal mortality ratios, discussed subsequently, and inadequate female literacy. There is also the unmet need for contraceptives (highest in states with weak public health systems), and for high quality health services, in functioning public health facilities closer to where these are most needed. In 2002, two new contraceptives introduced free of cost through the national programme, were the intra-uterine device Copper T 380A and the

Table 2.2.5
Population of India : Growth Rates

Year	Population (in millions)	Decadal growth (per cent)	Annual exponential growth rate (per cent)
Census 1971	548.20	24.8(%)	(+) 2.20 (%)
Census 1981	683.30	24.66(%)	(+) 2.22 (%)
Census 1991	846.40	23.85(%)	(+) 2.14 (%)
Census 2001	1028.60	21.34(%)	**(+) 1.93 (%)

Source: Registrar General of India

Table 2.2.6
Total fertility rate (TFR) and projected number of years to reach replacement levels : Major states of India

State	TFR 2002 SRS	Mean fall during Last 10 years	Years required to achieve TFR of 2.1	Expected TFR in 2010
Andhra Pradesh	2.2	0.60	2	1.8
Assam	3.0	0.61	15	2.5
Bihar *	4.3	0.23	98	4.1
Gujarat	2.8	0.41	17	2.5
Haryana	3.1	0.80	12	2.5
Himachal Pradesh	2.1	0.82	0	1.8
Karnataka	2.4	0.57	5	1.8
Kerala	1.8	0.00	0	1.8
Madhya Pradesh *	3.8	0.44	39	3.4
Maharashtra	2.3	0.74	3	1.8
Orissa *	2.6	0.80	6	2.0
Punjab	2.3	0.80	2	1.8
Rajasthan *	3.9	0.65	28	3.4
Tamil Nadu	2.0	0.13	0	1.8
Uttar Pradesh *	4.4	0.84	27	3.7
West Bengal	2.3	0.82	2	1.8
All India	3.0	0.64	14	2.5 **(2.7)
Mean for EAG	4.1	0.59	33	3.6

*EAG states ** State-weighted average.
Source : Prof. Mari Bhat, Institute of Economic Growth, Delhi, 2005

emergency contraceptive pill. The intra-uterine device (IUD) Copper T 380A provides protection for over 10 years. *In Tamilnadu, the village health nurses have been fully trained and equipped to routinely administer this contraceptive. Other states could follow this route to accelerate state level achievement in population stabilisation.*

2.2.18 In the Tenth Plan an amount of Rs.250 crores has been allotted for "EAG Schemes". The National Population Stabilisation Fund and the National Commission on Population (NCP) were shifted from the Planning Commission to the Ministry of Health & Family Welfare in 2003 and 2005, respectively. The Empowered Action Group in the Ministry of Health, addressing the special needs of eight high fertility states, is now better equipped and energized to implement a state specific agenda to address unmet needs towards accelerating population stabilization.

2.2.19 There is one aspect that merits urgent attention. India has an extremely adverse sex ratio of 933 females for every 1000 males. Census 2001 draws attention to the unfortunate drop in the sex ratio from 945 girls / 1000 boys in 1991 to 933 in 2001.

2.2.20 The ground reality is even more alarming. In Punjab, Haryana, Himachal and UP, the sex ratio is less than 900, and in 10 of the 17 districts of Punjab, it is less than 800. Cities like Delhi, Ahemedabad, Kanpur, and Jaipur have a sex ratio of less than 900. An undeniable son preference combined with the increasing incidence of widespread sex selection prior to conception is further distorting the already adverse sex ratio. Accordingly, the Pre-Natal Diagnostic Techniques Act 1994 was amended in 2003 to bring within its purview all actions relating to sex selection prior to conception, to restrict the sale of imaging and ultra-sound machines only to clinics registered under the Act, and to strengthen enforcement with more stringent penalties for violation. This legislation should contribute towards more balanced population stabilization.

Table 2.2.7
Sex Ratios in India

Year	Population (in million)	Sex Ratio (females per 1000 males)
1901	238.4	972
1911	252.1	964
1921	251.3	955
1931	279	950
1941	318.7	945
1951	361.1	946
1961	439.2	941
1971	548.2	930
1981	683.3	934
1991	846.4	927
2001	1028.6	933

Source: Registrar General of India

Reduce Maternal Mortality Ratio (MMR) to 2 per 1000 live births by 2007, and 1 per 1000 live births by 2012

2.2.21 India has an unacceptably high maternal mortality ratio of 4-5 per 1000 live births (SRS, 1998). Maternal mortality is not merely a health disadvantage, but also a reflection of social and gender injustice. The low social and economic status of girls and women limits their access to education, appropriate nutrition, as well as health and family planning services. All of this directly impacts pregnancy outcomes. The overriding causes of the high maternal mortality ratio across India are *the absence of a skilled birth attendant at delivery, poor access to emergency obstetric care in case of a complication and no reliable referral system (with easy mobility), to ensure that women who experience complications can reach life-saving emergency obstetric care in time.* Any skilled birth attendant, however proficient she may be, also needs the back up of a functioning health system and cannot succeed without drugs, equipment and infrastructure. Minimal infra-structure for appropriate pregnancy outcomes like access to safe blood, functioning operation theatres (with electricity and running water), anaesthetists, and skilled birth attendants is simply not available on the scale required. Neither the Auxiliary Nurse Midwife nor the Trained Birth Attendant (TBA) qualifies as a (WHO defined) skilled birth attendant. The emphasis on village based trained birth attendants across the country, has not yielded optimal results, on account of lower standards of training and skill sets. It is relevant at this point to examine the

Table 2.2.8
Skilled Birth attendants and Maternal Mortality in South Asia (2000)

Country	% pregnancies attended to, by skilled birth attendants	Maternal Mortality Ratio (per 1000)
India	39	4-5
Maldives	72	1-2
Sri Lanka	98	0.5

Source: United Nations for Population Fund Activities (UNFPA) route adopted in some developing countries known to have intervened aggressively to successfully reduce maternal mortality to below 1 per 1000 live births.

2.2.22 We highlight the success stories of Sri Lanka and China and there is a comparison in Table 2.2.9.

Sri Lanka

Sri Lanka, a low income country, achieved a 50 per cent decline in MMR from 1947-50 and further 50 per cent reductions thereafter every 8-13 years. Sri Lanka demonstrated that official recognition of professional midwifery is a crucial step towards reducing maternal mortality and further, that this is also the least cost solution. Through a clear and consistent strategy, by the mid 1950s, Sri Lanka had established systems to train and supervise midwives, to regulate midwifery practices and to introduce accountability. Over the years, their systems for training of nurses have only improved. Public health midwives (PHMs) are assigned (upon completion of 18 months training), to a Health Unit (equivalent of the health sub-centre in India). PHMs provide skilled attendance during home deliveries and have become the cornerstone of maternal health care across Sri Lanka. The health unit consists of a trained nurse to whom the PHM must report, and supervisory staff proficient in basic obstetrics, with efficient access to referral systems for complicated cases. A strong Health Management Information System (HMIS) has institutionalised the maternal death review (audit), in respect of each maternal death, to correct quality of care issues. Government earlier supported an ambulance service (sometimes with telephone facility), to transport the sick from their homes and this included pregnant women, and currently, government provides funding support for engaging private transportation. The strong tradition of nursing in Sri Lanka has also served to de-medicalise routine health care for women and children, except where doctors are indispensable.

China

From an MMR near 1500 per 100,000 live births in 1950, China reported reductions in MMR down to between 100-200 in 1980 and to 56 per 100,000 live births in 2002. Previously, the barefoot doctors taught themselves or received brief irregular training. Since 1982, government regulations require every barefoot doctor aspiring to become a village doctor (VD) to be specifically examined on his knowledge about safe delivery and identification of risk factors and complications (that could occur prior to and during childbirth). Those who pass the examination, earn a VD certificate and those who do not pass, remain trained birth attendants (TBAs). The VD is trained to handle normal deliveries, recognise problems and stabilize the patient should the need arise, prior to onward referrals. The health infra-structure to population ratio supports a fairly high level of contact, with one VD per population of 1000-1400 and one TBA per population of 2000. The nearest equivalent in India is one AYUSH practitioner for every 700-800 population, but without the relevant training or skill sets. The regimen for maternal care in China is also somewhat more intensive. There are typically five pre-natal care checks

Table 2.2.9
Comparisons India, China and Sri Lanka

Year	Country	Maternal Mortality Ratio per 100,000 live births	Female Literacy (age 15 and above)
HDR, 2004, UNFPA	China	56	78.7
Census 2001	India	407	47.8
			38.9 (rural)
			69.7 (urban)
UNFPA, April, 2004	Sri Lanka	46	89.3

(as opposed to three in India), and three post natal visits to the home of the pregnant woman (the first within 24 hours of delivery). Utilisation of these services is reported as above 85 per cent for uncomplicated cases, and 100 per cent for complicated cases. Referral support is close and accessible to Chinese women. *There is one facility for basic essential obstetric care (bEOC) for every 30,000 population (corresponding to the primary health centre in India. The difference is that bEOC facilities are not available at PHCs in all states across India).* Between 1990 and 1999, the Emergency Referring System for maternity care in China, is reported to have had a survival rate for emergency maternity cases averaging 96 per cent. A new cadre of modern village doctors is being put through a three year long, regular training on obstetrics and gynaecology. *China has one comprehensive essential obstetric care (cEOC) facility per 100,000 people (corresponding to the community health centre in India, which this Mid Term Appraisal recommends should be developed into a community hospital with facilities for cEOC). In China, every year, governors of provinces must publicly provide information on the maternal mortality ratio of their province.*

2.2.23 China has been far more successful in achieving basic health care for its people through an enormous cadre of health personnel for preventive and curative health services from the village to the district hospital. Doctors trained in medical colleges are located only in the district hospitals. The village health clinics and PHCs are managed by village doctors (earlier known as "barefoot doctors") through a series of contractual arrangements, after completion of training, for periods ranging from one to three years, in preventive and curative medicine of both the traditional Chinese and the western systems of medicine. This learning and skill set is upgraded through frequent apprenticeship and in-service training. The Chinese public health outreach system has gained a reputation for:

- de-medicalising the handling of health problems while adopting a preventive, promotive and rehabilitative approach to health; and
- integrating the availability and practice of traditional Chinese medicine with the western systems of medicine (allopathy).

2.2.24 The results are evident from a comparison of selected health indicators in Table 2.2.10.

2.2.25 Since a child birth at home costs less than that at a private facility / hospital or even at a public health facility, it would appear rational behaviour on the part of the household to opt for home deliveries. This makes it incumbent upon the central and state governments to quickly put in place two interventions. First, we need skilled birth attendants who would ensure appropriate pregnancy outcomes, whether at home or in an institution. Second, all pregnant women from BPL households and low income groups need to be covered by social insurance schemes to facilitate access to reliable maternal care. The Mid Term Appraisal recommends a maternal health insurance scheme.

Table 2.2.10
Selected health indicators: India and China

	India	China
Life Expectancy (In years) Male / Female	63.2 64.6 (F)	68.9 73.3 (F)
Infant Mortality Rate	63	37
Maternal Mortality Rate	407	56
Births per 1000 women (age 15-19)	45	5
Contraceptive prevalence (in %)	48	84

Source: State of World Population, 2004. UNFPA

2.2.26 The National Family Health Survey, 1992-93 (NFHS-I) and 1998-99 (NFHS-II) read together with the Rapid Household Surveys (RHS) for 1998-99 and 2002-03 (captured in Table 2.2.11) show improvements in the outreach of maternal health services. Ante-natal care and institutional deliveries are increasing. Since approximately 15 per cent of maternal deaths are attributed to unsafe abortions resulting from termination of pregnancy by unqualified and untrained providers, the law has stepped in. Appropriate amendments to the Medical Termination of Pregnancy (MTP) Rules, 2003, have now expanded access to safe abortion in several ways. Additionally, during 2004-05, in a shift in programmme implementation, the auxiliary nurse midwife at the health sub centre has been authorized to administer the prophylactic drug misoprostol and the oxytocin injection to address complications and stabilise the pregnancy. It is anticipated that the National Rural Health Mission will further improve outreach and skill sets particularly for essential obstetric, and for new-born care.

Reduce Infant Mortality Rate (IMR) to 45 per 1000 live births by 2007 and 28 per 1000 births by 2012

2.2.27 India is faced with an unparalleled child survival and health challenge. India contributes 2.4 million of the global burden (10.8 million) of under-5 child deaths (the highest for any nation in the world). This problem is further complicated by the new born health challenge, more formidable than in any other country. India has the highest number of births and neonatal (first 28 days of birth) deaths in the world. Neonatal mortality (at 40 per 1000 live births[SRS 2002]), constitutes 63 per cent of infant mortality and over 50 per cent of under-5 child mortality. In 2002, infant mortality has been recorded at 63 per 1000 live births. The Tenth Plan target of bringing the Infant Mortality Rate (IMR) to 45 per 1000 live births by 2007, and 28 per 1000 live births by 2012

Table 2.2.11
Outreach of Services for Reproductive and Child Health Care

(In percent)

Indicator	NFHS-I (1992-93)	NFHS-II (1998-99)	Rapid Household Survey (DLHS)*	
			1998-99	2002-03
1. Ante-natal care				
(i) Any visit	62.3	65.4	63.3	74.0
(ii) Full	44.0	44.0	26.6	-
2. Deliveries				
(i) Institutional	26.0	33.6	34.0	39.8
(ii) Safe delivery	34.2	42.3	40.4	54.0

*The District Level Household Survey data (2002-03) is now available for all districts surveyed

Table 2.2.12
India's contribution to the global burden of births and neonatal deaths (2000)

	Burden	Proportion of global burden	Rank in world
Live Births	26 million	20%	1
Neonatal deaths	1.1 million	30%	1

Source : United Nations Fund for Population Activities (UNFPA) cannot be achieved without simultaneously achieving the enabling goal of bringing the neonatal mortality rate (NMR), to below 19 per 1000 live births by 2010. However, this does not appear to be a focus in programme design.

2.2.28 Over three-fourths of neonatal deaths occur among infants who are born low birth weight (weighing less than 2500g. at birth). In India, one-third of all neonates are low birth weight, once again among the highest in the world. The principal causes of neonatal deaths are neonatal disorders (bacterial infections [52 per cent], asphyxia [20 per cent], prematurity [15 per cent], and neonatal tetanus), pneumonia, diarrhoea and measles. The first few days and weeks of life are the most risky, as borne out in a recent study by the Indian Council of Medical Research (2003).

Table 2.2. 13
The first five years of life : NMR and IMR

Age completed	Under-5 child deaths (cumulative)
Day 1	20 per cent
Day 3	25 per cent
Day 7	37 per cent
Day 28	50 per cent
1 year	75 per cent
5 years	100 per cent

Source: Extrapolated from data, ICMR study (2003)

2.2.29 The IMR has been declining steadily and we have achieved reductions from 146 per 1000 live births in 1951 to 63 per 1000 live births in 2002. Over these years, the real cause of concern was that the rate of decline in IMR slowed considerably after 1993. Prior to 1993, the average decrease in IMR was around 3 points per year, but from 1993 onwards, the decline in IMR recorded has been of the order of only 1.5 points per year. More recently, between 1998-2002, the average rate of decline has picked up and is closer to 2.25 points per year.

2.2.30 Similarly, between 1972 and 1992, the neo-natal mortality rate (NMR) declined by almost 30 per cent, but after that, continued to hover above 44 per 1000 live births till 2000. The SRS 2002 points to a slight decline, with NMR reported as 40. The striking diversity in infant mortality outcomes across states is indicated in Table 2.2.16. The IMR outcomes in Kerala demonstrate that even the lowest income quintile segments receive equitable access to quality health care.

2.2.31 There is a clear correlation across states, between the proportion of non-institutional deliveries and neonatal and infant mortality rates. Kerala has the lowest NMR, with 95.7 per cent institutional delivery rate, and the corresponding figure for Tamilnadu is 79 per cent. However, in Bihar and Uttar Pradesh the institutional deliveries are less than 25 per cent and in Madhya Pradesh and Orissa they are around 30 per cent, with predictably high rates of IMR between 80 and 87 per 1000 live births.

2.2.32 The neonatal, infant and under-5 mortality rates (not to mention the maternal mortality ratios), bring to the forefront some of the primary causes of slow population stabilisation. If babies born do not survive, it is not surprising that there is slow respite in the numbers of newborns. Among other interventions, we need to quickly improve health system response and quality, starting from pregnancy to after delivery, increase skilled birth attendance at childbirth with adequate supplies, equipment and access to referral facilities and simultaneously improve access to essential new born care and management of new born complications. *As more newborns survive, population stabilisation will become achievable and indeed this is precisely the route that has succeeded in Goa and Kerala, followed by the states of Tamilnadu and Karnataka.* Addressing and succeeding in controlling neo-natal and infant mortality demonstrates a certain quality of excellence in the health delivery system with all linkages in position and functioning harmoniously. Nurses play a crucial role in neonatal care across the primary, secondary and tertiary levels. Improving nursing skills in neonatal care is a priority and a challenge.

2.2.33 In the second phase of RCH programme (2005-10), Government will

Table 2.2.14
Infant and Child Mortality in India

I. Mortality Rate	
Under five child mortality rate	73 per 1000 live births (SRS 2000)
Infant mortality rate (under 1 year)	63 per 1000 live births (SRS 2002)
Neonatal mortality rate (within 28 days of birth)	40 per 1000 live births (SRS 2002)
II Tenth Five-Year Plan Goals	
Infant Mortality Rate (by 2007)	45
Infant Mortality Rate (by 2012)	28
III Burden each year (approx.)	
Live births	26 million
Child deaths (under-5)	2.4 million
Infant deaths	1.7 million
Neonatal deaths (< four weeks old)	1.1 million
IV Nutrition related statistics	
Low birth weight (LBW) infants	30 per cent
Proportion of under-5 children:	
Under weight	47 per cent
Stunted	45 per cent

Source : Ministry of Health & Family Welfare

Table 2.2.15
Tracking Infant Mortality and Neonatal Mortality : IMR and NMR 1972-2002

Year	IMR	NMR	NMR as proportion of IMR
1972	139	72	51%
1982	105	67	64%
1992	79	50	63%
1993	74	47	63%
1994	74	48	65%
1995	74	48	65%
1996	72	47	65%
1997	71	46	65%
1998	70	45	63%
1999	70	45	64%
2000	68	44	65%
2001	66		
2002	63	40 (SRS)	

Source: Reproductive and Child Health, Phase II Document 2.
Ministry of Health & Family Welfare

Table 2.2.16
Infant and Neo Natal Mortality Rates (per 1,000 live births)

Year	Kerala	Bihar	Madhya Pradesh	Uttar Pradesh	Orissa
2000 (IMR)	14	62	87	83	95
2002 (IMR)	10	61	85	80	87
2002 (NMR)	7	37	57	47	53
2002 (ID / SBA*)	95.7 %	20.2%	29.1%	22.2%	30.5%

Source: Ministry of Health and Family Welfare
ID: Institutional deliveries
SBA: Skilled birth attendant

implement more rigorously the integrated management of childhood illnesses (IMCI) in 125 districts across the country. The focus will be on essential newborn care (home and facility based), standard case management of diarrhoea and pneumonia, micro-nutrient supplementation, exclusive breast feeding with appropriate complementary feeding, increased dissemination of ORS and strengthened immunization.

NATIONAL DISEASE CONTROL PROGRAMMES

2.2.34 Ministry of Health & Family Welfare implements six national disease control programmes with dedicated monitoring and management systems, which have contributed towards improving rates of decline. State and district level societies were set up to improve decentralized monitoring. At least 45 per cent of the central government plan allocation to the Health Department (exclusive of Family Welfare), is spent towards the six national disease control programmes. Now that the two Departments of Health and Family Welfare have been merged, with budgets having collapsed, the central and state governments need to ensure that this integration promotes synergies in process and outcomes, for example, between HIV with adolescent and maternal health.

HIV/AIDS

2.2.35 Far from levelling off, the rates of HIV infection in India are on the rise (although the rates of growth may be plateauing), and there is a growing "feminisation" in the spread of HIV. Overcoming AIDS has been a critical concern. AIDS has the characteristics of both a short term emergency and a long term development crisis. It requires a response that must remain energetic and vigilant. Yet this is a problem with a solution. We have learnt about what works. Successful approaches are evolving - locally, nationally and globally. HIV/AIDS is possibly the most complex public health challenge facing India today. There is no time to lose and no room for complacency. Since millions of people are at risk, we need to look at all feasible modalities to curtail the spread of HIV.

2.2.36 The economic impact of AIDS is large. HIV/AIDS is disproportionately affecting poor and vulnerable groups who are less well informed about HIV, concentrated among young working adults with significant household level impacts (loss of bread winner), and corresponding loss of skills with rapid attrition in the labour force, leading to direct impacts on productivity. Success stories from South East Asia (Thailand) about containing and even reversing the spread of HIV/AIDS after the disease had reached epidemic proportions, are encouraging. The silence and denial surrounding HIV/AIDS was eliminated through the aggressive, universalized promotion of condoms, widespread decentralization of service delivery, convergence of information with treatment, widespread provisioning of safe blood, and integrating counseling within hospitals, clinical and non-clinical settings to improve the management of stigma. We review the response in India so far.

2.2.37 In December 2003, there were an estimated 5.1 million HIV infections and the National AIDS Control Organisation recently reported an additional 28,000 HIV infections. The estimated number of HIV infections in December 2004 is 5.134 million. Many of those infected will unfortunately progress to AIDS and will need care, treatment and long term support. The current status (morbidity and mortality) on HIV/AIDS in India, is in Table 2.2.17.

2.2.38 From 1992-2002, the National AIDS Control Programme focussed primarily on awareness generation for HIV prevention, sentinel surveillance of HIV and screening of blood. During the Tenth Plan period under review (2002-05), the National AIDS Control Organisation :

- Introduced anti-retroviral (ARV) treatment for HIV/AIDS free of cost, through the public sector, for all eligible AIDS patients (as per WHO definition), a step initiated by few large developing countries outside of Cuba, Brazil and South Africa. Treatment commenced in April 2004 and this initiative is being rapidly expanded, with improved coverage and outreach. The introduction of treatment for AIDS in India has also strengthened public-private partnerships towards the management and control of HIV/AIDS. ARV treatment offers a critical opportunity to strengthen prevention efforts, since more and more people learn about their HIV status.
- Mandated the revelation of HIV status to the result seeking donor (not attempted previously in India), the accreditation of blood banks, as well as the storage of safe blood at First Referral Units (which necessitated an amendment in the Drugs and Cosmetics Act, 1940)
- Mobilised, during 2002-04, grant money (US $ 250 m.) for HIV/AIDS in India, from the Global Fund to Fight AIDS, TB and Malaria (GFATM), for preventing HIV transmission from parent-to-child, managing the HIV-TB co-infection and for introducing anti-retroviral treatment of AIDS, through the public sector. Significantly higher resources for HIV/AIDS were negotiated with the Department for International Development (DFID), the United States Agency for International Development (USAID), the Gates Foundation, Clinton Foundation, and the Richard Gere Foundation. The Gates Foundation is implementing state level programmes on HIV prevention and the Clinton Foundation is facilitating low-cost procurement of equipment for testing and screening.
- Generated strong political support at the First National Convention of the Parliamentary Forum on AIDS (2003), for additional HIV programmes, including a large school-based adolescent education programme and a national campaign to raise awareness about sexually transmitted diseases and treatment. The elected representatives from across three tiers of the parliamentary democracy pledged support for preventing and controlling

Table No. 2.2.17
Current Status (morbidity and mortality) on HIV/AIDS

Indicator	1997	2002	2004
Estimated Number of HIV infections	1.75 m. (1994)	4.58 m. (2002)	5.134 m. (2004)
Cumulative numbers of AIDS cases reported	5204	55,557	96,978
Cumulative number of AIDS deaths	1770	4632	7322

Source: National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare

HIV/AIDS in their respective constituencies.

- Strengthened the multi-sectoral agenda for HIV prevention, support, and care through partnerships with Ministries of Health, Education, Youth Affairs and Sports, Defence, Steel, Women and Child Development, Labour, Urban Development and Railways. A Group of Ministers headed by the Cabinet Minister for Human Resource Development is engaged in mainstreaming HIV/AIDS through ongoing programmes of different social sector Ministries and Departments.
- Fostered a unique partnership between NACO, the BBC World Services Trust and Prasar Bharati and disseminated the messaging on HIV prevention, in infotainment format, during prime time over the electronic media. A detective serial, a virtual reality show and a wide range of interesting video spots (broadcast, as well, during cricket matches), accessed households across India, with "be careful, and prevent HIV/AIDS" messages. In 2003, NACO was awarded the Commonwealth Broadcasting Association Award for this effort.
- Increased installation of HIV related services, sometimes by over 200 per cent. Between 2002 and 2004, NACO steadily expanded a pilot project of 11 clinics into nearly 300 ante natal clinics to make this the largest national ante-natal HIV screening programme in the world (*cited in Lancet, October 2004*). Other services for HIV prevention, care and support like voluntary counseling and testing centers, clinics for sexually transmitted infections, 10 Model Blood Banks (in partnership with WHO and CDC Atlanta), targeted interventions and condom procurement were all extended in coverage and outreach on a scale not attempted previously. Table 2.2.18 indicates the expansion achieved:
- Supported the commencement (in February 2005), of the first human clinical trial in India on the AIDS vaccine for the HIV sub-type C, at the National AIDS Research Institute, Pune.

2.2.39 The National AIDS Control Programme needs to do much more in order to reverse the spread of HIV. Here are a few suggestions :

- Assign the sentinel surveillance of HIV to professional groups under the overall

Table 2.2.18
Increasing availability of HIV related services

National AIDS Control Programme	1997	2002	2004
Schools covered under the School AIDS Education Programme	NIL	20%	60%
Voluntary Counselling and Testing Sites	NIL	225	639
Prevention of Parent to Child Transmission (PPTCT) sites	NIL	11	282
HIV sentinel surveillance sites	55	320	670
Clinics for sexually transmitted infections	372	504	735
Targeted Interventions	NIL	225	933
Treatment centers for Anti-Retroviral Therapy	NIL	NIL	21
No of Blood Banks modernized under NACP	815	1020	1020+ 10 Model Blood Banks

Source: National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare supervision of the Indian Council of Medical Research (ICMR) and the Integrated Disease Surveillance Programme. Support HIV sentinel sites across clinical and non-clinical settings in the public, private and NGO sectors so that the diverse feedback from independent sites will more fully reflect ground reality across both highly vulnerable states and high prevalence states.

- Integrate the management of HIV/AIDS with primary health care and the Reproductive and Child Health (RCH) Programme. NACO has no structures below state levels except for civil society collaborations which, however outstanding, cannot substitute for systemic outreach. The HIV/AIDS programme omitted to synergise with the RCH programme since the inception of NACO in 1992. Some initiatives towards this synergy commenced during Year One of the Tenth Plan. All services for HIV prevention have remained largely confined to medical colleges. The RCH programme runs interventions for reproductive tract infections and the HIV/AIDS programme runs clinics for sexually transmitted infections, with no reference from one to the other. Ante-natal checks are the mainstay of the RCH programme, but the screening for HIV is not necessarily incorporated into the regimen except for the recent synergy across 300 ante natal clinics cited above. Women and children with HIV need special attention in terms of nutrition, care and long term support, besides treatment when eligible (WHO Stage 3 of the disease). The mid-term appraisal indicates that the National AIDS Control Programme in India continues to be highly centralised and cannot reach district and sub-district levels unless it is integrated into primary health care, as happened many years ago with tuberculosis, malaria and leprosy and also develops synergies with the reproductive and child health programme. The stand-alone, dedicated character of the programme, that was once its strength, can become a barrier to higher dissemination and utilisation of the significantly enhanced services for HIV prevention, care, support and treatment.

- Engage civil society, the private sector, local bodies, elected representatives, celebrities, sports icons and film stars in more strategically using information to bring about behaviour change. If the bottle of pepsi and coca cola can reach the most remote hamlet and become the preferred beverage, surely this has lessons for the outreach, messaging, and behaviour change in respect of use of the condom. For 22 years, from 1969-1992, India used the networks of 6-8 blue chip companies (Hindustan Levers, Brooke Bond, Tata Oil, Union Carbide, and others) to disburse packets of condoms along with packets of Brooke Bond tea for instance, across the deserts of Rajasthan, to prevent the unwanted pregnancy. We now need to utilise diverse channels to disseminate the appropriate health message and product. These channels could include the postal network, the village kiosk, e-choupal, every retail outlet, barber, cobbler, dhobi, paanwala. We need to repeat the previously tested and successful collaboration with the private sector, particularly, through networks of fast moving consumer goods. Most importantly, make it the responsibility of every district magistrate to aggressively push the use of the condom for triple protection: to prevent HIV, to prevent the unwanted pregnancy and to prevent sexually transmitted disease. This route of universalised, aggressive promotion of the condom has worked for Thailand, and many other countries. [The relevant portions of this paragraph are reiterated in the recommendations on the National Rural Health Mission, to draw attention to the significance of this suggestion].

- Provide comprehensive and regular health screening to sex workers, inclusive of facility for safe abortions where necessary, and if sought, and make these health checks mandatory. The increase in clinics for sexually transmitted diseases during the Ninth and Tenth Plans signals a more widespread acceptance of the HIV prevention programme. However, these clinic-based interventions invariably overlook the target population. Since sex will continue to be bought and sold, and innocent wives and unborn children will continually remain at grave risk, government should commence covering sex workers with health checks, through grass-root NGOs, and importantly, without affecting the rights and dignity of the sex worker.
- Bring the management of interventions for prevention, care and support of HIV/AIDS within the purview of elected Panchayati Raj Institutions, for improved supervision and higher accountability.
- Injecting drug users are contributing to the world's fastest spread of HIV infection. Within India, besides the north-east, injecting drug use is rapidly increasing in a number of metropolitan cities. Develop a clear and consistent policy framework with detailed guidelines on the use of injecting equipment for vaccinations and routine injections across primary, secondary and tertiary health settings. Discontinue the use of syringes not mandated by the Health and Family Welfare Programme.
- Develop a policy framework and a range of programme interventions to address children affected with AIDS, currently not specially included in the National AIDS Control Programme.
- Focus on migration and mobility. Extend the National AIDS Control Programme across states with high vulnerability to HIV/AIDS (for example, states with high out-migration and in-migration). Cooperation across borders is also called for, as is happening within ASEAN countries and in a joint sub-regional HIV prevention and AIDS care programme along the Abidjan-Lagos Migration Corridor which links Nigeria, Benin, Togo, Ghana and Cote D'Ivoire.
- Reach out to prison populations. Russia is attempting to develop a model programme which includes prevention education for prisoners and staff, providing bleach in prisons to sterilize injecting equipment, free access to condoms and substitution treatment for drug users. The February 2004 Dublin Declaration on HIV/AIDS in Prisons in Europe and Central Asia reflects the principle that treatment and care for prisoners should be equivalent to that available outside the prison settings.
- Aim to place 25,000 AIDS patients on Anti-Retroviral Treatment (ART) through the public sector, by March 2006. ART can extend the lives of people living with HIV by years (through reductions in viral load within the body). However, treatment must be part of an integrated package of interventions that includes prevention, care and support activities, all of which complement and support each other.
- Mobilise self help groups and other community based organizations to catalyse awareness generation and behaviour change communication particularly among adolescent youth and migrant workers, about the threat and repercussions of HIV/AIDS, encourage the regular use of voluntary counseling and testing centers, with aggressive condom promotion.
- Expedite the legislation on HIV/AIDS, which has been finalized after over 18 months of deliberation.
- Encourage R & D for producing indigenous drugs, inclusive of those derived from traditional medicine.

- Pay special attention to R&D on expanding the range of prevention options for women, for instance, on microbicides, inclusive of accelerating clinical trials on microbicides. Develop and implement regulations that will make mandatory the HIV screening of donor insemination.
- We need to research more cost – effective options for testing and screening for HIV (for instance, a saliva test is cited as possibility). Research on improved management and treatment of HIV/STDs would also expand the range of prevention options for women, in particular.

Tuberculosis

2.2.40 The Revised National Tuberculosis Control Programme (RNTCP) in India has been rated as the world's fastest growing TB Management programme, with an overall performance of cure/treatment completion rates consistently above 85 per cent. The RNTCP covers a population of over 950 million with the DOTS protocol (Directly Observed Treatment Scheme), and aims to cover the entire country by end-2005. Every year over 1.8 million people in India contract TB, and 400,000 succumb to it. Currently, over 4 million patients are being treated. Medicines for TB are available free of cost at primary health centres, and also decentralised through village level drug distribution centres, and neighbourhood village level DOT providers.

2.2.41 The National TB Control programme has mobilized resources for TB through awards from the Global Fund to Fight AIDS, TB and Malaria of US $ 60 million and from USAID, DFID and the Danish International Development Agency (DANIDA).

2.2.42 Tuberculosis impacts heavily on HIV morbidity and mortality because HIV is the most potent risk factor for reactivation of latent TB infection. Since 2002, government has been implementing a joint action plan to counter the growing incidence of the HIV-TB co-infection, initially in the six high HIV prevalence states of Maharashtra, Tamil Nadu, Andhra Pradesh, Karnataka, Manipur and Nagaland. Services for HIV infected TB patients are provided under one roof through critical linkages between the Voluntary Counseling and Testing Centre (VCTC) supported by the HIV/AIDS programme and Microscopy Centres (MCs) supported by RNTCP, joint IEC (Information, Education and Communication) activities and infection control measures. This joint action plan to address the HIV-TB coinfection was extended to eight additional states (Delhi, Himachal Pradesh, West Bengal, Punjab, Rajasthan, Gujarat, Kerala and Orissa), and further scale up, across the country, will follow.

2.2.43 However, the emergence of multi-drug resistance to TB could increase the magnitude and severity of TB epidemic. The BCG vaccine prevents the development of severe manifestation of TB (tubercular meningitis) in children. However, the BCG vaccine does not provide protection against the onset of TB in adults. Government and industry need to collaborate towards developing a newer vaccine, together with more sophisticated diagnostics and drugs.

Malaria

2.2.44 A National Vector Borne Disease Control Programme (NVBDCP) was initiated in 2003-04 with the convergence of three ongoing programmes on malaria, kala-azar and

Table 2.2.19
Tuberculosis : Coverage and Mortality

	1998	2000	Dec' 04	Increase/ decrease
Estimated no. of deaths due to TB	500,000	500,000	400,000	20% decrease
Population covered under RNTCP	18 million	287 million	942 million	288% increase

Source: Ministry of Health & Family Welfare

filaria. Programmes on Japanese encephalitis and dengue were also included to facilitate integrated and more effective response mechanisms. Kala-azar is endemic in 33 districts of Bihar, 10 districts of West Bengal, 3 districts of Jharkhand and 2 districts of Uttar Pradesh. India carries 50 per cent of the world's burden and 90 per cent of kala-azar occurs among the poor in Bihar. There is an attempt to eliminate kala-azar by 2010 (an objective cited in the National Health Policy, 2002). Administration of the anti-malaria programme was fully integrated into the general health delivery system, many years ago. However, this programme continues on a 50 per cent cost sharing basis between the central and state governments, and with the advent of HIV/AIDS, spending on malaria has been crowded out. Ministry of Health & Family Welfare is now revitalising the management of vector borne diseases.

2.2.45 From 2003 onwards, the north-eastern states, 19 urban areas and 100 districts with high incidence of Malaria, across eight states (Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Rajasthan), have been identified for 100 per cent central government assistance. Each year, over 100 million people are screened and 1.8 million diagnosed and treated for malaria.

2.2.46 Technologies for curtailing the breeding of mosquitos need wider dissemination and application. Training needs strengthening at all levels, for early recognition, diagnosis and management of malaria, inclusive of cerebral malaria. The programme needs to focus on much greater decentralisation in order to allow local solutions to gain sustainability.

Filaria

2.2.47 Lymphatic filariasis is endemic in 20 states and union territories, and strategies to control the vector include anti-larval operations, detection and management of morbidity. Each year, a single dose mass drug administration is implemented in endemic districts. During 2004-05, this programme was implemented in 202 endemic districts and nearly 190 million people have been administered the dose. There has also been a decline in clinical cases to 2 per cent in endemic areas.

Leprosy

2.2.48 India accounted for 65 per cent of the global burden of leprosy. A well-planned strategy through the National Leprosy Eradication Programme with effective implementation has reduced the prevalence rate of leprosy from 24/10,000 in March 1992 to 2.06/10,000 in November 2004. Free diagnosis and treatment services for leprosy are now available in all primary health centres, government hospitals and dispensaries on all working days, and this ensures consistently higher outreach. Effective convergence of information on and treatment of leprosy has succeeded in eliminating stigma at community levels, as well as, among the general public. The National AIDS Control Programme could benefit from a similar strategy.

2.2.49 Leprosy has been eliminated in twenty states and is close to elimination in another six states. Eradication of leprosy in India by December 2005 is well within reach. States nearing elimination should receive continued support for up to two to three years. Government needs to focus on high endemic districts and blocks.

Table 2.2.20
Deaths and Malaria

Indicator	Starting Year Value	Ending Year Value	Variation
Malaria (deaths per lakh population)	0.13 (1994)	0.10 (2003)	23% decline

Source: Ministry of Health & Family Welfare

Blindness

2.2.50 India has nearly 15 per cent of the world's visually handicapped. About 12 million people are fully blind, and over 20 million suffer from different forms of visual impairment, rendering them virtually ineffective. At least 62 per cent of blindness in India is attributed to cataract. The other significant causes are corneal diseases, refractive errors, glaucoma, diabetes and vitreo-retinal disorders.

2.2.51 India is committed to the global initiative on the Right to Sight, launched in October 2001 which aims at controlling cataract and tackling other causes of blindness. Addressing these causes of blindness is included in the Plan of Action for the Tenth Plan. State Blindness Control Societies are being assisted with an increase in commodity assistance together with grants-in-aid for diverse eye ailments. Facilities in this programme have been extended up to block levels, with the increased involvement of panchayats.

2.2.52 The following actions are recommended:

- Enlarge the scope of the National Programme for Control of Blindness from a primary focus on cataract to more comprehensive eye care.
- Replicate successful eye care delivery systems and institutions throughout the country to increase outreach and coverage of the programme to rural areas. Private initiatives like the LV Prasad Eye Institute, Hyderabad, the Shankar Natralaya, Chennai, and the Sri Chitra Tirunal Medical Centre, Thiruvananthapuram should be incentivised for replication to many more sites. There may be several other equally good initiatives which should be similarly encouraged.
- Improve the quality of intra-occular lens (IOLs) produced indigenously, since the projected annual requirement of IOLs across India is at least, over 2 million.
- Examine some better known, cost-effective therapies for inclusion in the programme, such as the extra-capsular cataract surgery with IOL, which restores vision up to 6/9.
- At community levels, ensure the intake of Vitamin A and increase the screening of eye care for school children, adolescents and for the elderly.
- Utilise, if found feasible, the Drishti eye laser equipment developed by the Defence Research and Development Organisation (DRDO).

Cancer

2.2.53 Cancer has become a significant public health challenge. India is one of the few countries that has a National Cancer Control Programme (NCCP), launched in 1975-76. There are, at any given time, over 25 lakh cancer patients in the country, and up to 10 lakh new cancer cases each year. The focus of the NCCP has been threefold : on health education that will motivate primary prevention (for example, emphasising the dangers of smoking), on early detection and diagnosis of the most common cancers to facilitate secondary prevention, and on strengthening existing institutions to facilitate comprehensive cancer therapy including palliative care.

Table 2.2.21
Cataract surgeries to control blindness

Blindness	1994	2002-03	2003-04	% increase (1994-04)
No. of cataract surgeries	19.14 lakh	38.57 lakh	42.0 lakh	119
Percentage of IOL surgeries	3 %	77 %	83 %	2667

Source: Ministry of Health & Family Welfare

2.2.54 Twenty-two Regional Cancer Centres (RCCs) have been recognised, of which six are in the NGO sector. Seventeen centers are now eligible for a one-time assistance of up to Rs.3 crore (in place of Rs.2 crore given earlier), for infrastructure development. New RCCs will be supported in uncovered areas/states, with a one-time grant of Rs.5 crore. Existing government medical colleges and other hospitals/institutions are now eligible for a grant of Rs.3 crore to set up and equip an oncology wing. Money will be released directly to the institution concerned.

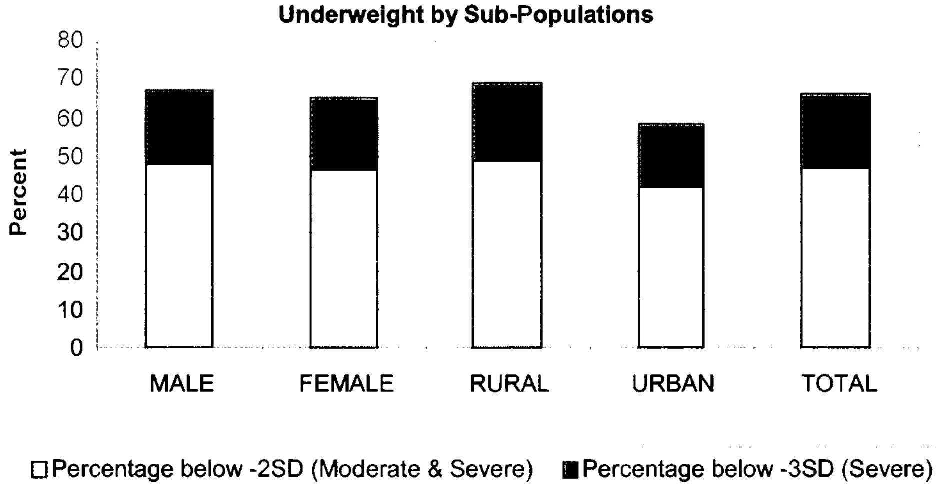
2.2.55 The district cancer control programme is eligible for assistance of Rs.90 lakh over five years, an increase over the Rs.55 lakh given earlier, to be disbursed through nodal agencies like the RCC (in lieu of the state government), in a graded manner: Rs.22 lakh in Year One (as against the previous Rs.15 lakh) and Rs.17 lakh in the subsequent four years (as against Rs.10 lakh earlier). NGOs with three years field experience(in the field of cancer) will be eligible for a grant of Rs.8000 per camp for IEC activities. While higher outlays for the management of cancer are welcome, somehow the outreach through the public heatlh system needs scaling up.

2.2.56 India was a forerunner in signing the WHO Framework Convention on Tobacco Control (FCTC) in September 2003, ratified in February 2004. The provisions of the FCTC have since been incorporated into domestic law, which came into effect in December 2004. Over 50 per cent of cancer in India is attributed to tobacco. The four critical provisions contained in this legislation, for example, prohibiting smoking in public places, advertising of all forms of tobacco products, sale of tobacco products to minors and within 100 metres of educational institutions, should all go a long way in curtailing the use of tobacco related products.

Nutrition

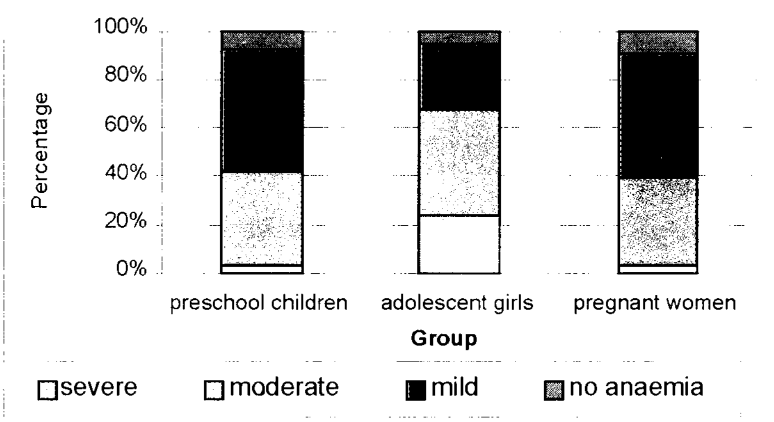
2.2.57 The Tenth Plan strategy for prevention, early detection, management and a 50 per cent reduction of moderate and severe anaemia needs to be fully operationalised. The District Level Rapid Household Survey [DLHS] (2002-2005), has for the first time provided district level estimates on the magnitude of "hidden hunger" or micro-nutrient malnutrition. Severe malnutrition has decreased significantly in India, and severe nutritional deficiencies have almost disappeared. However, levels of malnutrition amongst children is high, manifested through moderate and severe under-weight. The DLHS indicates the underweight by sub-population among 0 to 6 age groups, in Figure 2.2.3. Over 66 per cent of children, below 6 years of age, are moderately under nourished and the problem is more severe in rural areas. There is a steep increase in under-nutrition among

Figure No. 2.2.3
Underweight by Sub-Populations



Source: DLHS 2002-03

Figure 2.2.4
Prevalence of Anaemia (%)



Source: Household Survey 2002-03

infants between 6-18 months, attributed largely to faulty infant feeding and caring practices. Awareness generation and behavioural change communication preferably through interpersonal counseling by the ANM and Anganwadi worker are critical for achieving the Tenth Plan goal of raising the level of exclusive breast-feeding from 55.2 per cent (1998-99,NFHS-II) to 80 per cent by 2007, followed by introduction of complementary feeding at six months. Close coordination between the RCH and the ICDS programmes is critical for achieving these objectives.

2.2.58 The District Level Rapid Household Survey [DLHS] (2002-2005), provides estimates on the magnitude of under-nutrition in preschool children and shows that the prevalence of anaemia is over 90 per cent in preschool children, adolescent girls and pregnant women. This needs early attention.

2.2.59 The National AIDS Control Organization (NACO) has signed an MOU with the World Food Programme to conduct a detailed situation analysis for jointly formulating appropriate nutrition related interventions, that will strengthen people living with HIV. The current status of nutrition related intervention programmes are in Table No. 2.2.22

2.2.60 There has been a fall in households consuming iodised salt (> 15 ppm of iodine) from 49 per cent to 37 per cent (between 1999 and 2003). There are urban-rural, inter-state and inter-district variations in each of these problems and they all call for a multi-sectoral approach instead of being strait-jacketed into a health based approach. The district level surveys have reiterated the need for decentralized district and sub-district planning, implementation and monitoring of nutrition related interventions.

2.2.61 Some examples of state led initiatives are :

i) The Tamilnadu Salt Corporation is producing double fortified salt (with iron and iodine) commercially, and this is being provided through the "State Noon Meal Scheme". This could be introduced and extended through the school midday meal scheme across the country.

ii) In Gujarat, ready to eat food (in the ICDS programme), fortified with vitamin A, iron and folic acid, is leading to significantly lower levels of night blindness and anaemia among children, pregnant and nursing mothers.

iii) In Haryana, Punjab and Chandigarh at the processing stage itself, wheat flour is being fortified with iron and folic acid and Andhra Pradesh, Uttar Pradesh and Gujarat are keen to pursue this route. Low cost candies, duly fortified,

Table 2.2.22

Nutrient	Major nutritional problems	Current interventions
Under nutrition	Children below 5 years : 47 %	ICDS food supplements (all ICDS blocks)
		PMGY take home food (all ICDS blocks)
		Food grains to undernourished pregnant women and adolescent girls (51 districts)
		Coverage under these programmes including detection and management of under-nutrition is inadequate. Address macro-nutrient deficiency through enriching wheat flour with soya
Anaemia	Anaemia in children under 5 years: >90% (DLHS-2004) Anaemia in pregnant women: 90% (DLHS-2004) Anaemia is responsible for one fifth of maternal deaths	Very few children receive iron and folic acid (IFA). Coverage under the anaemia prophylaxis programme for pregnant women is less than 30% Detection and appropriate treatment of anaemia in pregnancy needs strengthening. Mandatory utilization of fortified foods and cereals in all public sector supplementary nutrition programmes would accelerate improvements in nutrition status. Some states have made a beginning.
Iodine	Estimated households using adequately iodised salts (15 ppm): 37%	The ban on use of non-iodised salt needs to be enforced and utilization of iodised salt be made mandatory. Ministry of Health has made rigorous efforts to ensure the setting up of Iodine Deficiency Disorder (IDD) Control cells in 29 states and 7 union territories, and is continuing to pursue relentlessly the goal of eliminating iodine disorder deficiencies (IDD), by 2010. No state in the country is free from IDD and 254 districts out of 312 districts surveyed have more than 10 per cent prevalence, making the country an endemic region for IDD.
Vitamin A	Vitamin A deficiency (VAD) has declined. However, India continues to be an endemic region for vitamin A deficiency, with prevalence higher than the WHO cut off level of 0.5 per cent . The prevalence of night blindness has reduced to 1.3 per cent during 1997-2000 which again is higher than the World Health Organization's cut off level of 1 per cent for night blindness.	Bihar, Uttar Pradesh, Rajasthan, Madhya Pradesh have less than 25% coverage for Vitamin A. In UP and MP, an additional intervention during April and October every year reaches out to children, with Vitamin A.
Over nutrition	Over nutrition in children and adults is increasing, recorded at over 10% among women in the NFHS 1998-99	There is need to promote appropriate lifestyles and dietary intakes for the prevention and management of obesity.

have been distributed across West Bengal, Bihar, Andhra Pradesh and Gujarat through ICDS interventions.

2.2.62 Dialogue is essential with the food and pharmaceutical manufacturing sector to ensure that food products are enriched with essential micronutrients and macronutrients, based on accepted nutritional standards and parameters. Planning Commission has, during 2005, set up a Nutrition and Food Watch Committee to take stock of food security and nutrition outcomes across India.

New Initiatives in the Tenth Plan

2.2.63 Ministry of Health & Family Welfare has introduced several new initiatives during the Tenth Plan period. Some of these are:

i) The Reproductive and Child Health Programme, Phase II (2005-10), aims to promote institutional deliveries by upgrading fifty per cent of the primary health centres to provide 24 hour basic essential obstetric and neo natal care; to enhance access to emergency obstetric care by operationalising 2000 First Referral Units (FRUs) at community health centre levels; to train ANMs/ LHVs/ staff nurses as skilled birth attendants to who could address the management of complicated pregnancies, prior to referrals; to provide flexibility to states to strengthen referral systems; and to implement the Janani Suraksha Yojana which will encourage BPL households to seek institutional deliveries.

ii) Support for six tertiary-level institutions on the lines of the All India Institute of Medical Sciences (AIIMS) in Delhi in the six backward states of Bihar, Madhya Pradesh, Orissa, Rajasthan, Chhattisgarh and Uttaranchal, and a one-time assistance for upgradation (upto the level of AIIMS), to one prominent medical institute in Uttar Pradesh, Tamil Nadu, Jammu and Kashmir, Jharkhand, West Bengal and Andhra Pradesh. The Shri Venkateshwara Institute of Medical Sciences (SVIMS), Tirupathi will also be upgraded in similar manner, with the Tirumala Tirupathi Devasthanam (TTD) bearing 50 per cent of the expenditure involved.

iii) An Integrated Disease Surveillance Project, will develop capacity across states and union territories for early identification and detection of warning signals in respect of outbreaks in communicable diseases (including cholera, typhoid, polio, measles, malaria, tuberculosis and HIV/AIDS). This will include use of information technology in data transmission, training in disease surveillance and development of rapid response mechanisms.

iv) A National Mental Health Programme to strengthen 37 government mental health institutes and the psychiatric wings of 75 medical colleges, and to pursue education, research and training.

v) A Capacity Building Project, to strengthen food and drug laboratories, train analysts and inspectors, develop computerised networks across the industry, promote food safety in the street food sector and raise consumer awareness. These enhanced capacities will additionally help in administering the Integrated Food Law.

vi) Strengthening hospitals and clinical facilities along national highways to deal with trauma and accident victims.

vii) Expanding outreach of AYUSH. An Ayurveda wing in the Army Base Hospital, Delhi Cantonment and in the Armed Forces Medical College, Pune have commenced functioning. Collaboration with the Sports Authority of India is on the anvil, for mainstreaming yoga into the regular curriculum, to improve the stamina and efficiency of sports-persons.

viii) Thirty one State Medicinal Plant Boards have been set up, overseen by the National Medicinal Plant Board, with dissemination of cultivation practices relating to medicinal plants.

ix) The Traditional Knowledge Digital Library (TKDL) digitalises ancient traditional knowledge relating to Ayurveda, Siddha, Unani and Yoga (not previously attempted), has been completed.

x) A National Institute of Siddha in Chennai started functioning with postgraduate education in six specialities.

xi) A National Institute of Unani Medicine, Bangalore, was operationalised with postgraduate education in four specialities.

xii) The Department of AYUSH has completed preparatory work to establish a Regional Institute of Ayurveda and Homeopathy, at Pasighat, Arunachal Pradesh. The state government has already allotted 50 acres of land, free of cost, for this institute to bring in under-graduate teaching facilities in ayurveda and homeopathy exclusively for students of the north-eastern region, including Sikkim. This will promote appropriate development and utilisation of the rich bio-diversity and medicinal plants across the region. This initiative will utilise the non-lapsable 10 per cent Plan funds earmarked for the north-eastern states.

xiii) During 2005-06, two new national programmes are proposed to be launched: a National Programme on Diabetes and Cardiovascular Diseases and another National Programme on Hearing and Speech Impairment.

What ails the health sector?

Primary health care is of poor quality, unavailable and inaccessible

2.2.64 The infrastructure dedicated to rural primary health care is captured in Table 2.2.23.

2.2.65 There are exceptions, but by and large, the quality of care across the rural public health infra-structure is abysmal and marked by high levels of absenteeism, poor availability of skilled medical and para-medical professionals, callous attitudes, unavailable medicines and inadequate supervision and monitoring. The fact is that when people at the grassroots, first seek diagnosis and treatment

Table 2.2.23
Infrastructure for primary health care

Year	Health Sub-Centres*	Primary Health Centres**	Community Health Centres***	Dispensaries (Indian Systems of Medicine)
1967	17521	4793	214	·14803 (1980)
1992	131369	20407	2188	23,611
2001	137311	22842	3043	23,442
April 2005	142655	23109	3222	22,735 (reduction in nos. of homeopathy dispensaries)

Source: Ministry of Health and Family Welfare
* For every 5000 population in the plains and for every 3000 population in the hills
** For every 30,000 population in the plains and for 20,000 population in the hills.
*** For every 1,20,000 population

for an illness, an estimated 70-85 per cent among them, visit a private sector provider (PSP) for their health care needs. Private providers are fragmented along diverse delivery models, not always present in the most under-served states, largely unregulated, and the mushrooming of sub-standard facilities is dominated by unqualified practitioners. All of this yields enormous variation in the quality of diagnosis and treatment. Nevertheless, these PSPs have become the dominant care providers. The poor continue to avail of the costlier services provided by the private practitioner, even when they have access to subsidised or free public health care, due to reasons of distance (for significant segments of the population), but more importantly, on account of the unpredictable availability and very low quality of health care services provided by the rural public primary health sector. Private sector providers are perceived as nearer to the homestead, available at convenient hours, more considerate and usually more responsive with some ready, palliative medicine.

2.2.66 Government has been unable to generate public confidence in the public primary health system. It is true however, that reducing fertility and increasing immunization have been some notable public health achievements through this extensive network of public health facilities. Also, government efforts have been severely constrained by limited public funding, and its overall inability to assure staffing, essential supplies, maintenance, connectivity, supervision and monitoring to ensure adequate performance and appropriate health outcomes. Since there are no national regulations for provider standards and treatment protocols at specified levels of health care (across the public and private sectors), potential outcomes include over-diagnosis, over-medication, and maltreatment.

2.2.67 Following a rationalization of responsibility, during the Tenth Plan, between the centre and state governments, the central government now provides salary support for the auxiliary nurse midwife (ANM) across all health sub-centres. However, it is for state governments to manage implementation and ensure that she resides at her place of work. A major share of responsibility towards rural health infrastructure to keep the three tier primary health system functional, devolves upon state governments. In meeting their responsibilities, state governments very often omitted to provide essential operational staff and equipment at primary care levels, like the male multi-purpose worker (MPW) at health sub-centres (leading to an all India vacancy position in 2003, of over 67,000 MPWs). There are problems with facilities, services and delivery across rural public primary health care. Essential equipment and instruments are not functioning, or missing in most clinics, for example, thermometers and sterilisers, are in an abysmal state of maintenance, with minimal or no funds assigned towards keeping these fully functional. Although the low performing states (with high IMR and poor pregnancy outcomes), may in fact divert higher expenditures towards primary health care, the outcomes continue to remain poor, possibly on account of endemic shortages and system failures. The continuing shortfalls within the public primary health infrastructure are indicated in Tables 2.2.24 and 2.2.25.

Table 2.2.24
Shortages in Primary Health Infrastructure

	Shortfall as per 1991 population	**Shortfall as per 2001 population**
Health sub-centres	4822	21,983
Primary health centers	1374	4436
Community health centers	2474	3332

Source: Ministry of Health & Family Welfare

Table 2.2.25
Shortages in Manpower in the Primary Health System

	Shortfalls, 2004
Multipurpose Worker (Female) / ANM	11191
Health Worker (Male) Multipurpose Worker (Male)	67261
Health Assistant (Female)/LHV	3198
Health Assistant (Male)	5137
Doctors at PHCs	880
Surgeons	1121
Obstetricians and Gynaecologists	1074
Physicians	1457
Paediatricians	1607
Total Specialists	5335
Radiographers	1017
Pharmacists	1869
Laboratory Technicians	6344
Nurse/Midwives	12722

Source: Ministry of Health & Family Welfare

2.2.68 A World Bank funded benefit incidence analysis (BIA) (AjayMahal and others, 2000) examined the appropriate use of preventive and curative health services by the poor in India and reported that the poorest 20 per cent of the population captured about 10 per cent of the total net public subsidy, and that the richest income quintile benefitted three time more than the poorest. In an alternative approach to assessing distributional performance of the health sector, on the basis of utilisation rates above and below the poverty line, the BIA results show that the population below the poverty line (36 per cent at the time of analysis), realised about 24 per cent of the subsidy for public financing of curative services. The inpatient beds in the PHCs are significantly under-utilised, and the limited utilisation that exists is not particularly pro-poor in the population being served. *There may be a case for lowering investment in inpatient beds at PHC levels*. Public hospitals are much more accessible to urban populations, which explains the higher level of inequality in subsidy benefits for rural populations. *Since hospitalisation is a major contributor to subsidy benefits, increasing utilisation at rural public hospitals would enable government subsidies to be more pro-poor, particularly since 61 per cent of the poorest are found to favour public hospitals for inpatient care.* When we turn to outpatient care, we find that 82 per cent of all visits are to the private sector provider. This has been found true across income groups, urban and rural populations, gender, caste / tribe affiliation and above and below the poverty line. The role of the public sector is stronger for preventive services with 60 per cent of antenatal visits and 90 per cent of immunisation doses delivered by the public sector. However, both the investment and expenditures on demand side interventions (prevention of morbidity and promotion of health seeking behaviour), are accorded low priority at both central and state levels.

2.2.69 The combination of limited outreach and sub-optimal delivery has led to poor health outcomes in key parameters like infant and maternal mortality. Primary health care should be made directly accountable to local elected bodies and Panchayati Raj Institutions (PRIs) with appropriate devolution of administrative and financial powers. More equitable health outcomes are possible only if we make services work for poor people, create competition among providers and create options for consumers. *Can we not institutionalise linkages so that rural public health facilities are energised through franchised networks of diverse health providers, across the public, civil society and the private sectors?*

Combining the Role of Payor and Provider within Government May Have Diminishing Returns

2.2.70 For the most part, government combines the roles of payor and provider of health care service delivery, particularly for the most vulnerable groups. However, if basic services continue to elude poor people, this may be attributed to a misalignment of incentives between providers and outcomes.

No private market left to itself can provide appropriate services to poor people, because it will tend to serve clients with purchasing power, for a fairly narrow set of services. For these reasons, government continues to assume responsibility for basic services, especially for poor people.

2.2.71 We need to energise health systems at primary health care levels, for improving health outcomes. Public sector service providers face weak incentives to deliver services effectively (for example, there is no penalty for absentee doctors in primary health centres). The day-to-day pressures of management often compromise attention to outcomes on the ground. Is there a case for redefining the current role of government, as both provider and financier of services? If we make a clear separation between the role of the policymaker and the provider organization, this will align incentives (for the provider), with the health outcomes that policymakers want for citizens. The policymaker (parliament, central government, state legislature, state government) is accountable to the citizen. The provider organisation is responsible for delivering services. When the roles are vested in one and the same entity, accountability is limited and bureaucracies can become insular, and also tend to overlook shortcomings. When the policymaker takes on a role distinct from the provider, it is easier to say "While the problems are numerous and we can talk about them, just tell me the progress achieved in rates of immunisation".

2.2.72 The service delivery chain can be unbundled into three sets of actors: patients in clinics (as clients) who interact with doctors, nurses and pharmacists; the provider (doctors, nurses, pharmacists, chemists), and the policy maker. However, since the health service is being provided not through a direct transaction but through the government taking responsibility, we have the *"long route" of accountability* because the clients as citizens influence policy makers, who must, in turn influence providers. When relationships along this long route break down, service delivery fails (absentee doctors, equipment lying in disuse, missing drugs and medicines), and health outcomes are poor. Given these weaknesses in the long route of accountability, service outcomes can be improved by *strengthening the short route*, and *increasing the client's power over the provider.* Providers must agree to deliver a service, in return for being rewarded or penalized, and MOUs or contracts should be appropriately strengthened. Collaboration and partnership with civil society and the private sector is a specific recommendation of this Mid Term Appraisal. In several developed countries, the state was initially an independent outside monitor and regulator of private sector activities. The state has largely retained that independence as a monitor even though the same activities were assimilated in the public sector. In the National Health Service of the UK, government is the payor for health services, while the delivery of health care is implemented through a mix of private and public providers.

2.2.73 Typically, governments intervene to control communicable diseases, protect poor people from impoverishing health expenditures and disseminate information about home-based health care, immunisation, nutrition and HIV prevention practices. The central government and state government health systems provide services for each of these different activities. If the provider is to be distinct and separate from the policymaker, several options become available. For example, information about handwashing, exclusive breast-feeding, nutrition, HIV prevention can be delivered by eligible community based civil society groups, because service delivery for these items works best when reinforced by the community. Outreach services such as immunisation could be contracted out, but will be publicly financed. This suggestion is being made particularly, with reference to the Universal Immunisation Programme (UIP), India. This happens to be among the largest immunization programmes in the world in terms of number of beneficiaries, quantities of vaccine used, number of immunisation sessions organised and the geographical spread and diversity of areas covered. However, the outcomes are not commensurate with the scale of implementation. It is true that a Mid-Term Immunization Strengthening Plan has been drawn up by Ministry of Health and Family

Welfare, and prominent strategies include introduction of auto-disable (AD) syringes from 2005 onwards, vaccine delivery to immunisation sites in villages, sub-centres and urban areas, mobilisation of children by the accredited social health activist, and mobility support to the district immunization officer for supervision and monitoring. However, the Rapid Household Survey, conducted in 1998-99 and repeated in 2002-03 indicates a significant fall in full immunisations across the country from 54.2 per cent in 1998-99 to 48.2 per cent in 2002-03 (Table 2.2.26). Viewed against the crying need to save neonates and infants from dying, this decline in standards and outreach of routine immunisation is unacceptable.

Table 2.2.26
Full Immunisation under Universal Immunisation programme

(per cent)

	2002-03	1998-99
Uttar Pradesh	29.8	43.7
Andhra Pradesh	61.6	74.5
Assam	27.6	46.7
Haryana	57.9	66.0
Madhya Pradesh	34.0	48.4

Source: Rapid Household Survey (RHS, 2003)

Shortages of Doctors, Hospital Beds and Medical Colleges

2.2.74 There is an acute shortage of specialist faculty in both government and private medical colleges. In response to the disease transition, we need to quickly scale up availability of additional and appropriate specialisation. The Medical Council of India and the state medical councils have been unable to ensure uniform standards of medical education. Fortunately, the complementary role of the public and private sectors in medical education has facilitated a significantly higher intake of young adults in medical colleges, for training as medical professionals. Of the 231 medical colleges, 126 are in the government sector. The combined capacity of both public sector and private sector medical colleges is 25,000 student admissions per year (18,000 seats in South India as against 7,000 in North India).

2.2.75 India needs to begin providing for a much larger number of medical colleges, with a corresponding significant increase in the number of faculty and physicians, to fully address the demand for training new recruits, teaching, augmenting inpatient hospital care and outpatient ambulatory care. The current health work force listed by Ministry of Health & Family Welfare is captured in Table 2.2.28.

2.2.76 The present doctor to population ratio at 1:1722 (for allopathic doctors) is not encouraging and the ratio of hospital beds to population at 1: 1370 is also adverse to the end user. Viewing India with comparator countries, in Table 2.2.29, we note that India has the lowest number of hospital beds per 1000 population.

2.2.77 In the circumstances, given the competing claims for inadequate financial resources at both central and state levels, it is unlikely that government alone can take care

Table 2.2.27
Infrastructure for professional training (medical and para-medical)

Institutions	Public Sector	Private Sector	Total
Medical Colleges	126	105	231
Dental Colleges	34	158	189
ISM & H Colleges	95	336	431
General Nursing Mid-wife training Schools	213	441	654

Source: Ministry of Health & Family Welfare

Table 2.2.28
Doctor, Nurses and Hospitals across India

Indicator and Measure	Numbers
Registered Doctors*	
Allopathic(2004)	6,39,729
AYUSH (2003) (Ayurveda, Yoga, Unani, Siddha and Homeopathy)	6,94,712
Numbers of doctors (Allopath+Ayush, public and private sectors)	13,34,441
Population per doctor(Allopathic)	1722
Population per doctor (all systems)(2004)	809**
Registered Nurses*	
Number of nurses (2003)	8,39,862
Population per nurse	1223
Registered Doctors:Nurse Ratio(2004)	1 : 1.4
Hospitals	
(government + private)	
Allopathy(2002)	15,393
AYUSH(2003)	3100
Total hospitals (Allopathy+AYUSH)	18,493
Population per hospital(Allopathy+AYUSH) (2004)	55,567
Hospital Beds	
(government +private)	
Allopathy(2002)	6,83,545
AYUSH (2003)	66,366
Total Beds (Allopathy+Ayush))	7,49,911
Population per hospital bed (Allopathy+AYUSH) (2004)	1370

Source: Health Information of India 2004, Central Bureau of Health Intelligence (CBHI), Ministry of HFW
Note: Government(including local bodies)
* Registered with Medical Council of India(Allopathy), Councils concerning AYUSH and Nursing.
** This statistic is encouraging. However, on account of fragmented management and non-sharing of appropriate skills and training with the practitioners of Indian systems of medicine, we have not facilitated their full participation in implementing national health and family welfare programmes.

of the needs for medical education to serve a population of 1.6 billion in 2050. We would need to leverage significant private investment in medical education to create higher capacity across the medical, nursing and the para-medical professions. Any collaboration would need to be implemented through a transparent and accountable system and this needs in depth examination, possibly by the Knowledge Commission.

2.2.78 Another aspect is that the distribution of medical colleges is skewed. The shortages of trained manpower in under-served states can

Table 2.2.29
Physicians and Hospital Beds

Name of Country	Physicians per 1000 population	Hospitals beds per 1000 population
India	1.3*	0.73*
China	1.7	2.4
Thailand	0.4	2.0
Malaysia	0.7	2.0
Brazil	1.3	3.1

World Development Report, 2004
* The figures for India have been estimated on the basis of the data provided by Ministry of Health in Table 2.2.27.

be fully addressed only through setting up medical colleges in these states (UP, Assam, Orissa, Rajasthan, MP, Chhattisgarh and Calcutta). Some medical colleges have poor utilisation of services, on account of sub-optimal location, vis a vis demand for services. An essentiality certificate from a joint representative committee comprising of the professional medical association, and government could be made mandatory, prior to setting up a new medical college, so as to plan for appropriate and optimal outreach. Better dispersion of medical colleges across needy states, and more rigorous regulation of standards in medical education needs early attention. The public and the private sectors need to jointly set up stringent entry norms for registration of medical practitioners every five years, with renewal being contingent upon attendance and completion of the requisite courses in Continuing Medical Education Programmes.

2.2.79 India is rapidly becoming a destination for students from across the world, seeking low cost medical education. The Knowledge Commission could examine some method of enabling non-resident and foreign students to compete for seats in government and private medical colleges through competitive examinations. The incoming revenues from these non-resident Indians and foreign students could then be deployed to cross-subsidise Indian students from economically weaker sections (EWS) to undertake medical education, and towards providing additional beds in teaching hospitals to support the minimal requirements for teaching. This will also enhance capacities for inpatient hospital care, to keep pace with increasing demand.

Absence of Standards in Both Private and Public Provisioning of Health Care

2.2.80 Without a doubt, India needs a Public Health Development Authority to take on the innumerable tasks that will streamline oversight and regulation in provisioning of health care, to prescribe standards in both private and public provisioning of health care and to ensure the observance of minimal standards by all providers. This Mid Term Appraisal makes a specific recommendation in this respect.

Institutionalise Collaboration for Research and Development

2.2.81 Typically, government has been unable to assign more than 1.5 per cent of Annual Plan allocations towards bio-medical research and development. There needs to be much greater partnership between medical education (the teaching faculty), R&D, and the pharmaceutical industry. Retention of specialist and other faculty across medical colleges could become contingent upon research contribution. The pharmaceutical industry may find it more cost effective to farm out R&D to medical colleges of repute, and this would in turn incentivise faculty in these medical colleges. As an illustration, a remarkable set of candidate antimalarial drugs have been developed, using an age old Chinese herbal medicine, through a partnership between academia (international scientists) and major pharmaceutical companies. India should also tap substantial international funding for bio-medical research. The Knowledge Commission could examine modalities and mechanisms for institutionalising collaborations for Research & Development.

RECOMMENDATIONS OF THE MID TERM APPRAISAL

2.2.82 Against this background, the Mid-Term Appraisal suggests a way forward with some out-of-the-box interventions and initiatives, which take into account the various objectives spelt out in the National Common Minimum Programme (NCMP), especially the concern about the need to "pay attention to the poorer sections in the matter of health care". In this, the final Section of this Mid Term Review on the health sector, the following is suggested :

A. Implement a National Rural Health Mission

B. Implement a National Mission on Sanitation and Public Health

C. Provide access to maternity health insurance and community risk pooling

D. Systematise insurance at secondary health care levels through reform of the CGHS

E. Institutionalise public private partnerships in health care

F. Set up a Public Health Development Authority

G. Set up a National Authority for Drugs and Therapeutics

H. Deliver health information, education and products through the Indian postal network

I. The Way Forward

Implement a National Rural Health Mission

2.2.83 Government has launched, a seven year (2005-12), National Rural Health Mission (NRHM) and this is an opportunity to implement innovative convergences that will create competition among providers and enhance choices for consumers. The duration of the NRHM also coincides with the goal setting in respect of two monitorable targets of the Tenth Plan, on achieving by 2012, reductions in maternal mortality to 1 per 1000 live births and reductions in infant mortality to 28 per 1000 live births. In the circumstances, these Tenth Plan targets should be a primary focus of the NRHM, among several other important objectives. We recommend that the NRHM is mindful about incorporating the following initiatives:

1. Build upon the experience gained in Kerala, Tamilnadu, Sri Lanka and China to ensure the services of a skilled birth attendant at childbirth, both for home deliveries and in institutional settings. There have been earlier proposals in the Ministry of Health and Family Welfare to set up a cadre of skilled mid-wives. Government needs to quickly, within three months, bring out a paper on how skilled midwives will become the rule rather than the exception. Since home deliveries will remain the norm across many areas, government must provide skilled birth attendant where these are most needed. This alone will directly accelerate reductions in maternal and neonatal / infant mortality.

2. Implement the Tamil Nadu strategy through which close to 58 per cent of the health sub-centres are functioning round the clock. They are all equipped with appropriately trained and skilled personnel, together with the most commonly used medications like the ORS packets, bandages for first aid, paracetomols and many other items. Register every health sub-centre as a Rogi Kalyan Samiti and there is adequate precedent in Madhya Pradesh and other slater.

3. Appoint public health professionals to head primary health centres, where doctors are unwilling to work full-time. Public health professionals are trained to comprehend the backward

and forward linkages between prevention and mitigation of illness. Over 75 per cent of morbidity needs enlightened management, with interventions for prevention and mitigation. If public health professionals are not available in sufficient numbers, alternately, PHCs could be headed by a fully trained nurse clinician. Tamilnadu often posts three staff nurses in PHCs in lieu of one doctor. Register every PHC as a Rogi Kalyan Samiti.

4. Set up a 30-50 bedded community hospital for every 100,000 population, with a full complement of trained doctors and nurses at the apex of the primary health care system. Each community hospital should provide comprehensive emergency obstetric care together with an AYUSH unit and also include disease management, with a functioning referral system to higher facilities. These community hospitals may be registered as Rogi Kalyan Samitis.

5. Engage the excellent community based initiatives particularly across Maharashtra and many other states (with demonstrated, amazing success in lowering neonatal, infant and maternal mortality), to train the Accredited Social Health activist (ASHA). Department of Women and Child may like to examine if the AWW also needs refresher training, and both Ministries could collaborate in this respect. The key follow up here is the quality of orientation and training provided to the community health activist.

6. The community health activist must develop institutional linkages with the Aanganwadi Worker (AWW), the ANM, the nearest self help group (SHG), and the registered medical practitioner. This will serve to link households with authorised health care providers and will bring in some measure of accountability within the primary health care delivery system.

7. Modify the population-centric norms which continue to drive the provisioning of health infrastructure and replace these with a set of habitation based and community needs driven norms so that the planning and provisioning of health infrastructure and service delivery, is ab initio, more responsive to ground reality. This will ensure, for instance, that two ANMs (in lieu of one), would cater to a population of 5,000 in the plains and 3,000 in the hill areas. In Year One of the NRHM, such strengthening could commence in 30 per cent of the health sub-centres and appropriate funding committed.

8. Transfer supervision and oversight for primary health care to local elected governments, with appropriate administrative and financial delegation. This has no cost implications. During 2003-04, state panchayati raj ministers made 150 recommendations, urging, inter alia, that the devolution of functions, functionaries and finances should be routed through legislative framework or through executive orders of government. Ministry of Panchayati Raj has asked states and union territories to complete the mapping for different tiers of the panchayati raj institutions over the next three months, through district planning committees. At the local level, authority and resources need to come together to make the healthcare delivery effective. Panchayats and municipalities could have a significant role in the management of outcomes.

9. Communitise health related tasks to the extent feasible, as has been successfully attempted in Nagaland. The maintenance and management of health facilities is entrusted to the village community and very quickly, staff attendance improves, staff salaries are disbursed on time, medicines are available, and the health services provided respond to current needs of the community. This also enables

people to participate directly in ensuring "health for all".

10. Implement construction of additional health sub-centres with residential quarters for two ANMs through the Employment Guarantee Scheme. Alternately, state governments could avail loans from NABARD (Rural Infrastructure Development Fund) at low interest rates to rapidly complete construction of a large number of health facilities, as successfully demonstrated in Karnataka. In lieu of the State Public Works Departments typically constructing these buildings at higher expense for lower quality, resources could also be raised from HUDCO on terms and conditions applicable to low cost housing. Construction could also be entrusted to housing federations, with community involvement.

11. Include upfront, the prevention and control of HIV/ AIDS on the agenda of the National Rural Health Mission through the innumerable interventions suggested in the Mid Term Apprisal.

12. Dovetail the School Health Programme in all states with the NRHM through local bodies, to ensure that growing children are direct beneficiaries of appropriate health related interventions

13. Focus on disseminating health related information, education and communication through community computer and internet kiosks, as these are emerging as the preferred medium for bringing the benefits of information and communication technologies to rural communities. The National E-Governance Action Plan of Government of India places great emphasis on these kiosks as the main vehicle of delivering e-government services in rural areas. The NRHM may support bringing these kiosk services closer to habitations of vulnerable groups, and ensure appropriate and localised content as opposed to standardised content available on the web. Ministry of Health could also explore the feasibility of having one number dedicated for emergency health help across the nation, as is common in many countries, which could be accessed through the kiosks at village e - choupals.

14. Make mandatory for every public and private health facility, as a condition of the licence / grant of recognition by statutory authorities, free access for all BPL and low income groups, to a core package of basic health services consisting of public goods such as: immunisation, nutrition supplementation, family planning, maternity health checks, counseling and testing for HIV, TB and malaria, as well as dissemination of information, education and communication about, safe water, sanitation and hand wash. Treatment protocols issued by government should be binding on all public and private facilities. This mandatory requirement should be enforced by the central and state governments, and will serve to bring centre-stage, as well as strengthen, corporate social responsibility.

15. Utilise diverse channels (the postal network, the village kiosk, e-choupal, every retail outlet, barber, cobbler, dhobi and paanwala) alongwith networks of innumerable fast moving consumer goods to disseminate health related information and health products. In addition, make it the responsibility of every district magistrate to aggressively push the use of the condom for triple protection: to prevent the unwanted pregnancy, to prevent HIV and to prevent sexually transmitted disease. The public private collaborations used for this purpose in the past need to be repeated (cited in the suggestions listed for HIV/AIDS).

16. Increase investment and budgets for rigorous training at all levels, because the NRHM will need the back up of well-trained professionals and a functioning health system. The district health authorities must ensure that each

authorised health provider identified in the mapping exercise, has participated in the training prescribed and is complying with prescribed standards of health service delivery.

2.2.84 Integrate these initiatives with the NRHM during the remaining two years of the Tenth Plan to gain valuable experience, before the NRHM is more widely implemented.

Implement a National Mission on Sanitation and Public Health

2.2.85 The public health rating of a country is determined as much by its ability to treat disease and minimise high mortality, as also by its ability to prevent the onset of disease. Water-borne diseases like diarrhoea, typhoid, cholera and infectious hepatitis account for 80 per cent of India's health problems and can be addressed through a combination of health and non-health interventions, appropriately sequenced. Safe drinking water and sanitation are critical determinants which directly contribute nearly 50 per cent in reducing the burden of disease. Significant progress has been achieved in extending the availability of potable drinking water to rural and remote areas. By March 2004, 95 per cent of rural habitations had been fully covered with potable drinking water supply, 4.6 per cent are partially covered and 0.4 per cent not covered.

2.2.86 Many communicable diseases can be prevented by appropriate sanitation systems but access to sanitation facilities continues to be grossly inadequate. Proper drainage of dirty water, disposal of garbage, sewage, human and industrial wastes are pre-requisites for preventive health care. Census 2001 conveys that of the 200 million dwelling units across India, only some 40 million dwelling units have a toilet (sanitation facility) inside the house. Only 61 per cent households in urban

Box 2.2.1
Success stories relating to sanitation

On the occasion of the Nirmal Gram Puraskar Awards, 2005, President A P J Abdul Kalam cited several success stories of community and state efforts to address the unmet need for sanitation :

- Women living within a panchayat area in Cuddalore district, Tamil Nadu, acquired plumbing and masonry skills for constructing household toilets and began providing this skill on an entrepreneurial basis to neighbouring villages.
- In Kharodi village of Punjab, a non-resident Indian (NRI) from Canada has, with the help of the state government, laid an underground sewerage system with a stabilisation tank and activated sludge system. This has enabled the whole village to have toilets in individual households, schools, hospitals and public places.
- Under the Total Sanitation Programme, panchayat authorities and NGOs in the Gandhi Nagar Town panchayat in Vellore district, Tamil Nadu, have been able to segregate waste into organic and inorganic components. Self Help Groups (SHGs) have set up roadside dustbins which are regularly cleared. The drainage system in the village is cleared thrice a week. Sanitation faults are reported and mostly attended to on the same day. A village of 2,400 families generates 48 tonnes of garbage a year, which is now converted into manure and recyclable waste generating over Rs 3 lakh of revenue. Villagers pay Rs 10 a month per family for this service. This effort has also given employment to 36 people who are now paid employees of the Panchayat. Funds for their salaries are generated from the sale of manure and recyclable waste.

The Department of Drinking Water could promote such models in collaboration with the Ministry of Health.

areas and 17 per cent households in rural areas have access to improved sanitation. Even today, nearly 70 per cent of the population across the country has no option other than open air defecation, and this directly contributes to the high incidence of water-borne and parasitic diseases. There are 13 million dry latrines from where human excreta is removed by scavengers. Top priority needs to be accorded to improving sanitary conditions and ensuring a clean micro-environment at home and at the workplace, which must now include factories, coalmines, quarries and roads. The Total Sanitation Campaign aims to eliminate the practice of open defecation completely by 2012.

2.2.87 Implement a National Mission on Sanitation and Public Health, with the objective of building a safe hygienic toilet in every household, developing corresponding sewerage structures and enhancing awareness of good personal hygiene. This may be executed in mission-mode, through village panchayats jointly with civil society mobilised for this purpose, preferably by empowering women. Training programmes could be organised for instance, through the Environment Sanitation Institute, Ahmedabad and other appropriate institutions. The aim should be to provide all dwelling units with sanitation facilities by 2010, at the rate of 20 million dwelling units per year, with adequate water supply. Establish sewerage and land fill disposal systems for urban waste. Any comprehensive approach must also point in the direction of converting waste into wealth. The Mission on Sanitation and Public Health could attempt to make the village community dynamic, provide employment opportunities and also involve families and teachers in educating children from an early age to use sanitary facilities. Public toilets may be conveniently built, and made compulsory in the vicinity of panchayat bhawans, railway stations, bus stands, markets, and health centres. These should be operated preferably, by trained NGOs, on a pay and use basis.

2.2.88 Rural sanitation programmes typically impose one uniform design on users and this is neither acceptable nor feasible. Eligible families could be provided with several options to choose from, depending on their requirement and resources. Any programme of construction of toilets must be linked to IEC efforts relating to the health impact of unsanitary conditions and the significance of adhering to and maintaining sanitation standards. NGOs and civil society may be co-opted into this effort for a nation-wide campaign that will generate a demand for safe, hygienic toilets.

Provide access to maternity health insurance and community risk pooling

2.2.89 To address the health care needs of the poorest segments of society, and to ensure that frequent bouts of illness do not continually add to impoverishment, we need to introduce mechanisms for risk pooling. At present, no more than 11 per cent of the population are covered by some form of health insurance, which has so far excluded the poorest segments. The National Common Minimum Programme states that government should "introduce a national scheme for health insurance for poor families". *Two innovative health financing schemes at primary health levels, are proposed for introduction through the National Rural Health Mission.*

2.2.90 The Universal Health Insurance Scheme (UHI) for BPL populations launched in September, 2004, does not include coverage towards maternity care. Specifically to restore gender justice and address the unacceptably high maternal and infant mortality, this Mid Term Appraisal recommends a maternity health insurance scheme, and additionally, a community risk pooling initiative.

Maternity Health Insurance Scheme (MHIS)

2.2.91 A Maternity Health Insurance Scheme may be first implemented as an initiative across a few states during the National Rural Health Mission, prior to scaling up, nation wide. This scheme is premised on capitation based financing, where the provider is assured a fixed per capita payment in respect of all those who enrol for maternity care. All BPL pregnant women will be eligible to participate in the scheme, to be administered by the District

Health Board. The pregnant woman would register with the ANM, and simultaneously identify from a listing of diverse accredited providers, any institutional facility across the public or private sector, as provider during her pregnancy. The ANM will complete the ante-natal check in collaboration with the provider identified (hospital, nursing home, clinical facility or the public sector community health centre). The provider identified by the pregnant woman, would receive a standard fee (Rs.1200 per delivery, normal or otherwise), for the package of services contracted. The provider will undertake complete responsibility for institutional delivery including emergency obstetric care, post partum recovery and neonatal care for six weeks after child-birth. In other words, price barriers and costs of access to a qualified, accredited provider are eliminated for those who enrol in this scheme. The capitation fee (for the BPL population) will be borne by government This intervention will improve outcomes for maternal and infant mortality by ensuring that the complete cycle of maternity care in particular for the poor, is handled by a qualified institutional provider. From the point of view of government, this capitation based financing caps expenditures and shifts responsibility to the provider for service delivery. He has no incentive to over-prescribe, or over-medicate. On the contrary, the reputation of the provider is dependent upon good performance which will attract higher enrolment of patients.

2.2.92 It is estimated that 45 per cent of the 26 million deliveries taking place each year in India are from BPL households. Hence the annual cost of covering all BPL families in the MHIS, is roughly Rs.1500 crore, inclusive of a ten per cent administrative cost. If government introduces the MHIS in a few states, the initial expenditures will be much less, depending on the numbers of deliveries from BPL households. More specifically, this intervention will increase institutional deliveries and lower maternal mortality, empower women with improved access to reproductive health care, enable and facilitate women to adopt post partum terminal methods of family planning if they need to, stimulate development of accredited health infrastructure accessible in rural and remote areas, facilitate partnerships, and finally, also improve the responsiveness and accountability of public sector facilities.

Community Risk Pooling, During Illnesss

2.2.93 The accreditation of institutional providers must be the responsibility of the District Health Board. Public sector hospitals would possibly need to introduce user fees to be eligible for accreditation, although this needs closer examination.

2.2.94 There is repeated evidence that nearly 70 per cent households in the poorest income quintile borrow money, or sell assets including stored food, to meet hospitalisation costs and, continually get further impoverished. Providing financial cover during hospitalisation at the grass-roots will have an immediate impact on alleviating indebtedness. Local governments could identify small risk pools for populations of up to 250 households and provide a revolving fund of Rs.1 lakh, to be managed by a consortium of self help groups (SHGs). This consortium would, whenever required, advance to needy households, a cash support of Rs.5000/-Rs.10,000 for hospitalisation, catastrophic illness and death. This will save households from immediate financial debt at the point of crisis, and they would repay this money at a modest interest rate within an appropriate time-frame so that the village health risk pool does not fall below Rs 1 lakh. Pilots may be undertaken for community risk pooling through the National Rural Health Mission.

2.2.95 SHGs are strong even in states like Bihar where, otherwise, the public health service delivery may be weak, and would welcome this initiative. This scheme will empower self help groups, enable households to gain access to micro-credit, and also recover from financial stress in the face of loss of earnings. Additionally it will significantly improve the outreach of government during major outbreaks of disease. This is one intervention for risk pooling that can commence immediately through the NRHM, with accountability to local elected governments, across states/union territories where SHGs are well-established.

Systematise insurance at secondary health care levels through reform of the Central Government Health Scheme (CGHS)

2.2.96 The Central Government Health Scheme (CGHS) is a contributory health scheme for central government employees, currently with 44 lakh beneficiaries. Recurring expenditures are incurred to stock and run a network of 250 CGHS clinics for participants, and provide general physician services, including free medicines and drugs. Initially costs were sought to be controlled by limiting the number and location of clinics and entitlements to treatment. Several reports have drawn attention to low satisfaction levels with CGHS, particularly on account of poor emergency services, non-availability of medicines, and inconvenient timings. Central government employees living in peri-urban areas are hardly able to avail of city based medical facilities on a routine basis. In an attempt to address some of these shortcomings, private hospitals were contracted three years ago (in addition to central government hospitals), to provide specialist health services. Purchase of drugs and medicines were permitted in the open market, in a deviation from traditional bulk procurement. Government expenditures on the CGHS have increased and risen to over Rs.500 crores per annum. The scheme has also spawned considerable infrastructure, including a cadre of medical and paramedical personnel.

2.2.97 It is time to restructure, reform and rejuvenate this contributory health scheme. Ministry of Health and Family Welfare is already examining the shortcomings reported, and could consider several options. Existing subscribers to the CGHS could exercise an option of continuing with the current arrangement, or alternately, subscribing to a new system developed within the CGHS. One option is to convert CGHS to a public sector provider of clinical health care for the general public, on payment for services, in competititon with other providers, public and private, at secondary levels of health care. Central government employees may be gradually shifted to a system of health insurance, through which they may access the CGHS or any other clinical health care provider of their choice. The direct budgetary support to the CGHS could be phased out to the health insurance system. The remaining two years of the Tenth Plan may be used to develop these options further, confer greater operational autonomy to the CGHS in preparation for its new role, and convert it into an appropriate organisational form, like a registered society.

Institutionalise public private partnerships in health care

2.2.98 Since government resources have been unable to maintain existing health systems, increase access to health services for those not covered by current systems, and improve the quality of care provided, government is no longer viewed as the necessary "engine of development", or the main provider and financer of health services. There is increasing consensus that it is neither feasible nor practicable for government alone to shoulder the entire responsibility of expanding coverage and outreach, and to be the payor and provider of diverse health care services. Moreover, the end users are seeking choices and options, over and above the public health delivery system. The co-existence of the public and private sectors in the health sector is not new. We have earlier acknowledged that mutual, solidarity driven, community based initiatives on health care need strengthening by targeting resources through elected local bodies to community and household levels. In the context of the Indian Systems of Medicine, this inter-dependence is centuries old. However, specific recognition of the role of private providers has been absent from health planning until recently. Eventually, the state needs to ensure that essential services are provided to poor people, whatever the public-private mix of finance and provisioning, so that resources are used as effectively, efficiently and equitably as possible.

2.2.99 The issue is no longer whether there should be private provision of health services. Since over 68 per cent of hospitals, 37 per cent of hospital beds and over 80 per cent of the provisioning of health care is attributed to the private sector, the private sector is beginning to occupy centre-stage, by design or default.

The private sector is increasingly, also a significant source of new investment (particularly across tertiary health care, pharmaceuticals and R&D). Given that the private sector is a predominant provider of services across the primary, secondary and tertiary levels, we need to ensure that people are not forced to switch from weak and inefficient public health services to expensive private provision, or even compelled to forgo health care entirely, except in life threatening situations, only to slide into severe debt. We can only ensure protection for people through institutionalizing appropriate collaboration, training, information and accreditation. Within a state-led health system, an overall vision of the public role of the private sector should guide and inform future planning of health care across the country. It is feasible to engage the private sector as an additional instrument, and partner for achieving shared public health outcomes. The public challenge is to capture the efficiency advantages of the private market while paying sufficient attention to equity and quality concerns to meet public performance criteria. In a "Report of the PPP Sub-Group on Social Sector" (November, 2004), the Planning Commission identified institutionalized public private partnerships being implemented in the health sector, particularly through the national disease control programmes and the reproductive and child health programme.

2.2.100 The *National Health Policy, 1983* encouraged government to enter into contractual arrangements with the private sector to augment providers and improve quality of care. The *National Health Policy, 2002* further endorsed and promoted the need to institutionalise partnerships with diverse providers to rapidly increase the supply of health services, expand coverage, improve technical quality of care at all levels, and control costs for users. Government has been facilitating the private sector through subsidies in major inputs like prime land at low cost and in terms of customs duty exemptions on import of equipment and drugs. Government justified this subsidy on account of the locational advantage, technological superiority and higher quality of health care by professionally qualified health providers that would become available to benefit BPL populations. Future MOUs between public and private partners need strengthening to safeguard public interest, and to more clearly define the role and responsibility of each partner in order to ensure easy access (fully paid for, in terms of the MOU) for BPL populations, and for low income groups in a graded fee structure. Though the potential arena of public-private partnerships is very wide, there are policy and regulatory hurdles that inhibit their realisation. A forum of representatives from government, the professional councils and industry representatives need to develop a generic framework for different categories of public-private partnerships (PPPs) at primary, secondary and tertiary levels of health care, to for improve cost-effectiveness, enhance quality and expand access. This basket of MOUs should implement collaboration between public-civil society-private sector entities, with a view to ensuring a seamless provisioning of health care from the rural habitat right up to the district hospital at secondary level, and the super-speciality hospital at tertiary level, when and where needed.

2.2.101 The private sector in India now recognizes the need for greater government oversight and involvement in quality assurance and regulation. The public sector is also discovering that it may not always be wholly cost-effective to extend itself without engaging diverse sectors, including the private sector, through multiple partnerships, at different levels of health care. Any partnership between the public and private sectors must be mindful of trade-offs in terms of welfare implications such as raising the costs of health care. State governments have engaged the private sector and civil society in innumerable ways, at tertiary, secondary and primary levels of health care such as handing over public health facilities to the private sector, and some to NGOs, for management (Karnataka, Gujarat, Tamilnadu), giving land to a major corporate cardiac care hospital within the premises of the state Medical College together with a grant to build and operate a cardiac speciality centre at tertiary levels (Chhattisgarh), outsourcing laboratory and blood screening services to a private sector entity, at secondary and tertiary levels (Tripura), contracting private specialist services at primary levels (Himachal Pradesh, and other states) and granting financial autonomy to hospitals at secondary and tertiary levels (MP, Rajasthan, Andhra Pradesh, Punjab, Karnataka, Maharashtra and West Bengal). At primary health care levels, in addition to all of the above, Nagaland has successfully attempted a communitisation of health care which needs to be emulated across other states, possibly through the National Rural Health Mission and could promote appropriate targeting of resources to community and household levels. Through all these instances of public-private partnerships, the end users of services gain options and choices in terms of health care providers to choose from, and the providers themselves are more mindful of the quality of care they deliver.

2.2.102 Strategies to improve service access and product uptake, especially by the poor and other priority groups, usually require actions that will simultaneously stimulate demand and support provision. Ensuring quality and controlling costs are an integral part of this strategy. A very simple rule of thumb that could guide decision making in respect of public-private partnerships in the health sector is that *the degree of complexity of the product or service provided differentiates the strategies that ought to be adopted.* A simple product like the condom is distributed through the public distribution system (for triple protection against HIV/AIDS, the unwanted pregnancy and sexually transmitted disease). The public health delivery system needed additional spread and supplementation. In 1968-69, India commenced, now globally acclaimed, as the oldest national social marketing programme for condoms (other health products have since been added on). Social marketing organizations receive a public subsidy to lower prices to users and to cover wide programme costs. They engage the resources, techniques and distribution networks of the private commercial sector to make products with a public health benefit, more widely available and affordable. Accordingly, the condom is being marketed via innumerable public and private channels, and the costs to users are lower than market rates. People prefer to pay for the condom through the Social marketing of condoms is slowly overtaking the free supply of condoms, in the national programme route. When dealing with a more complex product or service, for instance TB diagnosis or voluntary counseling and testing for HIV, any provider, including the private sector provider requires a minimum level of knowledge and skill for more effective service delivery. Training and external monitoring would ensure appropriate quality of care. For more systematic oversight, public and private sector providers (PSPs) could be recruited into an accredited network, more commonly known as franchising. The PSPs would deliver services in accordance with the franchisor's specifications, and receive training and subsidized supplies in return for conforming to the standards. Pakistan has an accredited clinical network known as the "Green Star" in urban and peri-urban areas which enables women to access injectable contraceptives and other long lasting family planning methods. Indonesia and Bangladesh also have similar franchised networks which have retained significantly enhanced utilization of services. Finally, as the role of government shifts (at secondary and tertiary levels of health care), from provisioning to purchasing services from diverse providers (including both for-profit and not-for profit providers), government may contract services from public or private providers, through a competitive process. Any eventual MOU will specify the type of service, precise coverage, cost and quality. Essential health care packages in district level hospitals are contracted out in many countries of Asia, for example, Cambodia.

2.2.103 In the tertiary sector, a more active and strategic engagement with the private sector is called for, so that high investments by government do not crowd out its commitment towards primary health care. We have an enviable pool of talent in the private sector providing world class clinical and diagnostic services. We need to utilize these skills to put in place reliable health systems at tertiary levels, accessible to all. The private sector has gained a dominant presence in medical education and training, diagnostics and technology, pharmaceutical manufacture and sale, hospital design, construction and management of ancillary services. For over half a century, government has designed, constructed, manned and run huge hospitals, which often continue to under-perform. Leveraging the public-private mix in augmenting tertiary level infrastructure would be particularly advantageous. Large public sector teaching hospitals now require huge initial capital investments (Rs 284/ crores to set up one teaching hospital, as per the costing for the six AIIMS like institutions, received from Ministry of Health & Family Welfare), with heavy recurring costs to run the hospital (possibly similar costs, amount, on an annual basis). Such institutions have so far been managed by Government of India through highly centralized budgets and norms. It may not be wholly feasible for government to continue to spread limited resources so thinly, on large hospitals, while struggling to complete the "unfinished agenda" at primary health levels such that government leaves little impact on either. At state levels, from Tamilnadu to Chhattisgarh, and Tripura to West Bengal there are several examples of viable public-private collaboration at tertiary levels. These partnerships serve to limit the role of government in the actual delivery of services. The central government could consider entering into joint venture agreements with the private corporate sector to set up the six Institutes of higher learning, proposed on par with the All India Institute of Medical Sciences (AIIMS). This would perhaps, rapidly expand the availability of large hospitals because if the capital and recurring costs are borne solely by government, then the limited resource base will stall early availability of all six hospitals as also possibly, the upgradation of another seven. Second, there is, globally, and also visible in South East Asia, a paradigm shift in the concept, design and implementation of hospital management. Any public private partnership in this programme would guide high quality tertiary care in the six AIIMS like institutions in keeping with this paradigm shift.

2.2.104 A primary objective is to enhance the ability of government to direct more public resources at primary health levels, in particular, towards activities for public health promotion and prevention, for which the private sector is mostly not available.

2.2.105 A second significant objective is to expand the role of the public sector towards providing oversight, corresponding to a shrinking of its role as producer of health services. Close involvement in quality assurance and regulation of the health sector will also require resources. The structure of the health industry, with a large number of formal and informal providers, diverse distribution, and low capital investment coupled with poor public records and registration, makes the regulatory role both difficult and expensive. We need a sensible mix of external regulation and professional self-regulation in consultation with the profession to ensure competence, quality and accountability.

Set up a Public Health Development Authority (PHDA)

2.2.106 Diverse support systems which do not in themselves provide health care services, may nevertheless greatly improve the cost-effectiveness, coverage, outreach, and quality of service provision, through the public, civil society, or private sectors. The health sector is performing sub-optimally, and performance will remain stymied in the absence of appropriate governance and regulation, particularly directed towards training, information dissemination and accreditation. Some interventions in this respect are suggested below:

Set up a Public Health Development Authority (PHDA) with a corpus of Rs.500 crores, to implement the following tasks:

Prescribe standards for quality assurance in healthcare

2.2.107 In the sector of health care, there are no widely accepted or prescribed regulatory frameworks, treatment protocols, minimum standards, performance benchmarks, and standardisation of accounting and reporting formats and procedures. There is limited effort to develop organisational capacity or to promote the ability to negotiate contracts and enforce these through increased use of information technology.

2.2.108 Government needs to set standards for quality assurance in healthcare, and then make registration of all health care facilities mandatory (inclusive of diagnostic centres). A potential high impact initiative is to define performance standards for accreditation of health care facilities.

2.2.109 Quality standards may be made mandatory for all public and private health care facilities. The Ministry of Health and Family Welfare could develop consensus over performance standards through widespread consultations with stakeholders, including state governments, professional medical associations, apex industry associations, CII, FICCI, the Medical Council of India and others. A Task Force for developing accreditation standards for health care organisations, constituted by the Confederation of Indian Industry (CII) and the Indian Healthcare Federation, has completed a preliminary draft of standards and norms for accreditation. On this basis, the Quality Council of India has proposed the setting up of a National Accreditation Board for Healthcare Organisations. This could well become a starting point for commencing the dialogue.

2.2.110 Public information campaigns across the print and electronic media should be launched to increase awareness among consumers about the certification programme. NGOs could be used to spread awareness at community levels. A sensitive programme needs to be launched to make health providers fully aware of clearly defined mechanisms to get certification.

2.2.111 These standards may be legislated for all medical establishments, with prohibitive penalties for non-compliance, and enforced by statutory bodies at state levels, in partnership with professional medical associations.

2.2.112 Setting standards for healthcare facilities will improve the quality of care for patients, create healthy competition among providers, and boost consumer confidence.

Develop national practice guidelines and consumer information

2.2.113 Treatment protocols, driven by evidence-based medicine, rational use of drugs and cost effective care will promote and sustain a cost-effective health system. Treatment protocols will contribute to better management of health care institutions and improve doctor-patient relationships. The National Health Service of the United Kingdom has a wealth of information on basic, palliative and emergency care for the most common ailments, available on their web site. Without necessarily re-inventing the wheel, India could utilise these efforts as a basis for similarly developing its own national practice guidelines and treatment protocols. The PHDA may need to incrementally support a number of practice guideline development teams, identifiable in consultation with the ICMR and other institutions. Placing this information in the public domain is important for consumer information.

Reform professional councils

2.2.114 Effective regulation of professional practice or standards is crucial to deal with the problem of asymmetry of information between providers and consumers of health care. People need the assurance that a health care provider has the required professional competence and is bound by an enforceable professional code to act strictly in good faith and in the interest of the patient. Regulation of medical and other professions is a subject in the Concurrent List of the Constitution of India . The Ministry of Health and Family Welfare must pro-actively steer the regulation of medical and allied health professions.

2.2.115 Several professional councils in the health sector, including the Medical Council of India, the Indian Nursing Council, the Dental Council, the Pharmacy Council and the Central Councils of Indian Medicine and Homeopathy must ensure that

- new entrants to the profession have the requisite training and demonstrated professional competence;

- practising professionals are in good standing; and that
- people have access to relevant information about health professionals in order to make informed choices.

2.2.115.1 Unfortunately, the different professional councils have not been able to always enforce observance of standards or discipline among their members. Institutional mechanisms of transparency, consumer feedback, and redressal of grievances are poorly developed or non-existent. The constitution of all the professional councils, including the Medical Council of India, needs to be re-examined. More diverse representation from among a wide array of provider constituencies needs to be brought on board. Registration fees should be increased and so should the penalties for non-compliance with regulations. Reform measures should include (a) improved accessibility to professional registers, using the full range of technologically feasible access solutions, and widely dispersed access points (b) installation of mechanisms for periodical review of professional standing, and (c) appropriate mechanisms to deal with professional misconduct

2.2.116 The Ministry of Health and Family Welfare may like to concretise suggestions and current thinking about setting up a Medical Grants Commission. The Medical Council of India and the State Medical Councils may also be consulted.

Build capacity in public health

2.2.117 The complex interplay of the many determinants of health call for inter-disciplinary and multi-disciplinary skills for comprehending emerging public health problems, as well as for the design and implementation of public health interventions. Availability of medical and paramedical professionals is a necessary but not sufficient condition for effective health care service delivery. While innumerable medical and paramedical professionals per 100,000 population may be required, the crucial role of public health in relation to health sector reform needs recognition.

2.2.118 In India, the major thrust in health manpower planning has so far been on medical and paramedical education. Lack of well trained public health professionals is not recognized as a critical bottleneck for utilization of the large investments made in public health infrastructure and further development of the health system. The Expert Committee on Public Health Systems, 1996, constituted by Government of India, emphasised the need for public health skills at district levels to provide the interface between surveillance and management of disease control programmes on the one hand, while attending to the causes and mitigation of high IMR, U5MR and MMR.

2.2.119 Some efforts have been made, but poor spread and limited funding has not produced results on a scale matching our need for professional public health manpower. Many developed countries addressed this problem by educating and training a pool of public health managers in world-class schools of public health, within an interdisciplinary and multidisciplinary curriculum. One way to increase the profile and, therefore, recruitment to public health practice in India would be to strengthen collaboration between existing public health institutions and prestigious organisations overseas (including international centres of public health), so that Indian institutions begin to develop as institutes of excellence, preferably in a regionally balanced manner. Existing public health institutions need international collaboration to blossom as institutes of excellence.

2.2.120 Grass roots efforts in the nonprofit sector have spawned several health systems research, training, and consultancy organizations in the country. Institutions set up by the voluntary sector with a good track record and demonstrated potential for innovative programmes, could be supported in respect of core faculty, land, and capital grants. The Planning Commission has accorded "in principle" approval to the setting up of a Public Health Foundation, and this agenda should be carried forward.

2.2.121 In the meanwhile, some action could be initiated to strengthen the visibility and availability of public health personnel. These are:

- Utilise the community needs assessment approach in the NRHM to genuinely promote decentralised planning for effective public health plans (village levels upwards), based on local epidemiological priorities as opposed to solely targeting the achievement of centrally driven programmes.
- Rotate the public health personnel between the Departments of Preventive and Social Medicine in medical colleges, secretariat assignments at state and central levels and also in field assignments at community hospitals and primary health centres. This will loosen up the current rigid structure between the secretariat and the field. Participants will benefit with cross-fertilisation between research skills, the pressing what practical needs of populations at and below district levels, and the compulsions of administration and decision making in the secretariat .
- Strengthen the capacity of Departments of Preventive and Social Medicine in at least four medical colleges per region, to enhance their ability to train more postgraduates in public health. Until appropriate qualified public health professionals are available, general category health professionals may be trained in health services administration, management and epidemiology.
- Incentivise, as an interim measure, at least three medical officers from each district across the country to avail of certified courses in public health run by any of several institutions such as Sree Chitra Tirunal Institute for Medical Sciences and Technology, Kerala; School of Medical Education Kottayam; Indian Institute of Health Management and Research, Jaipur; National Institute of Health and Family Welfare, New Delhi, and any others similarly identified. Policies and programmes in education, nutrition, drinking water, sanitation, housing, industry and public works have an impact on health and these linkages should be incorporated into the curriculum at these institutions

(v) The PHDA could motivate implementation of a collaboration between Ministry of Health & Family Welfare and Ministry of Information Technology and the industry to define the IT infrastructure necessary at the primary, secondary and tertiary levels of health care, with a view to expanding access and improving quality of care.

(vi) Institutionalise the role of telemedicine in the provision of health care, through ensuring satellite linkages of major centres of health care with distant locations can augment services in a big way, without any unnecessary additional burden of manpower and infrastructure (except for installation of the facility). The functions of teleconsultation, telepathology, teleradiology, remote ECG, remote ICU management and other innovative ideas is the need of the hour. ISRO could play a major role in providing linkages and collaboration to eligible willing partners. Tele-medicine can enhance the quality of medical care for the vast majority only when the first level of primary care is fully functional, we need to improve the public and private tracks for health care through training, public information and accreditation.

Set up a National Authority for Drugs and Therapeutics

2.2.122 The National Common Programme states "Take all steps to ensure availability of life saving drugs at reasonable prices. Re-examine the feasibility of reviving public sector units set up for the manufacture of bulk drugs"

2.2.123 The J.L. Haathi Committee, 1975 suggested an autonomus National Authority for Drugs that would take over all drug related functions currently divided between the Ministry of Chemicals and Fertilizers, and of Health & Family Welfare, and have jurisdiction over drug industry licensing, imports, exports, technological development, manufacture, sale, monitoring of the pricing, availability and quality control of drugs and medicines. The Drug Policy announced in 1994 confined the role of a National Drug Authority (NDA) to the regulatory functions performed by the Central Drugs Standard Control Organisation (CDSCO) prescribing standards, enforcing quality control, and promoting rational drug use i.e. the functions assigned to MoHFW. This recommendation in respect of the National Drug Authority was dropped in the Pharmaceutical Policy, 2002, formulated by the Ministry of Chemicals and Fertilizers.

2.2.124 States are empowered to license persons for the manufacture and sale of any drug. Sometimes, states license irrational Fixed Dose Combinations, which are allowed so long as the constituents are displayed on the label of the container, without necessarily always examining all aspects of safety and efficacy. As a result, ineffective drugs manufactured in one State/UT can be sold in other parts of the country.

2.2.125 Ministry of Health & Family Welfare constituted in 2003, the Dr. R.A. Mashelkar Committee to examine all aspects of the drug regulatory infrastructure, including the problem of spurious and counterfeit drugs. The Mashelkar Committee enhanced the penalty for sale and manufacture of spurious drugs from life imprisonment to capital punishment and the Drugs and Cosmetics Act, 1940 has been appropriately amended. The Mashelkar Committee supported the Haathi Committee recommendation in respect of setting up a National Authority for Drugs.

2.2.126 Currently, the National Pharmaceutical Pricing Authority (NPPA) created under a Drug (Pricing Control) Order, 1995 under the aegis of the Ministry of Chemicals, administers the pricing of scheduled drugs and their formulations; monitors the prices of non-scheduled drugs and oversees the availability of drugs. The NPPA is somewhat handicapped by the absence of a fully accountable field organisation, which lies with the Ministry of Health (viz. the establishment of the Drug Controller General of India). The NPPA does not have authority commensurate with the responsibility entrusted to it.

2.2.127 To address these problems, the Mid Term Apprasial recommends the following:

(i) Create an independent National Authority on Drugs and Therapeutics (NADT) with sole jurisdiction over licensing, manufacture, sale, pricing, and quality control of drugs and medicines.

(ii) Levy a small cess on the manufacture and import of pharmaceuticals, to be collected together with excise and customs duties, for example, 1 percent of the value of bulk drugs and formulations manufactured in India; and 1 percent of the CIF value of imports of bulk drugs, intermediaries and formulations, etc. The cess will provide resources for a National Drug Fund (NDF) which could (i) support the operations of a National Authority on Drugs and Therapeutics (NADT), and (ii) subsidize R&D by the Indian pharmaceutical industry and government, on drugs for some widely prevalent health conditions, for example, TB, vector borne diseases like malaria. The detailed TORs for the NADT need to be developed.

(iii) Alternately, provide a corpus of funds for an autonomous NADT, say Rs.400 crores. The Drugs and Cosmetics Act, 1940 would need to be amended, to give effect to these recommendations.

2.2.128 Additionally, the central government should continue to fund state governments for the next ten years to strengthen their supervisory and regulatory capacity. Drug inspectorates need enhanced capacities which may be built, inter alia, through constant training for higher performance. Central assistance towards salaries could be considered on a sliding scale during this period. The small scale industries, in particular, require support for establishing facilities (and upgrading existing facilities) to include good manufacturing practices (made compulsory under the Drugs and Cosmetics act by amending Schedule M).

2.2.129 State governments also need assistance to set up public procurement systems on the lines of the Tamil Nadu Medical and Supplies Corporation. We need to examine the Rajasthan Model of Medicare Societies for mass procurement, and making medicines and equipment available to hospitals, sometimes over 50 per cent cheaper than the market rates. A similar system has been successfully attempted in the National Capital of Delhi. The Rajasthan model requires negligile assistance from Government. A cursory analysis of drug prices indicates that publicly procured drugs *are cheaper* by a fraction ranging from 100 per cent to 500 per cent. Assuring regular supply of drugs in public facilities (not achieved so far, across the board), would in itself, improve utilisation of public sector services, and reduce out of pocket expenditures quite significantly, since a significant portion of expenditures by the poor is on the purchase of drugs and medicines.

Deliver Health Information, Education and Products through the Indian postal network

2.2.130 When thinking about health sector solutions, one area of concern is the need to use public information more strategically to empower consumers of health care to become more mindful of their own health care. A better educated and empowered public needs to become a force for higher standards across both the public and private sectors. A number of states are making available standards for procedures and pricing, patients' rights and responsibilities at health facilities in an available initial effort at improving public accountability in public facilities. Panchayati Raj Institutions are beginning, in some places, to hold health facilities accountable in terms of improving clinic hours, reducing staff absenteeism and organising patient transport. The Ministry of Health and Family Welfare and the Department of Women and Child and some states are beginning to use public health and nutrition information more strategically and are moving beyond dissemination of messages to raising awareness and concentrating on changing behaviours to improve health.

2.2.131 Reaching across to communities and household levels with health information, education and products is a challenge. The public and private sectors continue to disseminate health information, education and products through the print and electronic media, internet and telemedicine. The Mid Term Appraisal draws attention to the Indian postal network as an important channel for communication and dissemination of health information and education to access household levels in remote rural areas, with the possible inclusion of products as well.

2.2.132 The unparalleled reach and connectivity of the postal network, comprising over 1,55,000 post offices of which 89 per cent are in the rural areas should be utilised to disseminate health information and education, as also to disburse health products. 83 per cent of this postal network is manned by employees who are residents of the village in which the post office is located and who provide postal services for three to five hours every day. We need to utilise and build upon the amazing credibility and access that postal employees enjoy within communities and households.

2.2.133 The Indian postal network has several unique advantages in terms of reach and credibility:

- delivery at the doorstep of any address anywhere in the country;
- outreach in any given, most remote and least accessible part of the country;
- can transmit mail, funds and products to and from any point in the network;
- is backed by an intimate understanding of the local environment through its employees;
- enables the retailing of products and information to household levels and can be utilised for collection of essential information (such as births, deaths, illness, pregnancy), which, in turn, is

invaluable for targeting appropriate health interventions at household levels.

Upgradation of this capability through e-services, like e-post, would combine the physical connectivity of the postal network with the electronic connectivity through 650 Head Post Offices across the country.

2.2.134 The Department of Post is also now ready to leverage and optimise this valuable resource to generate revenues to strengthen its Universal Service Obligations. The health sector could utilise the Indian postal network as a most valuable and cost-effective channel for disseminating health Information, Education and Communication (IEC), in diverse languages, to access household levels and to disburse products The East India Company is known to have mailed spices and chillies to deficient areas across the country, through the Indian postal network. It could be life saving for BPL households to receive ORS packets, condoms, and medication for burns and snake bites.

THE WAY FORWARD

INTERVENTIONS RECOMMENDED FOR EARLY ATTENTION

1. Augment resources for health. If health is a vital dimension of social justice, make an exception for the health sector and treat external grant money (with zero debt burden) as an additionality to the budget. The absence of budgetary constraints will facilitate early availability of grant funding for disease control programmes (HIV/AIDS, TB, Malaria) and for neonatal, infant, and maternal survival. This may well make all the difference.
2. While implementing the National Rural Health Mission (NRHM), focus on the monitorable targets of the Tenth Plan (accelerate reductions in maternal and infant mortality), and develop a functioning primary health care system, from the habitat to community and district hospital levels, to address the unmet need for critical health care, particularly among the poorest segments of the population.
3. Introduce a cadre of skilled birth attendants based upon learning from Kerala, Tamilnadu, Sri Lanka and China. Operationalise health sub-centres and primary health centers to function 24 hours, as in Tamilnadu. Orient, train and co-opt practitioners of Indian systems of medicine to address national priorities across public health programmes, at sub-centre, PHC and CHC levels. Set up a 30-50 bedded functioning community hospitals for every 100,000 population, to provide curative care. The community hospital will strengthen supervision over the primary health system and will take comprehensive health services closer to the people. Every health sub-centre, primary health centre and the community hospital may be registered as Rogi Kalyan Samitis.
4. Map the nearly 600 districts across the country using, inter alia, geographical mapping systems to identify existing health providers (all systems), register each health provider and bring those found eligible within an accredited network. Co-opt each health provider in a rigorous training regimen in respect of national health goals and priorities, disseminate health policies and guidelines and provide updation on public health interventions and treatment protocols.
5. Include the prevention, care and support of HIV/AIDS squarely within the National Rural Health Mission. Integrate the National AIDS Control Programme with primary health care

(as already achieved with other national disease control programmes like TB and Malaria) and also with the reproductive health programme so that the interventions and messaging on HIV prevention and care reach communities and household levels. Aim to step up treatment for AIDS over the next 12 months and place 25,000 AIDS patients on anti-retroviral treatment by March 2006.

6. Sanitation is a crucial, currently under-provided, determinant of health status of a population and could be instrumental in reducing disease burden up to nearly 50 per cent . Implement a National Mission on Sanitation and Public Health (NMSPH) to provide toilets in 100 million households by 2010, at the rate of 20 million households per year. The NMSPH may be executed by village panchayats jointly with civil society mobilized for this task. Dovetail the Total Sanitation Campaign with the NRHM.

7. Introduce a maternity health insurance scheme in the NRHM, to increase institutional deliveries, achieve reductions in maternal and infant mortality, stimulate the development of accreditation systems across rural and urban India, institutionalise multiple partnerships and contribute to the development of sound, inclusive referral systems.

8. Introduce small risk pools led by a consortium of self help groups, to administer financial help to needy households at village levels, in the event of hospitalisation and death.

9. Reform the CGHS into a social security and health insurance scheme, and include an accredited panel of diverse health care providers, to cover a wide range of health needs.

10. Develop a basket of MOUs for carrying forward multiple partnerships at primary, secondary and tertiary levels so that government organizes a seamless provisioning of health care from the habitat right up to the district, secondary and tertiary levels of health care, when and where needed. Illustrative terms of reference for the Forum on Partnerships for health care are:

    - Identify potential areas for PPP in the health sector
    - Develop specific implementation models in each potential area for civil society and private sector partnership
    - Develop contracts for each model, specifying deliverables, monitoring mechanisms, basis and terms of payment, dispute settlement, bidding processes, and selection parameters.

Interventions recommended for implementation during the Eleventh Plan (with preparatory work to commence now)

1. Launch a "Sarwa Swasthya Abhiyan" in a manner similar to the "Sarwa Shiksha Abhiyan", launched in 2001. Augment financial resources for health by accessing the WB IDA credit for the "Sarwa Swasthya Abhiyan".

2. Set up a National Authority for Drugs and Therapeutics (NADT) and ensure integrated planning to monitor the pricing, quality control and availability of drugs and medicines, to promote the rational use of drugs, to streamline the manufacture of critical bulk drugs and combat the problem of counterfeit and spurious drugs. This would reconcile the interest of both industry and consumers. Government could

consider levying a 1 per cent cess on the manufacture and import of pharmaceuticals to be collected along with customs and excise duties in order to mobilise resources to administer the NADT.

3. Set up a Public Health Development Authority (PHDA) with a corpus of Rs.500 crores, to set standards for quality assurance in health care; develop and disseminate national practice guidelines and consumer information; reform professional councils; build capacity in public health and develop the Information Technology Infrastructure for Health. This will boost consumer confidence, curb malpractices, and create an ethical environment for generating more appropriate health care delivery across the country.

SCIENCE AND TECHNOLOGY

2.3.1 Science and technology is a vital tool for stimulating and strengthening the economic and social development of the country. During the Tenth Five-Year Plan, the science and technology (S&T) sector has focused on generating relevant innovative technologies; preserving, protecting and adding value to indigenous resources; adopting an appropriate mix of traditional, conventional and modern technologies; developing and nurturing human resource; strengthening basic research in areas of frontline science and; promoting S&T interventions in major socio-economic ministries and states so as to make them real stakeholders of S&T.

FINANCIAL PROGRESS

2.3.2 The Tenth Plan outlay for the Central S&T departments/agencies is 6.2 per cent of the total Central sector budgetary support of the Plan. The progress of outlays/expenditure is given in Table 2.3.1. In terms of expenditure, progress in the first four years is broadly in line with the Plan.

2.3.3 The progress made by some of the major sectoral agencies towards achieving the Tenth Plan objectives and thrust, as well as the way forward required during the remaining Plan period, are briefly indicated below:

NUCLEAR SCIENCE

2.3.4 Efforts are being continued under the power sector programmes of the Department of Atomic Energy (DAE) for large-scale deployment of nuclear power in the country. The first stage of Indian nuclear power programme using pressurised heavy water reactor (PHWR) technology has already reached a mature state. The Bhabha Atomic Research Centre (BARC) is committed to providing R&D support to the nuclear power programme in terms of repair and life extension technologies, reactor control and regulating systems, etc. Improved project management techniques have helped to reduce the gestation period for PHWRs. From 8-10 years in the early 1990s, it now takes five years from the first pour of concrete to commercial operation. This has brought down the interest component during the construction period. The present

Table 2.3.1
Progress of Plan outlays/expenditure of Central S&T departments/ agencies during the Tenth Five-Year Plan

(Rs crore at 2001-02 prices)

S. No.	S&T departments/ agencies	Ninth Five-Year Plan 1997-2002		Tenth Plan outlay (2002-07)	2002-03 (Actual Exp.)	2003-04 (Actual Exp.)	2004-05 (RE)	2005-06 (BE)	Total of four years in Tenth Plan	% age of Col.(10) to Col.(5)
		Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10	11
1	Department of Atomic Energy (R&D sector)	1935.73	1631.17	3443.00	391.09	383.20	520.43	732.96	2027.68	58.89
2	Deptt. of Ocean Development	658.95	489.97	1125.00	134.60	137.76	176.37	285.55	734.28	65.27
3	Deptt. of Science and Technology	1932.31	1622.88	3400.00	517.91	563.07	851.94	1049.80	2982.72	87.73
4	Deptt. of Biotechnology	871.08	666.96	1450.00	197.47	232.59	282.19	373.73	1085.98	74.89
5	Deptt. of Scientific & Industrial Research	1713.10	1463.01	2575.00	342.46	411.90	529.10	710.51	1993.97	77.44
6	Department of Space	8403.30	7107.36	13250.00	1782.91	1816.15	1940.04	2351.56	7890.66	59.55
	Grand Total	15514.47	12981.35	25243.00	3366.44	3544.67	4300.07	5504.11	16715.29	66.22

time taken for completion of a 540-MWe PHWR nuclear power plant is comparable with international standards. In addition, the 540-MWe unit design has been up-scaled to 700 MWe, which would lead to about 20 per cent reduction in the capital cost per MWe. Construction of the first commercial 500-MWe fast breeder reactor (FBR) under the second stage of the nuclear power programme is in progress at Kalpakkam.

2.3.5 Significant developments have taken place for utilisation of thorium on a commercial scale, particularly in view of the proliferation-resistant potential of the thorium fuel cycle. These include: Completion of engineering development for various systems of the advanced heavy water reactor (AHWR), which derives much of its power from thorium; setting up a critical facility for experimentation and validating reactor physics aspects of AHWR design and; completion of structured peer review of project report of AHWR. Pre-licensing design safety appraisal by the Atomic Energy Regulatory Board (AERB) is being initiated. Site selection and pre-project activities for the first commercial reactor - AHWR - utilizing thorium, including the detailed engineering and design validation, would be completed by the end of the Tenth Plan. Construction is likely to start in the Eleventh Five-Year Plan. Construction of the first demonstration AHWR utilising thorium as fuel under the third stage of the nuclear power programme will commence in the Eleventh Plan. During construction of the fast breeder reactor (FBR), project management concepts similar to those used for the construction of PHWRs are being deployed to reduce the gestation period.

2.3.6 Several experiments have been initiated for developing AHWR to attain higher levels of safety through utilisation of inherent and passive safety features. These include tests on advanced accumulator and passive containment coolers and establishment of two-phase natural circulation related characteristics under high pressure and high temperature. Several advanced safety features of AHWR arise out of passive components and systems. The design of a passive valve which will automatically divert

Box 2.3.1
Major achievements in nuclear science

R&D units of the Department of Atomic Energy (DAE) are committed to providing R&D support to the nuclear power programme for peaceful applications of nuclear energy and societal applications in the country. Some of the significant achievements during the during the Tenth Plan period are:

- Engineering development of various systems of advanced heavy water reactor, which derives much of its power from thorium.
- Up-scaling the 540-MWe unit design to 700 MWe, which would lead to about 20 per cent reduction in capital cost per MWe.
- Setting up of an 1800-cubic metre/day capacity reverse osmosis (RO) water desalination plant at Kalpakkam.
- Setting up of Positron Emission Tomography (PET)-CT Fusion machine at Tata Memorial Hospital.
- Development of Hydrogel for burn injuries and wounds.
- Development of cobalt-60 tele-therapy machine at half the cost of equivalent imported machine for cancer treatment.
- Development of a digital medical imaging system to replace conventional X-ray machines.
- Completion of phase I of tele-medicine link for cancer, connecting Tata Memorial Hospital to Dr. B. Barooah Cancer Institute (BBCI), Guwahati and Walawalkar Hospital, Dervan, Maharashtra.
- Setting up of a high-dose irradiation-plant for spices at Vashi and a low-dose irradiation plant for onion processing at Lasalgaon (KRUSHAK).

steam to isolation condenser following a reactor trip has been completed. A number of instruments with associated software were also developed to measure void fraction in a two-phase flow. Besides the AHWR technology for using thorium for power generation, accelerator-driven system technology is being pursued in stages and is expected to meet the Tenth Plan targets.

2.3.7 'High-temperature reactor' is the core technology for adapting nuclear power to non-electrical applications particularly, desalination and high temperature applications, including those for generating non-fossil fluid fuels. The compact high-temperature reactor being developed at BARC would be designed to operate at a temperature of about 1000°C. Development of fuel and structural materials suitable for operating at such high temperatures will be of primary concern for this work. Design of a test set-up for a passive power regulation system has been completed and the engineering R&D for high-temperature reactor systems will be completed during the Tenth Plan.

2.3.8 Significant progress has also been made in respect of the Mission Mode programmes. During the Tenth Plan period, several new water desalination technologies have been taken up for development and demonstration. A reverse osmosis (RO) water desalination plant with 1800 cubic metres per day (cmpd) capacity is operational at Kalpakkam. It generates potable water at a running cost of 5-6 paisa per litre. A multi-stage flash distillation water desalination plant with a capacity of 4500 cmpd, which uses nuclear heat, is currently under construction and is likely to be completed and commissioned during the Tenth Plan period. A desalination plant based on the low-temperature vacuum evaporation process has been integrated with the CIRUS reactor to demonstrate utilisation of low temperature waste heat for desalination of sea water. Development of a barge-mounted RO plant for deployment in remote areas is also in progress.

2.3.9 Some of the major developments in nuclear medicine include: setting up of the Positron Emission Tomography (PET)-CT Fusion machine at the Tata Memorial Hospital (TMH), Mumbai; Advanced Centre for Treatment, Research and Education in Cancer (ACTREC), Navi Mumbai; medical cyclotron to produce isotopes for PET applications at the Variable Energy Cyclotron Centre (VECC), Kolkata; development of Hydrogel for burn injuries and wounds by BARC; cobalt-60 tele-therapy machine at half the cost of an equivalent imported machine for cancer treatment by BARC and; a digital medical imaging system to replace conventional X-ray machines by the BARC hospital.

2.3.10 In addition, a country-wide service in cancer through telemedicine is planned to network 19 regional cancer centres (RCCs) with TMH through satellite-based tele-medicine links in three phases. Phase I, which involves connecting TMH to Dr. B. Barooah Cancer Institute (BBCI), Guwahati, and Walawalkar Hospital, Dervan, Maharashtra, has been completed. Phase II will link TMH to the centres in Nagpur, Ahmedabad, Gwalior and Hyderabad and all the remaining RCCs will be linked in phase III in a four-year time frame.

2.3.11 A new variety of oilseed viz. TG37A (groundnut) has been released under the Mission Mode programme on application of irradiation technology for farm products. Work on developing pest- resistant and saline-resistant varieties of crops is also under way. A high-dose irradiation plant for spices at Vashi and a low-dose irradiation plant for onion processing at Lasalgaon (KRUSHAK) are functioning. Thirteen entrepreneurs have signed MoUs for setting up irradiation plants for both food and medical use. One of the plants, set up by a private company, OGFL, Kolkata, is already operational and two plants are in an advanced stage of construction. The remaining plants are at various stages of planning/construction. An accelerator-based food processing unit is also being set up at the Centre for Advanced Technology (CAT), Indore.

Space Science and Technology

2.3.12 The first three years of the Tenth Plan have witnessed significant progress in the Indian space programme. With a view to acquiring new capabilities for space communications, the INSAT system capability was augmented with the launch of INSAT-3A, 3E, GSAT-2 and GSAT-3 (EDUSAT) satellites during the first three years of the Tenth Plan. The INSAT system now has 140 transponders on board, being used extensively for telecommunications, broadcasting, developmental communications, tele-health, tele-education and mobile satellite services. INSAT-4A, carrying high-power transponders capable of enabling direct-to-home (DTH) services, is in the final stages of testing and would be launched in May/June 2005. The GRAMSAT developmental communication network was established and operationalised in several states, including remote/tribal areas of Madhya Pradesh, Orissa and the North-East. The INSAT system would be further augmented with the launch of INSAT-4B, 4C and 4D in the next two years, thereby increasing the number of transponders in the INSAT system to more than 200, exceeding the Tenth Plan target of 175 transponders.

2.3.13 The Department of Space has continued to maintain its leadership position in the field of earth observation infrastructure and has been satisfactorily meeting the national imaging demands for supporting the National Natural Resources Management System (NNRMS). It is also providing the necessary disaster management support. The launch and operationalisation of remote sensing satellite Resourcesat-1 (IRS-P6) onboard India's PSLV C5 on 17th October 2003 has been an important achievement in enhancing the earth observation infrastructure of the country. The data from RESOURCESAT-1 and other IRS satellites in orbit have been extensively used for natural resource management applications in the country by various user ministries/departments and other agencies; monitoring the formation of the artificial lake in the Tibetan region; planning relief and rehabilitation activities in the Andaman and Nicobar Islands, severely affected by tsunami. To further consolidate leadership in this field, advanced high-resolution satellites - CARTOSAT-1 and 2 - for cartographic applications would be launched during the remaining Tenth Plan period.

Box 2.3.2
Major achievements in space science and technology

The space programme during the Tenth Plan period has attempted to strengthen the space infrastructure of the country in a self-reliant manner towards meeting the national requirements in the areas of satellite communications, meteorology and natural resource management information. Some of the significant milestones achieved in the first three years of the Tenth Plan are as under:

- Successful launch of INSAT-3A, 3E, GSAT-2 and GSAT-3 (EDUSAT) satellites.
- The number of transponders in INSAT system will be more than 200 by the end of Tenth Plan, exceeding the Plan target of 175 transponders.
- Launch and operationalisation of remote sensing satellite Resourcesat-1 (IRS-P6) on board India's PSLV C5 for enhancing the Earth Observation Infrastructure of the country.
- Launch of METSAT-1 (redesignated as Kalpana-1) for providing improved weather forecasting.
- Operationalisation of the geosynchronous launch vehicle (GSLV), with the first operational flight of GSLV-F01 placing EDUSAT satellite in orbit.
- Establishment of a satellite-based educational network connecting 100 engineering colleges in Karnataka as a demonstration project.
- Establishment of a tele-health network connecting 89 hospitals on a pilot level with 24 super-specialty hospitals serving 65 district/rural area hospitals.
- Setting up of four village resource centres (VRCs) jointly with the M.S. Swaminathan Research Foundation, Chennai, to provide space-enabled services.

2.3.14 The launch of METSAT-1 (redesignated as Kalpana-1) on 12th September 2002 and INSAT-3A on 10th April 2003 carrying very high resolution radiometer (VHRR) and charge coupled detector (CCD)-based cameras have helped provide significantly improved data for weather forecasting. Advanced meteorological instruments such as imager and sounder are being developed to further improve capability in this field. These instruments would be placed on board the INSAT-3D satellite, slated for launch towards the end of the Tenth Plan period. The Government is processing the proposal for the OCEANSAT-2 satellite, equipped with payloads for oceanographic studies including ocean state forecasting, and payload development has begun. METSAT-2, earlier planned for the Tenth Plan period, has been rescheduled to the Eleventh Plan in view of the extended life of METSAT-1.

2.3.15 As envisaged in the Tenth Plan, the polar satellite launch vehicle (PSLV) has been put into regular production after undergoing seven successive successful flights. Indian companies are producing more than 60 per cent of the hardware for PSLV. The PSLV-C6 launch is planned for March/April 2005 to launch CARTOSAT-1 satellite from the recently commissioned second launch pad. The geosynchronous launch vehicle (GSLV) has also been operationalised after completing two successful development flights in 2001 and 2003. The first operational flight of GSLV-F01 took place on 20 September 2004, placing into orbit the EDUSAT satellite, weighing 1950 kg. The launch capabilities of both PSLV and GSLV have been progressively upgraded [PSLV – from 850 kg to 1400 kg for sun synchronous orbit; GSLV – from 1560 kg to 1950 kg for geosynchronous transfer orbit (GTO)]. An advanced launch vehicle, GSLV Mk III, capable of launching 4T INSAT type of satellites into GTO, is also being developed for further upgrading launch capabilities.

2.3.16 With a view to encouraging space science enterprise in the country, the Department of Space has taken up an important planetary mission, Chandrayaan-1, which would be launched in 2007 on board India's PSLV. The main scientific objectives of the planetary mission is to undertake high-resolution remote sensing of the moon in visible, near infrared, low-energy X-rays and high-energy X-ray regions. This will include preparing a three-dimensional atlas of regions of scientific interest on the moon and chemical mapping of the entire lunar surface. In addition, a multi-wavelength dedicated X-ray astronomy satellite ASTROSAT is also under development and is planned for launch in 2007. Both these missions would provide valuable scientific data and a challenging opportunity for space science research in the country involving several scientific institutions of national and international repute.

2.3.17 The Mission Mode programmes of the Department of Space are being implemented as per the targets set out in the Tenth Plan. Several application projects of national importance, such as the Natural Resource Census, natural resource database and large-scale mapping, have been initiated towards operationalisation of the NNRMS. IRS data has also been extensively used for several developmental application projects such as the National Drinking Water Mission, wasteland mapping, bio-diversity characterisation of bio-rich areas of the country and state watershed development/planning. In the area of future-generation launch vehicles, a Space Capsule Recovery Experiment Mission is planned in 2005-06 to validate the re-entry technologies of relevance for future generation re-usable launch vehicles. Further, a technology demonstration initiative on future reusable launch vehicle (RLV) has been taken up. Relevant technologies, such as air breathing propulsion for RLV, are also being developed.

2.3.18 Development of a radar imaging satellite (RISAT) to provide all-weather remote sensing capability for critical applications in the areas of disaster management support, agriculture and other areas, has been initiated and the launch of the satellite is expected in 2007-08. EDUSAT was successfully launched on 20th September 2004 on board India's GSLV F01. A satellite-based educational network connecting 100 engineering colleges has been operationalised in Karnataka. Establishment of a network connecting 880 primary schools in predominantly tribal districts of Karnataka is in an advanced stage of completion. A telehealth network has also been operationalised in the country using INSAT satellites. On a pilot level, 89 hospitals have been connected in the network with 24 super-speciality hospitals serving 65 district/rural area hospitals. Four village resource centres (VRCs) were set up jointly with the M.S. Swaminathan Research Foundation, Chennai, to provide integrated space-enabled services such as tele-education, tele-health, natural resource data, disaster management support, agricultural advisories and other allied services at the village level.

BIOTECHNOLOGY

2.3.19 The activities and programmes of the Department of Biotechnology (DBT) are being pursued through the national laboratories and academic institutions to fulfil the Tenth Plan targets. Biotechnological interventions, primarily by DBT and also other government agencies such as Department of Science and technology (DST), Council for Scientific and Industrial Research (CSIR), Indian Council for Agricultural Research (ICAR) and Indian Council for Medical Research (ICMR), have helped in promoting growth of this sector. During 2003-04, the biotech industry recorded a growth of 39 per cent with a market share of US $ 705 million. However, it still contributes very little to the global industry. The major impact of the technology so far has been felt mainly through public sector-supported research efforts. To further promote innovation and knowledge commercialisation, effective public-private linkages are being fostered. The impact of this promising technology has been felt at the grassroot level as well, with low-cost, affordable technologies/products being made available in the agriculture, environment and health sectors.

2.3.20 Keeping in view the main thrust areas of the Tenth Plan, biotechnological tools have been effectively used for agriculture improvement. Genetically engineered *Brassica* (mustard) expressing transgenes has been developed for high-yielding hybrids by the University of Delhi South Campus (UDSC), Indian Agricultural Research Institute (IARI), New Delhi, and the National Research Centre for Weed Science (NRCWS), Jabalpur with the support of DBT. Transformation studies have also been taken up in other important crops like, cotton, pigeonpea, chickpea and sorghum. Transgenic cotton having insect and viral resistance, fibre strength and heterosis-breeding traits has been developed jointly by UDSC, Delhi, the Central Institute for Cotton Research (CICR), Nagpur, and the University of Agricultural Sciences (UAS), Dharwad. In addition, the National Centre for Plant Genomics Research (NCPGR), New Delhi, has successfully transferred a novel gene to potato for improving nutritional security. Field trials have shown enhanced protein content. Studies are now being undertaken to transfer this gene to rice, cassava and sweet potato.

2.3.21 The Government, through the Genetic Engineering Approval Committee (GEAC), had cleared for commercial cultivation in March 2002 three hybrids of transgenic Bt. Cotton protected against American bollworm, developed jointly by Monsanto (United States) and Mahyco, and commercialised by Mahyco-Monsanto Board, Jalna, as well as a hybrid by Rasi Seeds, Attur, Tamil Nadu in March 2004 for central and south India. These four hybrids have today been planted over 1.3 million acres. In addition, six more hybrids (two each from Rasi Seeds, Ankur Seeds and Mahyco) have been cleared by GEAC in March 2005 for commercial plantation in north India. A programme on bio-fortification of staple crops – rice, wheat and maize – is also being initiated. In the forestry sector, characterisation of genetic diversity is being done for important species. Genetically superior material has been identified in eucalyptus, teak, populus and casuarina. Studies on transformation for desirable traits related to improved productivity have also been undertaken.

2.3.22 Several infrastructure facilities have been set up in public funded R&D laboratories and academic institutions and a number of R&D projects have been taken up for development of molecular medicine and expand stem cell research in the country. Haematopoietic stem cells (HSCs) have been characterised and, for the first time in the country, haploidentical stem cell transplantation has been carried out on 2nd April 2003 for treatment of cancer. It is proposed to establish stem cell city clusters at six locations in the country. Focused and targeted programmes are being considered for human stem cell research with the involvement of clinicians such as plastic surgeons, cardiologists, neurosurgeons, orthopaedicians and others.

2.3.23 Programmes have also been developed on clinical proteomics. Significant progress has also been made towards the development of environmentally safe technologies for pollution abatement and biodiversity conservation as a result of the financial support provided by DBT. These include the oil zapper technology for crude oil spill treatment and petroleum sludge degradation (The Energy Research Institute - TERI) and microbial desulphurisation of fossil fuels and biogas (National Environmental Engineering Research Institute (NEERI), Nagpur). Eco-restoration technologies for restoration of freshwater bodies are being standardised and attempts are being made to transfer to user industries the technologies for detection of pathogens in drinking water, removal of odour from industrial emissions and eco-restoration of mine spoil dumps and degraded ecosystems.

2.3.24 In the area of bio-industrial development, new vaccines/constructs have been developed indigenously and are

Box 2.3.3
Major achievements in biotechnology

The field of biotechnology the world over, as well as in India, has moved with spectacular speed towards developing a better understanding and insight into life processes and addressing many problems concerning mankind. Its impact in the health, agriculture, environment and industrial sectors has given a new dimension to the development process. During the Tenth Plan, there has been a paradigm shift in basic research in modern biology and technology development. Significant developments include:

- Development of genetically engineered *Brassica* expressing transgenes for high-yielding hybrids.
- Successful transfer of a new gene to potato for increasing protein content and improving nutritional security.
- Characterisation of haematopoietic stem cells (HSCs) for the first time in the country, and transplantation of haploidentical stem cell for treatment of cancer.
- Development of environmentally safe technologies for pollution abatement and biodiversity conservation, viz. oil zapper technology for crude oil spill treatment and petroleum sludge degradation and technology for microbial desulphurisation of fossil fuels and biogas.
- Development of new vaccines/constructs for cholera, anthrax, rabies and childhood diarrhoea.
- Development of a diagnostic test for Japanese encephalitis and licensing to Xycton, Bangalore.
- Establishment of human skeleton muscle culture technique (HSMCs).
- Whole genome sequencing of a typical Indian isolate *Mycobacterium* and clinical trial of this strain as leprosy immunotherapeutic.
- Completion of biodiversity characterisation at landscape level through remote sensing tools for the two hotspots in the North-East and Western Ghats and also Western Himalaya and Andaman & Nicobar Islands.
- Development of an efficient procedure for transesterification of *jatropha* oil to produce methyl esters.

undergoing trials. These include rotaviral vaccine for childhood diarrhoea (by the All India Institute of Medical Sciences (AIIMS), New Delhi), the Centre for Disease Control and Prevention (CDC), Atlanta, United States, and Bharat Biotech International Ltd., Hyderabad, along with financial assistance from the Bill-Melinda Gates Foundation); vaccines for cholera (by AIIMS, New Delhi and Indian Institute of Science (IISc), Bangalore); anthrax (by Jawaharlal Nehru University (JNU), New Delhi and Panacea Biotech Ltd., New Delhi) and; rabies (by IISc, Bangalore, and Indian Immunologicals Ltd (IIL), Hyderabad). A diagnostic test for Japanese encephalitis was also developed and commercialised. This technology has been licensed to Xycton, Bangalore, and the kits are being marketed under the brand name 'JEV-CHEX'. Vaccines and diagnostics for animal and marine health have also been successfully developed and commercialised and are being marketed by Mangalore Biotech Laboratories, Cochin. In addition, technologies in the areas of biofertilisers, biopesticides and plant tissue culture have also been commercialised, which include Bioprahar and Ecorrhiza.

2.3.25 In order to further promote bio-industrial development in the country, the Department of Biotechnology has proposed a Biotechnology Innovation Fund to develop and commercialise bioprocesses and products by promoting entrepreneurship through development of partnership with innovators from universities, national R&D institutions, academic institutions and industry. This will be operationalised during the remaining period of the Tenth Plan through public-private partnership.

2.3.26 Simplification of regulatory assessment of biotech products has been achieved through two committees, namely, the Task Force on Applications of Agricultural Biotechnology and the Pharmaceutical Research and Development Committee. The new regimen will be introduced from April 2005. In addition, a proposal for a National Biotechnology Regulatory Authority is being developed under the auspices of an inter-ministerial group. A single-window clearance committee is also being proposed in consultation with the Ministry of Environment and Forests and other administrative ministries/departments to deal with applications related to various clearances required for commercialising recombinant products.

2.3.27 Mission mode programmes in the areas of genomics, new drugs and molecules from important medicinal plants, bioresource characterisation and inventorisation and documentation of endangered eco-system, biofuels, vaccines, and food and nutritional security have been progressing well. Under the genomics programme, polymorphism in genes has been genotyped for identification of genes that cause or predispose Type 2 diabetes. A human skeleton muscle culture (HSMC) technique has been established. Whole genome sequencing of a typical Indian isolate *Mycobacterium* has also been implemented. This strain has been used as a leprosy immunotherapeutic and clinical trial has been carried out using this strain.

2.3.28 Under the programme for development of new drugs and molecules from important medicinal plants, several lead molecules – including 12 anti-cancerous, three anti-diabetic and 15 having immunomodulatory properties – have been identified. Biodiversity characterisation at landscape level through remote sensing tools has been completed for the two hotspots in the North-East, Western Ghats and also Western Himalaya and Andaman & Nicobar Islands. The first phase of four inventories on medicinal, other economically important plant, microbial and marine have been completed. As a part of the Mission Mode programme on biofuels, bioenergy plantations have been set up in five different locations and cultivation and demonstration of quality planting material of *jatropha* has been initiated at 12 different locations covering a total area of 500 hectare. An efficient procedure for transesterification of *jatropha* oil has been developed to produce methyl esters.

2.3.29 Vaccines for rotaviral diseases, rabies, HIV/AIDS, cholera and tuberculosis are in advanced stages of development. In the area of food and nutritional security, the thrust is on development of low-cost nutrient food supplements, health food/nutraceuticals, food additives, biofunctional foods and value-added products from agricultural residues. An important area is development of zinc as an immunomodulator for prevention of diarrhoea and pneumonia in children. Technology for stable, low-cost dispensable zinc formulation is being transferred to ORS manufacturing companies in partnership with the World Health Organisation.

2.3.30 Under capacity-building, human resource development has been strengthened and M.Sc. (biotechnology) was supported in nearly 60 universities with an annual intake of approximately 900 students. Ph.D. and post-doctoral fellowships have been instituted in addition to overseas associateships for in-service scientists. An effective bioinformatics network has also been established across the country with five centres of excellence, 10 distributed information centres (DICs) and 49 sub-DICs. Ph.D, M.Tech. and post-graduate diploma courses in bioinformatics have also been started.

2.3.31 The societal development programme has had a good impact on the Scheduled Castes/ Scheduled Tribes (SC/ST), rural and women target groups. Nearly 65,000 person including 12,000 women have been benefited through application of proven biotechnologies in the area of medicinal plant, vermicompost, biofertiliser, biopesticide, etc.

Science and Technology

2.3.32 The Department of Science and Technology (DST) has been playing a pivotal role in the promotion of S&T in the country. Support to basic research, cutting across disciplines and institutions, by DST has enabled Indian scientists to perform at a globally competitive level in several areas of science and engineering and contribute to technology dêvelopment of interest to Indian industries. A large number of publications in internationally and nationally referred journals and IPR in the form of Patent Cooperative Treaty (PCT) filings through the Patent Facilitating Cell have resulted from these efforts. However, as the intellectual property protection plays a key role in gaining an advantageous position in the competitive technological game for achieving economic growth, there is a need to generate greater awareness among scientists.

2.3.33 A number of Indian scientists have received international recognition by being elected to international academies such as the Third World Academy of Sciences. A large number of scientists, including young scientists, were encouraged to participate in international S&T conferences abroad to enable them to interact with the global scientific community.

2.3.34 In line with the objectives/targets laid down in the Tenth Plan, DST is preparing a proposal for establishing National Science and Engineering Board/Foundation. In order to build strengths in areas like nanotechnologies, nine centres have been established in the country for carrying out R&D in the area of nanoscience and technology. A proposal to launch a mission on nanoscience and technology has been prepared and is under consideration for approval by the appropriate authorities. Some of the facilities for building strengths in molecular electronics have also been established. The department is actively considering proposals for establishing a synchrotron facility and a six-eight-metre optical telescope. Advance materials and composites, information and communication technology and microelectronics are being tried for higher value addition in various products, including agriculture and agro-food processing.

2.3.35 The department has been able to sustain a steady flow of competent scientists to carry out the research programmes through innovative programmes like establishment of core groups/centres of excellence in technical educational institutions, creation of specialised research facilities in universities and other R&D institutions and systematic manpower development schemes. Considering that a large number of young students today opt for careers other than scientific research in a highly competitive environment, these programmes have a major significance in maintaining national S&T competence. A comprehensive scheme for training scientific manpower working in the Central scientific departments has also been initiated.

2.3.36 The Women Scientists Scheme of DST provides new opportunities to S&T-trained women who wish to contribute to research or engage in other S&T-based employment including self-employment. About 300 women scientists have so far benefited through this scheme. Active participation of industry and academic institutions has been ensured under drugs and pharmaceuticals research and in various other technology development and demonstration programmes of the Technology Information, Forecasting and Assessment Council (TIFAC). The department is also taking various initiatives with Indian diaspora to attract scientists and technologists of Indian origin (STIOs) to share their expertise and involve them in Indian S&T initiatives.

2.3.37 Inter-disciplinary studies involving multi-disciplinary capabilities in research, instrument design and manufacture has led to several first-of-its-kind programmes in the country. The Squid-based MEG system for human brain studies, Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam; establishment of a linear accelerator with conformal radiotherapy and intensity modulation radiotherapy at the Sanjay Gandhi Post-Graduate Institute of Medical Science (SGPGIMS), Lucknow; the high-resolution NMR facility for biomedical research at the Advanced Centre for Biomedical Research (ACBR), Delhi, are unique examples of high S&T expertise being mobilised to address basic health problems of the population. It has also been possible to deploy cutting edge science in a number of frontline areas including nanotechnology, materials technology and biotechnology. These relate to new properties of carbon nano tubes, structural biology of plant lectins, plasma enhanced chemical vapour

Box 2.3.4
Science and technology for women

The S&T programme for women, being implemented by DST and DBT is aimed at empowerment of women through application of S&T. Under this programme, support is provided to projects aimed at identifying gap areas relating to technological needs of women, development and adaptation of technology or transferring the available ones for the benefit of women. Some of the major initiatives taken up during the Tenth Plan include:

- Fellowships to women scientists to pursue research in frontier areas of science and engineering, societal problems requiring S&T intervention and for undergoing S&T-based internship leading to self-employment
- Establishment of women technology parks at Assam and Maharashtra and a women biotechnology park at Chennai.
- Training complexes established for women in the field of seritechnology (Mysore), for aquaculture practices (Mangalore), cultivation and processing of jute with pisciculture (West Bengal) and bioinformatics in organic cultivation of traditional and non-traditional crops (Uttaranchal).
- Demonstration and transfer of proven technology packages for skill upgradation and income and employment-generation activities relating to value-added products from bioresources, aquaculture, floriculture, vermi-composting, poultry, medicinal and aromatic plants, mushroom cultivation and sericulture.
- Coordinated programmes on fodder management, development of prevention and intervention strategies for nutrition-related non-communicable disorders among women, vector control with community participation, post-harvest utilisation technology of seaweed, diversified products from lac, pottery and ceramics.

Box 2.3.5
Major achievements of the Department of Science and Technology

The Department of Science & Technology (DST) has been playing a pivotal role in the promotion of science & technology in the country. Support to basic research cutting across disciplines and institutions has enabled Indian scientists to perform at a globally competitive level in several areas of science and engineering and contribute to technology development of interest to Indian industries. Some of the important initiatives taken up by DST during the first three years of the Tenth Plan are:

- Establishment of a Centre for Soft Computing Research at the Indian Statistical Institute (ISI), Kolkata.
- Creation of major research facilities in R&D institutions for mobilisation of high science and technology expertise to address basic health problems of the population and also national facilities in the areas of nano-materials science and technology.
- Launch of National Mission for Bamboo Application (NMBA), which seeks to develop and promote environment-friendly, value-added, bamboo-based products, practices, technology and processes, including wood substitutes.
- Cutting edge science in frontline areas relating to carbon nano tubes, structural biology of plant lectins, plasma enhanced chemical vapour deposition (PECVD) for photonic devices and specific drug development.
- Launch of a Seismology Mission for setting up of multi-parametric geophysical observatories and upgradation of a strong national motion instrumentation network.

deposition (PECVD) for photonic devices and specific drug development. Through the Fund for Infrastructure in Science & Technology Instititution (FIST) initiative, a systematic strengthening of research infrastructure in a large number of university departments has taken place, that not only raises the level of research but also contributes to attracting fresh young talent to the Indian research sector.

2.3.38 Among the various Mission Mode programmes identified during the Tenth Plan, the National Mission for Bamboo Application (NMBA) has been launched. It is multi-disciplinary and multi-dimensional in its approach and seeks to develop and promote environment-friendly, value-added bamboo-based products, practices, technology and processes, including wood substitutes. A corpus of Rs.150 crore has also been created to pursue drugs and pharmaceuticals research programmes in the country. The seismology mission has been launched with a view to setting up multi-parametric geophysical observatories and upgradation of national strong motion instrumentation network. A "National Nanotechnology Mission" is also under consideration of the Government, keeping in view the tremendous applications of this technology in the areas of drug delivery, surface coatings/engineering, sensor devices, nano electronics, etc. In addition, the department is according high priority to the instrument development programme and technology business incubator (TBI) programme and 12 TBIs have already been established.

Ocean Sciences

2.3.39 The Department of Ocean Development is actively engaged in exploratory surveys for assessment of living and non-living ocean resources through a series of dedicated cruises of the fisheries and oceanographic research vessel (FORV) during summer monsoons, winter monsoons and inter-monsoons. Dedicated cruises were also undertaken for summer monsoon and winter monsoon coverage of the Bay of Bengal. The Andaman Sea was also surveyed through five dedicated cruises. A centralised FORV Data and Referral Centre has been set up at the

Centre for Marine Living Resources and Ecology, Kochi. Survey and exploration for polymetallic nodules (PMN) is also being carried out in 92 blocks (316 stations) out of about 500 retained blocks at a closer grid interval of 6.25 km, to refine resource estimation further and to identify first-generation mine sites. Sampling of 120 stations has already been completed and the balance stations would be sampled within the Tenth Plan period.

2.3.40 With a view to protecting and preserving marine environment, the quality of coastal waters is being assessed continuously at 82 locations along the coastline of the country including areas of concern like Mumbai, Kochi, Veraval, Veli, Tuticorin, Cuddalore, Chennai, Kakinada and Visakhapatnam. The results have indicated that the pollution levels have remained constant over the years. No decrease of pollution has been found in the waters off Mumbai except at Versova. Technology development activities have led to indigenous development of moored data buoys with INSAT communications at almost one-third of the cost of imported data buoys. Tide gauges have also been indigenously produced and the American patent on tide gauge has been received. Integrated coastal and marine area management plans developed for Chennai, Goa and Gulf of Kachchh demonstrated the use of GIS, remote sensing and mathematical modelling in developing integrated management solutions.

2.3.41 To establish ocean-related information system, a dynamic website and ocean portal was commissioned at the Indian National Centre for Ocean Information System (INCOIS) for ocean data mining and warehousing of a variety of ocean-related collection through various national and international efforts. The INCOIS website (www.incois.gov.in) matured as a prime vehicle for delivery of ocean data, information and advisories. A set of 10 information kiosks, one each in the coastal states of India, was installed in fishing harbours for dissemination of potential fishing zone (PFZ) information. The Ocean State Forecast Services was also launched on an experimental basis for safe operations and travel at sea. In addition, India has established a regional alliance in the Indian Ocean on Global Ocean Information and Observation System (IO-GOOS) at the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, with 21 organisations from different countries. As a part of the commitment for deployment of 150 Argo floats in the Indian Ocean under GOOS and to improve the delivery of ocean information, 60 Argo floats have been deployed for real-time data acquisition in respect of conductivity and temperature profiles around the place of deployment. In addition, three-current meter array moorings have been deployed in the equatorial region.

2.3.42 As a part of technology development for exploitation of nodules from deeper depth in phases, a shallow bed-mining system has been thoroughly refurbished. Design and development of crusher and collector for nodules for greater depth is in progress and is expected to be developed as envisaged by the year 2007. In addition, the design of the unmanned submersible has been taken up by the National Institute of Ocean Technology (NIOT), Chennai. Demonstration of the system is scheduled during the year 2005. A semi-commercial pilot plant of 500 kg/day capacity was commissioned at Hindustan Zinc Limited (HZL), Udaipur, for exploitation of nodules, and a shallow bed mining system at a depth of 500 metres would be demonstrated in 2005.

2.3.43 In addition to the yearly scientific expeditions to Antarctica, the National Centre for Antarctic and Ocean Research (NCAOR), Goa, has set up an ice core laboratory equipped with state-of-the-art storage and processing facilities maintained at -20^0 C and -15^0 C for strengthening front-ranking research in polar sciences. A team of five scientists was specially deputed for conducting scientific experiments during the total solar eclipse that occurred on the midnight of 23/24 November 2003, near Maitri Station in Antarctica. A site has also been identified for a new station at Antarctica in the central part of Larsenmann Hill on the basis of a reconnaissance survey. The department has also decided to set up a Centre of Excellence in Ocean Science & Technology

Box 2.3.6
Major achievements in ocean sciences

The programmes/activities of the Department of Ocean Development have long-term technological implications and are aimed at development of technologies for exploration and sustainable exploitation of vast marine resources both living and non-living and management of the marine eco-system. Some of the important achievements during the Tenth Plan include:

- Setting up of a centralised FORV Data and Referral Centre at the Centre for Marine Living Resources and Ecology, Kochi.
- Completion of sampling for survey and exploration for polymetallic nodules (PMN) in 120 stations at a closer grid interval of 6.25 km to refine resource estimation further and to identify first-generation mine sites.
- Continuous assessment of the quality of coastal waters at 82 locations along the coastline of the country with a view to protecting and preserving the marine environment.
- Indigenous development of moored data buoys with INSAT communication at almost one-third of the cost of imported data buoys and deployment of a 20-buoy network in the Indian Ocean.
- Indigenous development of tide gauges and patenting in the United States.
- Development of integrated coastal and marine area management plans for Chennai, Goa and the Gulf of Kachchh.
- Commissioning of a dynamic website and ocean portal at INCOIS for Ocean Data Mining and Warehousing.
- Establishment of a regional alliance in the Indian Ocean on Global Ocean Information and Observation System (IO-GOOS).
- Deployment of 60 Argo floats for real-time data acquisition in respect of conductivity and temperature profiles.

at the Ocean Science & Technology Cell in Marine Biology, Annamalai University, Tamil Nadu.

2.3.44 In the wake of the recent Indian Ocean tsunami, which is considered to be one of the strongest in the world in the past 40 years, resulting in extensive loss of life and property in several coastal areas of the Indian Ocean, the Department of Ocean Development has been given with the responsibility of putting in place a early warning system for tsunami and storm surge in the Indian Ocean region with an ultimate objective of saving lives and property. The total cost of this system has been estimated at Rs.125 crore and is expected to be operationalised within a period of 30 months.

2.3.45 The Mission Mode programme on development of drugs from sea has been initiated by the Department in phases. As a part of the programme, systematic collection of identification of leads has been accomplished and the focus is now on product development in seven major areas viz. anti-diabetic/anti-diarrhoeal; anti-hyperlipidaemic; anti-anxiety; anti-hyperglycaemic; anti-bacterial/anti-fungal; anti-tumour/anti-cancer and; larvicidal. Clinical trial of anti-diabetic compound has been commissioned in two hospitals. Two patents have been filed to protect the IPR. The department has also undertaken an initiative for large-scale technology demonstration of an ocean thermal energy conversion (OTEC) plant (one MW capacity). Due to the logistic constraints of deployment and rough sea conditions along with other unforeseen factors that developed during the two deployment attempts made so far, the full deployment of the plant has not been achieved so far. Under the technology development programme for gas hydrates, NIOT, Chennai, has already completed the design of the submersible and specifications for sensors required for gas hydrate studies and the same would be ready by May/June, 2005, for demonstration and sample collection. An Indo-Russian Centre for Gas Hydrate studies has been set up at NIOT to carry out various studies related to gas hydrates.

Scientific and Industrial Research

2.3.46 The Department of Scientific and Industrial Research (DSIR) has been primarily engaged in promotion of industrial R&D; development of new technologies and processes; acquisition, management and export of technologies; and development of consultancy capabilities, under the Technology Promotion, Development and Utilisation (TPDU) Programme. This has resulted in establishment of strong linkages between industries and national research organisations. Thirty-seven technology development and demonstration projects involving over 32 industrial units have been completed, resulting in commercialisation of a number of products and processes.

2.3.47 Significant developments have taken place in the CSIR during the period. The development of R&D projects and their implementation have undergone a sea change. CSIR developed synergistically linked large network projects spanning across the organisation. At the same time, through the New Millennium Indian Technology Leadership Initiative (NMITLI), it has evolved large projects in the public-private partnership (PPP) mode with external organisations, including industry. The effort under network projects is to organically link the vast competencies developed across laboratories and to draw upon the cumulative strength of CSIR. This paved the way for it to move away from laboratory-centric projects to large, impact-making, organisation-centric projects.

2.3.48 During the period, CSIR developed and put in place 55-networked projects covering several S&T areas. Some of these projects are: Spearheading small civilian aircraft design development and manufacture; molecular biology of selected pathogens for developing drug targets; scientifically validated herbal preparations for global positioning; traditional knowledge digital documentation and library; environment-friendly leather processing technologies; exploration, assessment and management of ground water; globally competitive chemical processes and products; cell and tissue engineering; developing green processes for organic chemicals, etc. In the process, it has also established a strategic partnership with Indian industries for carrying out innovative R&D. Some of the major industries which partnered with CSIR are Reliance, Atul, Chatterjee group companies, Tata group of companies, BHEL, Lupin, Cipla, Dabur, Nicholas Piramal, Hindustan Aeronautics, etc.

2.3.49 CSIR has achieved a commendable feat by designing and developing a 14-seater light transport aircraft – SARAS – particularly useful for the difficult terrains of north-eastern states and small towns across the country. Based on the results of several test flights of SARAS, certain structural modifications are being made, including weight optimisation. Indian Air Force has shown interest in buying six aircraft for training programme. A traditional knowledge-based digital library (TKDL) has resulted in creation of a Traditional Knowledge (TK) - Ayurveda database containing 36,000 formulations in five international languages. Several environment-friendly leather-processing technologies have been standardised, which include: Less salt curing methodologies, enzyme assisted de-hairing of goat skins, closed-loop pickle-tanning system, pickle-less tanning, and water-saving methodologies. The other important application-oriented technologies developed by CSIR are: Disease-resistant rice variety, biodiesel from *jatropha*, 'Asmon' polyherbal medication that provides relief and succour in bronchial asthma, anti hypertensive drug s-amlodipine, biorefining of rice bran oil, new rare earth based glass and glass-ceramic phosphors developed for compact fluorescent lamps and cathode ray tube display screens; brackish water desalination plant for rural population, ceramic membrane-based technology for removal of arsenic and iron from contaminated ground water, etc.

2.3.50 The technology transfer to industry has also kept the desired pace and as many as 85 new knowhow/technologies have been licensed to various industries during the period under review. These include, naphtha and natural gas to liquified petroleum gas (LPG) and high-octane gasoline, a 1500-tonnes per annum (tpa) plant for conversion of starch to D-gluconates, Sonalika tractor, etc. Continuing with its commitment to provide technological support for basic human needs through research and development, CSIR developed RO plants to enhance the potability of water. These plants of diverse capacities were installed at various places, including tsunami-affected areas. CSIR has also developed an RO plant with a capacity of one million litres a day for generating processed water from sewage water at the Chennai Petroleum Corporation Limited (CPCL), Chennai. Two full-scale demonstration common effluent treatment plants at Dindigul and Erode have been designed based on an integrated approach of in-plant control and end-of-pipe treatment solution.

2.3.51 Significant scientific achievements have also been made in respect of other programmes viz. gene silencing for a possible therapy for cancer and other related diseases; exploration and exploitation of the country's microbial wealth for novel compounds and bio-transformation processes; novel therapeutic strategies to tackle leishmaniasis; synthetic peptide-based nanotubes useful for DNA material for gene therapy and also for making biochemical sensors; a smart biosensor based on ion-sensitive field effect transistor (ISFET); biodegradable polymers from sugarcane bagasse; study of mesozoic sediments for hydrocarbon exploration; pollution control and monitoring devices for air, water and solid

Box 2.3.7
Technological developments at CSIR

During the Tenth Plan, significant developments have taken place in CSIR. On the one hand, CSIR has developed synergistically linked large network projects spanning across the organisations and on the other, it has evolved large projects in the public-private partnership (PPP) mode with external organisations including industry, through the New Millennium Indian Technology Leadership Initiative (NMITLI). CSIR has also established strategic partnership with Indian companies for carrying out innovative research and development. Some of the major industries which partnered with CSIR are Reliance, Atul, Chatterjee group companies, Tata group companies, BHEL, Lupin, Cipla, Dabur, Nicholas Piramal, Hindustan Aeronautics, etc. During the first half of the Tenth Plan, it has filed 827 patents in India and 1223 patents abroad, resulting in grant of 384 US patents. The number of US patents granted in this period surpasses the cumulative figure of previous years, a remarkable achievement indeed. Its contribution to basic research over the years has also been increasing, and its average impact factor per paper (AVIF) has gone up to 1.75 in 2003 from 1.55 in 2000. Some of the significant technological developments include:

- Design & development of a 14-seater light transport aircraft-SARAS.
- Creation of a traditional knowledge (Ayurveda) database containing 36,000 formulations in five international languages.
- Environment-friendly leather processing technologies.
- Application-oriented technologies like disease resistant rice variety, biodiesel from jatropha, 'Asmon'- polyherbal medication, an anti-hypertensive drug, biorefining of rice bran oil, new rare earth-based glass and glass-ceramic phosphors for compact fluorescent lamps and cathode ray tube display screens, brackish water desalination plant for rural population, ceramic membrane-based technology for removal of arsenic and iron from contaminated ground water, etc.
- A comprehensive, portable and versatile software package - 'BioSuite' - for bio-informatics.
- A new therapeutic molecule for tuberculosis.
- An oral herbal formulation for the treatment of psoriasis.
- A novel catalyst for deep desulphurisation of diesel to reduce sulphur content to less than 50 ppm.

waste; development of microwave electron tube technology, etc.

2.3.52 The NMITLI has emerged as India's largest and best managed public-private partnership scheme. Its basic objective is to catalyse innovation-centred scientific and technological developments as a vehicle to attain for Indian industry a global leadership position in select niche areas in a true 'Team India' spirit by synergising the best competencies of publicly funded R&D institutions, academia and private industry. It has catalysed 33 projects involving 220 partners – 55 of them from the private sector – in setting new technological paradigms in diverse S&T areas such as liquid crystals, nano materials, fuel cells, industrial chemicals, catalysts, bio-informatics, drugs and pharmaceuticals, biotechnology, etc. The initial successes under the scheme cover development of a comprehensive, portable and versatile software package – 'BioSuite' – for bio-informatics that was launched in the United States and India, discovery of a new therapeutic molecule for TB and filing of an investigational new drug (IND) application, an oral herbal formulation for the treatment of psoriasis and filing of IND, a novel catalyst for deep desulphurisation of diesel to reduce sulphur content to less than 50 ppm, systematic scientific validation of different chemotypes of ashwagandha, development of new varieties of mentha, etc.

2.3.53 CSIR continued its efforts in innovation-driven R&D pursuits to nurture and develop patentable new ideas and concepts. During the first half of the Tenth Plan, it has filed 827 patents in India and 1223 patents abroad, resulting in grant of 384 US patents. The number of US patents granted in this period surpasses the cumulative figure of previous years, a remarkable achievement indeed. Further, CSIR not only stayed ahead as filer of the highest number of international patents from India but also achieved the distinction of occupying the first position in filing of Patent Cooperation Treaty (PCT) applications among developing nations in 2002.

2.3.54 The steady emphasis on excellence in research in frontier areas has enabled CSIR to publish research papers in high-impact factor journals. Its average impact factor (AVIF) per paper has gone up to 1.75 in 2003 from 1.55 in 2000. CSIR continued to be one of the significant contributors of research papers emanating from India. During this period, CSIR has also trained a large number of researchers and thus contributed to the human resource development effort of the nation.

Generic Issues Relating to the S&T Sector: An Assessment

2.3.55 The Indian S&T system has progressed well in several sectors during the last few years and has established global competitiveness. Significant progress has also been made in the implementation of various S&T programmes/ activities and a number of technologies have been developed and transferred to the users. There has also been significant improvement in establishing linkages between the industry and research institutions/laboratories for the development and marketing of technologies. A number of S&T programmes are being implemented in mission mode, not only for knowledge generation but also for improving the quality of life of the common man. However, several areas of concern have also emerged. For the country to derive full benefit from its S&T capabilities, it would be necessary to take appropriate steps to strengthen the S&T system for overall economic and social development. This may require additional allocation of resources and revamping of the system. Some of the major issues are discussed in the following paragraphs.

Apex Level Policy Guidelines Mechanism

2.3.56 With the constitution of Science Advisory Council to the Prime Minister (SAC-PM), the existing S&T mechanisms like the Cabinet Committee on Science and Technology (CCST), the Science Advisory Committee to the Cabinet (SAC-C) and the Consultative Group of Government Departments/Agencies on Science and Technology (CGDST) need to be activated for providing policy directives, defining priorities and reorienting the S&T system to suit changing needs. Effective programme implementation will become key to making rapid progress.

Giving Impetus to Basic Research

2.3.57 There is need for setting up a National Level mechanism on the lines similar to those of National Science Foundation (NSF) of USA with necessary administrative and financial powers to act as an apex body for evolving an overall policy framework and for promoting and supporting basic research, building strengths in chosen emerging areas of S&T, coordinating with various scientific departments/ agencies to evolve a focused approach that avoids overlapping in areas of research and funding and ensures a greater degree of integration and focus to national level priorities. The proposed mechanism could be in the form of 'Indian Science Foundation (ISF)' and tasked with supporting all fields of fundamental science and engineering, identifying relevant new initiatives and the leading Indian scientists in the field and providing necessary guidance and for enabling them to excel. In addition to funding basic research in the traditional areas, the proposed ISF may identify and support "high risk, high pay off" ideas.

Encourage Investments by Industry in R&D

2.3.58 Experience across the world has shown that a strong linkage between R&D laboratories and the industry and an enabling environment to commercialize laboratory knowledge are necessary to exploit the Science and Technology capabilities for economic development. In India, this linkage has traditionally been weak. Since 1990s there has been increasing awareness among industries that a knowledge portfolio is a necessity for attaining competitiveness in the marketplace. As a result, sizable investment in R&D has taken place in sectors such as, pharmaceutical research, biotechnology and more recently in manufacturing (Automobile) sector. However, this is yet to percolate into other sectors in a big way. Consequently, while the Government has been trying to increase investments in R&D per capita over the last several years, the contribution of industry is still less than 30 per cent of the total R&D investments. Considering that in most of industrially advanced countries, the non-governmental contribution exceeds 70 to 80 per cent , there is need for more concerted efforts to attract investments by industry in R&D. One way of doing this could be through creation of a fund from R&D cess on sales turn over, which could be used by the industry itself for undertaking R&D in its areas of operation. Several initiatives taken by Science Departments like the Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR) in building public-private partnership in R&D also need to be strengthened and expanded.

Strengthening of University Research

2.3.59 The Universities are the cradles of basic research. However, over the years, there has been significant decline in the R&D activities being undertaken by universities due to erosion of the research base. It is therefore necessary to remedy this situation by strengthening of research infrastructure in the university system. This would require a policy framework that incentivises those among the faculty that undertake research. Faculty positions in the Universities and colleges will also need augmentation so that teachers can devote sufficient time to research. Additionally, the concept of research project as a part of the degree requirement may be introduced in Post Graduate courses.

Greater Autonomy and Flexibility

2.3.60 A stagnation of scientific output in India, in terms of number of scientific publications and citations, has been a major concern. Increasing bureaucratization of the scientific establishments and weakening of the university system has likely contributed to this stagnation. Experience across the world has shown that, to increase the knowledge portfolio of a country, it is necessary to increase investment per scientist for research and also increase the number of scientists per unit population. There is reason to believe that we may be slipping in relative terms. While the number of scientists per unit population in China has grown ten fold in last one decade, in India it has stagnated and the value is much below the corresponding number for industrially advanced nations. Further, bracketing scientists as yet another category of Government employees has brought in several distortions in the system. Research in futuristic areas involves a great deal of risk taking. Funding decisions for research cannot, therefore, be subjected to the same set of audit guidelines as other routine Government activities and this practice has weakened the decision making process in the scientific system. Keeping this in view, the S&T Departments, especially the autonomous scientific institutions, need much greater autonomy and flexibility in their operations and removal of all hurdles in the recruitment of scientists i.e. greater financial powers, freedom in appointment and placement of scientists and technologists without the usual government ban on recruitments, assuring career prospects for young scientists etc.

Ensuring S&T inputs in all major programme of Development Departments

2.3.61 Among the thrust areas of S&T during the Tenth Five Year Plan is the identification of technological choices, investment decisions and the S&T interventions necessary for the individual sectors, so as to make all socio-economic ministries and states the real stakeholders of S&T. Science and Technology Advisory Committees (STACs) have been set up in 24 development departments/socio-economic ministries like Agriculture & Cooperation, Animal Husbandry & Dairying, Chemicals & Petrochemicals, Civil Aviation, Commerce, Fertilizers, Heavy Industry, Information & Broadcasting, Labour, Power, Railways, Telecommunication, Shipping & Water Transport, Steel, Coal, Petroleum and Natural Gas, Water Resources etc. for providing S&T inputs in the implementation of various developmental programmes. Majority of these STACs have become non-functional. There is a need to activate the Science and Technology Advisory Committees (STACs) and the Inter-Sectoral-STAC mechanism of DST for ensuring specific S&T component in their developmental programmes to improve effectiveness.

Support for Technology Development and Demonstration Programmes

2.3.62 It would be prudent to evolve a technology development and demonstration mechanism at the National level, which would ensure that only relevant technology development programmes are pursued with participation from user agencies and industries. In addition, it is necessary to strengthen the Industry-academia interface for smooth transfer of technology and protection of intellectual property rights, addressing not only the issue of filing of patents but also their commercial exploitation for resource generation. The Tenth Five Year Plan envisaged establishment of Industry S&T Interface Institutions (ISTI), with technology management centers manned by qualified personnel. This would need to be pursued expeditiously.

Promoting Human Resource development and Excellence in Science

2.3.63 The world today is witnessing, not only globalization of trade and commerce but also globalization of education and employment. Consequently, the job market for skilled hands and knowledge workers has also been globalised. This has resulted in a large number of Indian students migrating to other countries and also into careers other than scientific research. While migration of bright students to other countries might some times reverse and lead to brain circulation and benefit the country in the long run. Migration of bright students to non-science career options is irreversible and permanently weakens the science streams. The problem is further complicated because of the weakening of University and other educational system where quantity overtake quality. The number of scientists and engineers in R&D per thousand population in India is about 0.10 as compared to 3 to 5 in the developed countries. There is need for pro-active steps to strengthen the educational system, particularly the higher education, where the future scientists are trained. The present policy of many universities on freezing faculty appointments and State Governments not having adequate funds for supporting the activities of the universities are resulting in untold damage to the educational system. This situation need to be remedied and the education system, in particular higher education needs to address this problem. The existing HRD programmes pursued by various departments/ agencies also need to be strengthened. We need to launch special initiatives of creating world class R&D facilities and providing competitive compensation to scientists to arrest flight of human capital.

Bright young students need to be picked up at 10+ stage itself and groomed, assuring them reasonable assured career opportunities by creating positions at different levels including supernumerary positions.

Energizing the State S&T Councils and making them effective vehicle for dissemination and transfer of technology

2.3.64 With a view to using Science and Technology as an effective tool for economic development and to utilize the vast scientific and technological potential existing in the States and Union Territories, an apex level body (The State Science and Technology Council) has been set up in almost every State. However, most of these State S&T Councils have become dormant and the activities are getting restricted to science popularization. In order to provide new dynamism to the application of S&T for development, the State S&T Councils needs to be activated so that they can serve as effective vehicles for dissemination and transfer of technology at the State/UT level.

THE WAY FORWARD

- Activate all the existing apex-level S&T mechanisms for providing policy directives, defining priorities and reorienting the S&T system to suit changing needs as well as for effective programme implementation.
- Set up a national-level mechanism — viz. an Indian Science Foundation — similar to the National Science Foundation (NSF) of the United States for supporting basic research in all fields of science and engineering.
- Make concerted efforts to attract investments in R&D from industry through a mechanism such as the creation of a fund from R&D cess on sales turnover.
- Strengthen research in universities significantly by adopting a multi-pronged approach. Provide incentives to faculty for undertaking research, augment faculty positions so that teachers can devote sufficient time to research and introduce the concept of research projects at the post-graduate level.
- Provide S&T departments and institutions with greater autonomy and flexibility in their operations, especially greater financial powers, freedom in appointment and placement of scientists and technologists without the usual government ban on recruitments, assuring career prospects for young scientists, etc.
- Activate the science and technology advisory committees (STACs) of various development departments and the inter-sectoral STAC mechanism of DST in order to ensure specific S&T components in terms of technological inputs to improve the effectivness of various developmental programmes.
- Strengthen the industry-academia interface for smooth transfer of technology and protection of intellectual property rights. Pursue the proposed establishment of industry-S&T interface institutions with technology management centres.
- Strengthen the existing HRD programmes pursued by various departments/agencies. Launch initiatives for creating world-class R&D facilities and providing competitive compensation to the scientists to arrest flight of human capital. Identify and groom bright young students at the 10+ stage itself, ensuring them reasonable, assured career opportunities by creating positions at different levels including supernumerary positions.
- Activate the states' S&T councils so that they can act as an effective vehicle for dissemination and transfer of technology at the state/Union Territory level. This will provide a new dynamism to the application of S&T for development.

Annexure 2.1.1

Review of financial progress in the Tenth Plan

(Rs Crore)

S. No	Name of the Sector	Tenth Plan (2002-2007) Approved Outlay	Annual Plan 2002-03 Actual Expdr.	Annual Plan 2003-04 Actual Expdr.	Annual Plan 2004-05 Revised Outlay
A	Department of Elementary Education & Literacy				
1.	Elementary Education	28750.00	4259.29	5203.40	*8982.00
2.	Adult Education	1250.00	216.33	232.50	250.00
	Total A	30000.00	**4475.62**	**5435.90**	**9232.00**
B	Department of Secondary & Higher Education				
1.	Secondary Education	4325.00	578.14	639.08	693.00
2	University & Higher Edn.	4176.50	619.14	560.44	640.00
3	Language Development	434.00	103.57	104.11	121.29
4	Scholarships	52.00	0.28	0.16	7.00
5	Book Promotion	67.00	6.26	6.53	6.71
6	Planning & Administration	70.50	4.40	4.65	7.00
7	Technical Education	4700.00	600.47	626.34	750.00
	Total B	**13825.00**	**1912.26**	**1941.31**	**2225.00**
	Total A + B	**43825.00**	**6387.88**	7377.21	**11457.00**
C	**Ministry of Youth Affairs and Sports**	**1825.00**	**275.92**	**302.82**	**375.00**
D	**Ministry of Culture**	1720.00	**254.07**	**243.25**	**336.00**

* Includes additional allocation of Rs 1232 Cr in the State sector for Mid Day Meal Scheme and Rs 2000 Cr for Sarva Shiksha Abhiyan

ANNEXURES ON HEALTH SECTOR

Annexure 2.2.1

Millennium Development Goals

Premature mortality and chronic morbidity on a huge scale across the developing world became a matter of serious concern and prompted the international community to put health firmly at the centre of the Millennium Development Goals (MDGs) at the Millennium Summit in September 2000. India is a signatory to the United Nations Millennium Development Goals. Among the eight Millennium Development Goals at least six goals and targets, refer directly to health care and one (rural sanitation) is a "non-health determinant" of health care.

India is not on track on many of the health related parameters. Efforts towards realising these goals clearly need to be accelerated.

Table on MDGs
Progress towards achieving the MDGs in India

Indicator	Year	Value	Year	Value	On track value*	Linearly projected 2015 value	MDG target value	Status
Proportion of population below poverty line (%)	1990	37.5	1999-2000	26.1	30	9	18.75	On track
Undernourished people as % of total population	1990	62.2	1999-2000	53	49.8	39.2	31.1	Off track
Proportion of under-nourished children	1990	54.8	1998	47	46.1	29.6	27.4	Off track
Literacy rate of 15-24 year olds	1990	64.3	2001	73.3	N.A.	84.7	None	N.A.
Ratio of girls to boys in primary education	1990	0-71	2000	0.77	0.83	0.86	1	Off track
Ratio of girls to boys in secondary education	1991	0.64	2001	0.68	0.79	0.73	1	Off track
Under five mortality rate (per 1000 live births)	1990	123	2001	93	0.87	54.8	41	Off track
Infant Mortality rate (per 1000 live births)	1990	80	2001	66	56.7	48.1	27	Off track
Maternal mortality ratio (per 100,000 live births)	1991	437	1998	407	332	405	109	Off track
Population with sustainable access to an improved water source, rural (%)	1990	61	2000	79	69	100	80.5	On track
Population with sustainable access to an improved water source, urban (%)	1990	88	2000	95	90	100	94	On track
Population with access to sanitation urban (%)	1990	44	2000	61	55	86.5	72	On track
Population with access to sanitation rural (%)	1991	9.46	2001	21.91	39.3	55	72	Off track
Deaths due to malaria per 100,000	1994	0.13	2003	0.10	-	-	-	
Deaths due to TB per 100,000	1998	0.75	2001	1.50	-	—	-	
Deaths due to HIV/AIDS	2000	471	2004	1114	-	-	-	

* The on track value is a linear projection that reflects where the country should have been, for the last year of available data, in order to meet the MDG target value.

Source: Human Development Report, 2003; World Development Indicators, 2003; Economic Survey of India, 2002-03; The World Bank 2004, IIM Ahemdabad (did a previous version in collaboration with the Millennium Project Secretariat, UNDP)

Annexure 2.2.2

Comparison of Central Plan Outlays and Expenditure Under Major Sectors/Heads of Development During Ninth and Tenth Five Year Plans Periods

(Rs in crore at 2001-02 prices)

Sectors / Heads of Department	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	2002-03 (Actual Expenditure)	2003-04 (Actual Expenditure)	2004-05 (RE)	2005-06 (BE)	Total of four years in Tenth Plan	%age of Col. (9) to Col. (4)
1	2	3	4	5	6	7	8	9	10
	Plan Outlay	Realization							
Health	5118.19	3912.61	10252.00	1311.31	1239.30	1733.87	2442.26	6726.74	65.61
Family Welfare	15120.00	11386.99	26126.00	3776.89	4121.58	4673.72	5395.15	17967.34	68.77
AYUSH	266.35	229.69	775.00	86.58	125.23	176.37	293.94	682.12	88.02
Total	20504.54	**15529.30**	37153.00	**5174.77**	5486.11	**6583.96**	8131.35	**25376.19**	68.30

Annexure-2.2.3

Comparison of Plan Outlays and Expenditure Under Health Sector During Ninth and Tenth Plan Periods in States/UT Plans

Rs in crore at 2001-02 prices

State/UT	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	2002-03 (Actual Exp.)	2003-04 (RE)	2004-05 (BE)	Total of 3 years of Tenth Plan	%age of Col.(8) to Col.(4)
	Plan Outlay	Realisation (Expenditure)						
1	2	3	4	5	6	7	8	9
Andhra Pradesh	630.52	1124.97	1330.24	212.23	360.96	361.51	1552.32	116.69
Arunachal Pradesh	335.02	98.65	231.29	21.03	20.57	24.53	107.74	46.58
Assam	384.10	450.11	570.69	79.02	73.68	57.57	365.47	64.04
Bihar	832.00	380.82	1079.20	103.48	102.76	125.06	591.50	54.81
Chattisgarh		49.36	434.18	53.52	75.56	132.95	404.45	93.15
Goa	81.22	69.29	131.35	18.21	24.53	31.05	121.75	92.69
Gujarat	832.25	993.17	1166.16	146.50	207.71	223.05	1019.26	87.40
Haryana	351.34	236.67	960.62	21.54	55.15	62.82	272.98	28.42
Himachal Pradesh	317.65	557.81	787.72	124.45	188.79	161.34	786.36	99.83
J & K	1100.29	549.44	796.66	124.02	146.72	144.01	679.05	85.24
Jharkhand		64.98	650.00	62.66	70.11	123.81	458.87	70.60
Karnataka	1100.00	1230.65	1530.52	170.83	157.83	158.83	803.72	52.51
Kerala	309.40	320.15	408.40	76.34	79.31	89.33	404.91	99.15
Madhya Pradesh	567.87	614.14	715.33	140.03	122.34	179.00	745.76	104.25
Maharashtra	918.23	953.50	1106.66	208.61	580.16	179.00	2075.11	187.51
Manipur	36.00	40.70	81.73	2.93	21.31	16.90	76.10	93.11
Meghalaya	140.00	146.54	180.00	31.05	35.52	35.64	164.52	91.40
Mizoram	112.01	116.73	123.70	26.29	38.38	26.46	146.51	118.44
Nagaland	106.31	105.56	79.65	15.06	22.28	19.46	94.01	118.02
Orissa	416.06	424.97	521.39	70.23	125.72	103.52	625.47	119.96
Punjab	511.59	467.29	530.81	62.52	113.97	66.22	430.05	81.02
Rajasthan	770.60	605.10	568.92	38.90	69.72	95.34	404.17	71.04
Sikkim	80.00	66.20	80.00	13.58	15.20	19.49	78.71	98.38
Tamil Nadu	780.52	637.01	700.00	137.76	151.10	171.08	713.11	101.87
Tripura	85.59	79.53	250.72	13.57	29.90	22.36	98.92	39.45
Uttar Pradesh	1185.00	770.35	2405.43	250.24	211.25	299.18	1346.14	55.96
Uttaranchal		48.12	387.67	55.63	68.78	77.24	311.77	80.42
West Bengal	978.64	754.18	1036.18	136.33	249.73	209.35	1062.54	102.54
A & N Islands	77.41	109.53	114.00	20.44	20.19	21.08	101.57	89.10
Chandigarh	170.65	192.92	224.26	38.04	29.08	30.66	163.54	72.93
D & N Haveli	5.14	11.40	12.25	2.60	2.49	3.02	12.89	105.24
Daman & Diu	8.87	9.74	17.50	2.10	2.12	2.56	10.78	61.61
Delhi	1101.40	1095.22	2381.50	318.64	394.28	474.21	1961.99	82.38
Lakshadweep	8.17	13.76	9.01	2.24	2.20	1.98	11.20	124.23
Pondicherry	100.00	131.87	163.60	28.93	30.51	36.68	157.64	96.36
Total	14433.85	13520.41	21767.34	2829.57	3899.90	3786.28	18360.87	84.35

1 Uttar Pradesh, Madhya Pradesh, Rajasthan, Bihar, Jharkhand, Uttaranchal, and Chhattisgarh and Orissa

Social Justice and Empowerment

3.1 Development and empowerment of scheduled castes (SCs), scheduled tribes (STs), other backward classes (OBCs), minorities, disabled and other social groups in order to bring them at par with the rest of society is a commitment enshrined in the Constitution. This is to be done by adopting the approach of 'social justice' to ensure equal rights, access to benefits and resources and 'empowerment' to enable them to develop their potential and capacities as agents of social change, through the process of planned development.

SOCIALLY DISADVANTAGED GROUPS

3.2. The socially disadvantaged groups include the SCs, OBC and minorities. The SCs number 166.64 million (16.2 per cent) and minorities 189.4 million (18.42 per cent) according to the 2001 Census. The OBCs, as per a Government of India notification of 8 September 1993, include castes and communities which are named in both the list contained in the Report of the Backward Classes Commission (Mandal Commission) and in the list of individual state governments. In the absence of specific Census data, it is difficult to put an exact figure on the OBC population. The Mandal Commission had estimated them as 52 per cent of the country's total population.

COMMITMENTS OF TENTH PLAN

3.3. The Tenth Five-Year Plan is committed to empowering the socially disadvantaged groups. The stated objectives were:

- Creating an enabling environment that is conducive for these groups to exercise their rights freely, enjoy their privileges and be able to lead a life with confidence and dignity.
- Ensuring removal of disparities, eliminating exploitation and suppression and providing protection to the disadvantaged groups.
- Ensuring that developmental benefits reach the unreached through equitable distribution.
- Ensuring the involvement of the socially disadvantaged groups in the process of planning not merely as beneficiaries but also as participants in the formulation of need-based programmes/projects, as well as their implementation, supervision and monitoring.
- Accelerating the on-going process of improving the socio-economic status of the disadvantaged groups through effective implementation of various policies and programmes and thus bring them at par with rest of the society.

3.4. Concerted efforts are being made both at the governmental and non-governmental levels, through effective implementation of various welfare and developmental policies and programmes, towards achieving:

- Social empowerment, especially through educational development.
- Economic empowerment, through employment and income generation activities and alleviating poverty.
- Social justice, through effective implementation of the existing legislations and other measures for preventing and protecting the disadvantaged groups from atrocities,

exploitation, discrimination and social disabilities.

3.5 In order to ensure optimum utilisation of funds, efforts were made through a zero-based budgeting exercise to rationalise programmes and reduce the 31 on-going schemes of Ninth Plan to 13 schemes (four Central sector and nine Centrally sponsored schemes) in the Tenth Plan.

SOCIAL EMPOWERMENT

3.6. Education is the basic requirement and the most effective instrument of social empowerment. Effective implementation of the Centrally sponsored scheme of Post-Matric Scholarship (PMS) to SC Students - involving 100 per cent financial assistance to states over and above their earlier committed liability - has been accorded high priority during the Tenth Plan period. The scholarships are awarded to all eligible SC students to pursue their education beyond matriculation and in other professional courses based on a means test, and covers payment of tuition and compulsory fees besides maintenance allowance. Under the existing funding pattern, the expenditure incurred at the end of one Plan period is met by the states as their committed liability. The expenditure over and above this committed liability is met under the Plan head by the Centre.

3.7 The scheme was revised in 2003. One, courses were regrouped and the existing maintenance allowance increased. Two, the income ceiling of parents of SC students was hiked. Three, the Book Bank for SC students scheme was merged into the scheme. Fourth, charges pertaining to study tour, thesis typing/ printing charges were enhanced.

3.8 About 2 million SC students were provided scholarships during 2002-03 and 2003-04 and an additional 200,000 students are likely to covered in 2004-05. During the first three years of the Tenth Plan, an amount of Rs.681.39 crore (43.7 per cent) has been released to states/Union Territories for the scheme.

3.9 Most of the states find it difficult to meet the commitment of non-Plan liability because of resource constraints. This is a serious problem because not only will the coverage of the scheme increase every year but the rates of scholarships are also likely to be increased periodically. The other dimension of the problem is that the states are not disbursing the stipend in time. A suitable mechanism needs to be put in place to ensure timely allocation of funds by the Centre to the states and disbursement of scholarships by the states each month from the beginning of the academic year.

3.10 Various evaluation studies conducted by, among others, the Babasaheb Ambedkar National Institute of Social Sciences, Madhya Pradesh (2000), Tata Institute of Social Sciences (1999), Centre for Research Action and Training (2000), have suggested that increase in the maintenance allowance be linked with the movement of the consumer price index for industrial workers; special incentives be given to the staff of educational institutes; the eligibility criterion of annual income of parents be raised; and rented rooms be provided to outstation students who do not get hostel facility etc. As the scheme has been found to be making a significant impact on the educational attainment of SCs, the reports have recommended that this benefit should be extended to some other economically backward communities, including minority communities. There is a need to enhance the opportunities to SC & ST student to pursue higher studies especially M.Phil and Ph.D in view of the changing economic and labour market scenario demanding higher qualifications for senior placements/jobs. To this effect, a national fellowship scheme for SC & ST students needs to be formulated and expeditiously operationalized/implemented. The details of outlays and expenditure pertaining to the schemes relating to the educational development of SCs, OBCs and the minorities are given in Annexure 3.1.

3.11 The scheme of Pre-Matric Scholarships for children of those engaged in unclean occupations is being implemented with the objective of weaning these children away from menial occupations, especially manual scavenging. Since 1st April 2003, when the scheme was revised, scholarships have been given at the rate of Rs.40 per month for day scholars in Classes I-V, Rs.60 for Classes VI-VIII and Rs.75 for Classes IX-X. The rate of scholarships for hostellers is Rs.300 for Classes III-VIII and Rs.375 for Classes IX-X.

3.12 About 700,000 children will be covered under the scheme by 2004-05. A sum of Rs.27.41 crore was released (31.5 per cent of total Plan outlay) for the scheme during the first three years of the Tenth Plan. A similar scheme of 'Merit Based Scholarships' is being implemented to encourage higher education among OBCs and students from the minority communities pursuing studies at pre-matric and post-matric level.

3.13 The Centrally sponsored scheme of 'Hostels for SC, OBC and Minority Students' studying at the high school, college and university level is meant to reduce the high drop out rates and increase retention rates among SCs, educationally backward OBCs and minorities. A total of 839 hostels (695 for SCs and 144 for OBCs) have been constructed during the first three years of the Plan, benefiting 50,996 additional SC and OBC hostellers. This involved an expenditure of Rs.165.94 crore, which was 47.8 per cent of the Tenth Plan total outlay of Rs.347 crore However, evaluation studies show that infrastructure facilities are quite poor in most of the hostels; maintenance of the buildings is not up to the mark and that states are not providing matching grants or releasing funds in time.

Table 3.1.1
Literacy rates of SCs and STs: The gains and gaps between 1991 and 2001

Indicators	1991					2001				
	Rates			Gap		Rates			Gap	
	Total	SC	ST	SC	ST	Total	SC	ST	SC	ST
Total Literacy	52.2	37.4	29.6	**-14.8**	-22.6	64.8	54.7	47.1	-10.1	-17.7
Male	64.1	49.9	40.7	**-14.2**	-23.4	75.3	66.6	59.2	**-8.73**	**-16.1**
Female	39.3	23.8	18.2	**-15.5**	-21.1	53.7	41.9	34.8	**-11.8**	**-18.9**
Gross Enrolment Ratio										
Classes I - V	(1997 -98)					(2001-02)				
Total	89.7	92.4	90.7	**+2.7**	+1.0	96.3	93.00	96.3	**-3.3**	+0.9
Boys	97.7	102.3	102.9	**+4.6**	**+5.2**	105.3	103.1	106.9	**-2.2**	**+1.6**
Girls	81.2	81.6	78.3	+0.4	+2.9	86.9	82.3	85.1	**-4.6**	**-1.8**
Classes VI- VIII	(1997-98)					(2001-02)				
Total	58.5	48.9	43.2	**-9.6**	-15.3	60.2	69.6	70.3	+9.4	+10.1
Boys	66.5	75.8	53.0	**+9.3**	**-13.5**	67.8	80.3	82.1	**+12.5**	**+14.3**
Girls	49.5	37.6	32.9	**-11.9**	**-16.6**	52.1	57.7	57.3	**+5.6**	**+5.2**
Drop-out Rates (Classes I - VIII) (1997-98)						(2001-02)				
Total	60.5	66.6	74.7	+6.1	+14.2	**54.7**	60.7	**69.5**	**+6.1**	**+14.9**
Boys	58.3	63.6	75.4	+5.3	+17.1	**52.9**	**58.6**	**67.3**	**+5.7**	**+ 8.7**
Girls	63.5	71.0	80.9	+7.5	+17.4	**56.9**	**63.6**	72.7	+6.7	**+9.1**

Source: 1. Selected Educational Statistics, 1998-99 and 2001-02 Department of Education, Government of India, New Delhi.
2. Education in India 2001-02, Department of Education, Government of India, New Delhi 2003.

3.14 The scheme of Coaching for SCs, OBCs and other Weaker Sections is being implemented as a Centrally sponsored scheme through states, Union Territories and non-government organisations (NGOs) to provide pre-examination training to students to enable them to compete in the civil services and other competitive examinations. Only 15.2 per cent (Rs.14.83 crore) of the the Tenth Plan outlay of Rs.97.55 crore was spent in the first three years of the Plan period. During Ninth Plan (1997-2002) also, only 60.5 per cent (Rs.23.41 crore) of the Plan outlay of Rs.38.71 crore was utilised.

3.15 The Maulana Azad Education Foundation (MAEF), was set up in 1989 in order to promote education among educationally backward minorities, The Foundation formulates and implements various educational programmes, including establishment/expansion of schools, residential schools/colleges for girls, provision of laboratory/infrastructure facilities, establishment of computer/vocational centres for women etc. by extending grants-in-aid to NGOs. The approved corpus of the MAEF is Rs.100 crore but it was provided only Rs.70 crore up to the Ninth Plan. The Core Committee on zero-based budgeting exercise, set up in the Planning Commission during the Tenth Plan, decided to weed out the scheme after providing the remaining Rs.30 crore for the corpus. However, the Cabinet Committee on Economic Affairs has not cleared this proposal and Rs.3.75 crore has been provided as an interest amount on the pending Rs.30 crore during Annual Plan 2002-03 and 2003-04. The foundation supported 97 NGOs during the first two years of Tenth Plan against the target of 148 NGOs for the first two years.

3.16 There has been a perceptible increase in the literacy rate of SCs/STs between 1991 and 2001. The gap between the general population and SCs/STs in literacy rates continues to be wide (Table 3.1.1). The gap in the drop-out rates remains more or less the same for SCs though it has marginally increased in the case of STs, in spite of a number of educational schemes being implemented for them. There is a need to develop a suitable strategy for bridging this literacy gap.

ECONOMIC EMPOWERMENT

3.17 Economic empowerment of the weaker sections of SCs, OBCs and minorities is being carried out through promotion of employment and income generating activities. Special Central Assistance (SCA) for Special Component Plan (SCP) for SCs is being extended as 100 per cent grant to states/Union Territories on the basis of SC population, relative backwardness, implementation strategies etc. The scheme is meant to fill the critical gaps and missing inputs for family-oriented income-generating schemes and supporting infrastructure development with a special focus on below poverty line (BPL) families. However, 36 per cent of SC persons in rural areas and 39 per cent in urban areas are still below the poverty line. Although the percentage of SCs and STs living below the poverty line has fallen, the gap between the poverty rates of the general population and SC/ST population continues to be very high in both rural and urban areas. This is primarily because, according to the 2001 Census, 45.61 per cent of SCs and 36.85 per cent of STs are landless agricultural labour, having neither any productive assets nor access to sustainable employment and minimum wages.

3.18 Special financial institutions - National Finance and Development Corporations for Weaker Sections — have been set up to provide term loans, bridge loans, margin money, micro-credit, employment and income generating and skill up-gradation schemes exclusively for the disadvantaged groups. These include: National Scheduled Caste Finance & Development Corporation (NSFDC); National Safai Karamchari Finance & Development Corporation (NSKFDC); National Minorities Development and Finance Corporation (NMDFC) and National Backward Classes Finance & Development Corporation (NBCFDC).

3.19 In addition, there are state-level Scheduled Castes Development Corporations

Table 3.1.2
Outlay and expenditure of Finance Corporations during Tenth Plan
(Rs. crore at 2001-02 constant prices)

Name of Scheme	Tenth Plan Outlay	Annual Plan 2002-03		Annual Plan 2003-04		Annual Plan 2004-05		Likely expenditure in 2002-05	
		Outlay	Expenditure	Outlay	Expenditure	B.E	R.E	Amount	%age
National Finance Development Corporations for Weaker Sections	478.20	64.71	68.56	61.47	38.77	104.72	108.94	216.27	45.22
Scheduled Caste Development Corporations	150.00	24.11	24.11	45.80	44.99	44.09	44.09	113.19	75.46

Source: Ministry of Social Justice & Empowerment, Government of India, New Delhi.

(SCDCs). The NSFDC and SCDCs provide skill and entrepreneurial training to unemployed youth, extend micro-credit funding for self help groups (SHGs) at reduced interest rates, margin money loans and subsidy to the SC beneficiaries especially those living below the poverty line. At present, SCDCs are functioning in 25 states/Union Territories. There is a need for priority lending to SCs, OBCs and minorities.

3.20 The authorised share capital (Central government share) of the four Corporations is Rs.2,200 crore, of which paid up capital by the end of Annual Plan 2003-04 was Rs.1101 crore (50 per cent). During the Tenth Plan, Rs.478.2 crore has been allocated for the four Corporations as Central capital share, of which Rs.216.27 crore has been released benefiting 1,58,851 SC families, 32,679 safai karamachari families, 1,66,512 backward classes beneficiaries and 51,487 minority beneficiaries.

3.21 A critical assessment of the working of all these Corporations has highlighted the fact that though the recovery rate of loans has been improving, the Corporations continue to remain heavily dependent on government assistance, though they were expected to become self-reliant within two to three years of their establishment. The Ministry of Social Justice & Empowerment has recently got an evaluation done of the NSFDC and NSKFDC. This has shown that the following major changes are required for effective functioning of these Corporations:

- improving the loan recovery position through close monitoring and supervision;
- reducing the administrative expenditure to 8-10 per cent of income;
- leveraging of funds from banks and financial institutions; and
- selection of suitable, viable and need-based activities for the beneficiaries by imparting necessary training and skill etc. and backward and forward linkages with the market..

3.22 The SCDCs need to be activated to take up identification of suitable beneficiaries, imparting skills and training through entrepreneurship development programme and recovery of loans, as they are the channelising agencies of the four corporations.

3.23 As agriculture is the main occupation of SCs and STs, there is an urgent need for land reforms, besides providing irrigation facilities and developing the land suitably for cultivation. The National Common Minimum Programme (NCMP) has sought the provision of minor irrigation to all lands belonging to SCs/STs. It is, therefore, necessary to develop a well-conceived programme to cover all lands, including SC lands, with minor irrigation through an effective and achievable project approach. Schemes implemented by the Ministry of Agriculture and the Department of Water Resources like the Accelerated Irrigation Benefit Programme (AIBP) may be integrated with the programmes of the Ministry of Social Justice & Empowerment for this purpose.

SOCIAL JUSTICE

3.24 The Protection of Civil Rights (PCR) Act, 1955, and the SC and ST (Prevention of Atrocities) Act, 1989 (POA Act) are two important legislations to address the problems of social discrimination, prevalence of social evils like untouchability and the increasing cases of exploitation and atrocities against disadvantaged groups. The POA Act provides for special courts/mobile courts for on-the-spot trials and prompt disposal of cases.

3.25 A Centrally sponsored scheme, Implementation of PCR Act and POA Act, was initiated in 1955 to ensure effective implementation of these Acts. Under the scheme, financial assistance is provided for strengthening the administrative, enforcement and judicial machinery related to these legislations, publicity and relief and rehabilitation of the affected persons. As the practice of untouchability still prevails, either directly or indirectly, there is a need for stringent enforcement of the existing legislations along with spreading awareness. The Tenth Plan outlay for the scheme was Rs.170 crore, of which an expenditure of Rs.76.56 crore (45 per cent) was incurred during the first two years. A total of 22 special courts under the PCR Act, and 137 exclusive special courts under the POA Act have been set up in the last two years. According to the *Crime in India 2003* report, the number of cases of crimes against SCs dropped from 33,507 cases in 2002 to 19,351 cases in 2003.

3.26 Top priority has been accorded to efforts for achieving the national goal of complete eradication of manual scavenging by the end of Tenth Plan (2007). The programme has two components - conversion of dry latrines into water-borne latrines and training and rehabilitation of scavengers (whose number is estimated at 6,76,000) and to provide them alternative and dignified occupations. The first component of the scheme is being implemented by the Ministry of Urban Employment and Poverty Alleviation The National Scheme of Liberation and Rehabilitation of Scavengers and Their Dependents has been transferred to the Ministry of Urban Employment and Poverty Alleviation in 2003-04 to ensure its effective implementation. In 2002-03, Rs.29.78 crore was provided for training 19,000 scavengers and rehabilitating 24,000.

3.27 The 2001 Census figures show that while the literacy rates among some minorities (Christians, Sikhs and Buddhists) are higher than the national average of 64.8 per cent, the literacy rate among Muslims, at 59.1 per cent, is below the national average. The educational status of Muslim women, with a literacy rate of 50.1 per cent, is lower than that of Muslim men, among whom the literacy rate is 67.6 per cent. The social and economic empowerment of minorities requires emphasis to be laid on technical, vocational training especially for women and girl children and modernisation of Madrasas. In the Tenth Plan, the Area Intensive and Madarasa Modernisation Programme of the Ministry of Human Resource Development, may be utilised for the educational development of the educationally backward minorities. In addition, for the educational uplift of the Muslims, particularly of the girl child, it is important to ensure that in the localities with concentrations of population of the community primary schools are established in adequate numbers, with buildings, equipment and teacher-pupil ratio according to the prescribed standards. This should be done in the course of implementation of Sarva Shiksha Abhiyan during the remaining period of the Tenth Plan.

SPECIAL STRATEGIES OF SPECIAL COMPONENT PLAN

3.28 The SCP for SCs and the Special Central Assistance (SCA) to SCP are two innovative strategies to ensure additional flow of funds/benefits for SCs. The SCP, introduced in 1979-80, involves earmarking population-proportionate funds from the general development sectors for the overall development of SCs to raise them above the poverty line. The SCA to SCP is extended to states as 100 per cent grant to fill the critical gaps in family-based income-generating schemes with supporting infrastructure development. So far 14 Central ministries/departments and 27 states/Union Territories have been earmarking funds under SCP. States/Union Territories have been advised to prepare specific project reports for utilisation of SCA, linking it with the loan component under NSFDC for helping the BPL SC families in a intensive manner. The Central Standing Tripartite Committee (CSTC) reviews the implementation of SCP and Tribal Sub-Plan (TSP) and guides the nodal Ministries of Social Justice and Empowerment and Tribal Affairs in ensuring earmarking of funds by the service-oriented Ministries/Departments on the basis of the SC/ST population. Three categories of Central ministries have been identified: regulatory ministries, ministries whose services are divisible in nature and ministries/departments whose services are not divisible in nature.

3.29 Table 3.1.4 shows that both the Centre and state governments have not earmarked adequate SC/ST population-proportionate funds under their SCP and TSP, as required. However, the flow of funds in the states is comparatively better than that of the Central ministries/departments. During the first two years of the Tenth Plan, only a few states like Assam, Haryana, Punjab, Sikkim, Tamil Nadu and Uttaranchal, have earmarked funds under SCP in proportion to their respective SC population percentage.

RESOURCE POSITION

3.30 The government has been implementing 13 schemes for the well being of SCs, OBCs and minorities towards the fulfilment of its Tenth Plan commitments. An outlay of Rs.6,526 crore, including Rs.2,313.40 crore as SCA to SCP, has been earmarked in the Tenth Plan for this sector. The pace of

Table 3.1.3
Flow of funds through SCP, TSP and SCA to SCP and TSP during 2002-04

(Rs.crore)

Items	Annual Plans (2002-04)		Percentage Col. 4 to col.3
	Outlay	Flow to SCP/TSP	
(1)	(2)	(3)	(4)
Special Component Plan (SCP) for SCs			
- Flow from Central Plan in respect of 14 Ministries/Deptts. (During 1997-2000)	5478.89	1646.02	10.63
- Flow from State Plan (in respect of 24 States/U.Ts)	1817.39	214.36	11.80
Tribal Sub-Plan (TSP) for STs			
- Flow from Central Plan in respect of 7 Ministries/Deptts (During 2002-03)	18796.00	930.88	4.95
- Flow from state Plan (in respect of 9 states/Union Territories. (During 2002-03)	31174.87	3325.90	10.67
Special Central Assistance (SCA) to SCP and TSP			
- SCA to SCP (Outlay & Release)	763.60	818.00	107.20
- SCA to TSP (Outlay & Release)	997.00	960.89	96.30

Source: Ministry of Social Justice and Empowerment and Ministry of Tribal Affairs, Government of India, New Delhi.

progress made during the first three years of the Tenth Plan is quite slow. The actual expenditure of first two years (2002-04) and anticipated expenditure of third year (2004-05) adds up to Rs.2,696.45 crore, which is only 41.32 per cent of the Plan allocation, leaving a balance of Rs.3829.55 crore for the remaining two years of the Tenth Plan. It is expected that about 60 per cent of the Tenth Plan allocation should have been utilised by the end of the third year. There is a shortfall in utilisation Plan outlay to the extent of 18.8 per cent in the SC sector, 12.6 per cent in the OBC sector and 19 per cent in the minority sector.

ISSUES OF CONCERN

3.31 Assessing the qualitative and quantitative impact of the programmes of the Ministry of Social Justice & Empowerment is difficult in the absence of information on the physical and financial targets and achievements for many of the schemes. The Ministry is not in a position to fix any physical targets for many of the schemes like Post-Matric Scholarships, Hostels for Boys and Girls, SCA to SCP etc. as they are either demand-driven (as per the state proposals) or the matching resources have to be allocated by the states in their budget. This problem is more acute in the state sector schemes and Centrally sponsored schemes. States do not allocate funds for Centrally sponsored schemes like Coaching and Allied, Construction of Hostels, Pre-Matric Scholarships etc. which involve varying degree of state government funding, as a result of which the facilities/services available under these schemes do not reach the beneficiaries.

3.32 There are several SC settlements that are located on the outskirts of the main habitations and are segregated from them. Many

Table 3.1.4
Outlay and expenditure of Ministry of Social Justice and Empowerment in the Tenth Plan
(Rs.in crore at 2001-2002 constant prices)

Category	Tenth Plan	Annual Plan 2002-03		Annual Plan 2003-04		Annual Plan 2004-05		Annual Plan 2005-06	Likely Exp. (2002-05)	Percentage (Col.10 to Col.2)
	Outlay	BE	Expd.	BE	Expd.	BE	RE	BE		
1	2	3	4	5	6	7	8	9	10	11
1. SCs	5786.00	929.70	784.88	872.22	799.49	868.92	798.15	837.01	**2382.51**	**41.18**
(i) Regular Schemes	3472.60	564.22	366.32	512.71	440.55	507.19	523.48	451.99	**1330.35**	**38.31**
(ii) SCA to SCP	2313.40	365.48	418.56	359.51	358.94	361.73	381.62	421.01	**1159.12**	**50.10**
II. OBCs	450.00	73.77	75.97	64.50	56.01	63.98	81.44	64.34	**213.42**	**47.43**
III. Minorities	290.00	37.99	24.49	49.45	19.82	65.83	74.65	46.19	**118.96**	**41.02**
Total - A (BCW)	6526.00	1041.47	885.34	986.17	875.31	998.72	935.79	983.54	**2696.45**	**41.32**
I. Disabled	**1465.40**	221.31	187.13	205.18	157.90	220.99	170.58	213.15	**516.61**	**35.10**
II. Social Defence & Others	**538.60**	96.91	78.78	89.27	71.91	95.99	83.22	91.37	**233.90**	**43.72**
Total -B (SW)	2004.00	318.23	265.90	294.45	229.81	316.98	253.80	304.02	**749.51**	**37.40**
Grand Total	8530.00	1359.69	1151.24	1280.61	1105.12	1315.7	1189.57	1288.07	3445.96	40.40

* Excludes Rs. 40 crore which has been transferred to Ministry of Urban Affairs & Poverty Alleviation for the implementation of the scheme 'Eradication of Manual Scavenging'.
Source: Ministry of Social Justice & Empowerment, Government of India, New Delhi.

of these SC settlements do not have access to basic services such as safe drinking water, approach roads, health facilities, sanitation, etc. Efforts are, therefore, needed to ensure that all the marginalised and deprived settlements, especially in the remote and inaccessible areas, are provided with the basic services.

3.33 It is necessary to involve the corporate sector and NGOs to complement the government's efforts to ensure the welfare and development of disadvantaged groups. The NGOs/voluntary organisations have been implementing projects which are of direct benefit to the target groups with grants-in-aid/financial assistance from the government. They include construction of hostels, mobile medical units, balwadi/crèche, vocational training centres, employment-cum-income generating activities, coaching etc.

3.34 Successful and credible NGOs should be encouraged to reach target groups in the inaccessible and remote areas and in areas where voluntary action is either minimal or absent. Their efforts should be directed not just towards the welfare and development of these disadvantaged groups but also to encourage them to participate in the development process and raise their voice against violence, atrocities and exploitation. However, a system of involving only accredited NGOs with impeccable credentials needs to be evolved to ensure proper utilisation of resources. A Central bureau for screening and accrediting NGOs needs to be set up.

SOCIAL WELFARE

3.35 The social welfare groups, include persons with disabilities (loco-motor, visual, hearing, speech and mental disabilities); social deviants who come in conflict with law (juvenile delinquents/vagrants, drug addicts, alcoholics, sex workers, beggars etc); and the other disadvantaged groups, which includes older persons, children in distress such as street children, orphaned/abandoned children etc. While the Census has figures on the population of disabled and the aged, there is no data on to the size of other groups. According to the 2001 Census, the disabled are estimated at 21.90 million or about 2.2 per cent of the total population and about 75 per cent of the disabled are in rural areas. The aged (60+) number 70.6 million, accounting for 6.9 per cent of the total population.

PERSONS WITH DISABILITY

3.36 The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act), which came into force in 1996, aims to empower persons with disabilities with a right to demand an enabling environment in which they can enjoy protection of rights, equal opportunities and full participation in developmental activities. The Act has a special focus on rehabilitation of the rural disabled.

3.37 However, state governments have not made much headway in the effective implementation of the Act, with some states not even having constituted the mandatory State Coordination Committees (SCC). Where they have been constituted, no meetings have been held.

3.38 To ensure adequate financial support, the Tenth Plan advocated the introduction of a Component Plan for the Disabled in the budget of all the concerned ministries/departments to ensure regular flow of funds for schemes/programmes for empowerment of the disabled. The Ministry of Social Justice and Empowerment had expressed its difficulty in implementing this suggestion. There is, however, ample scope in the PWD Act to ensure that both Central and state governments pay adequate attention to persons with disabilities.

3.39 Not much progress has been made in two other thrust areas of the Tenth Plan: to develop and implement disabled-friendly policies in the public and private sectors and to develop a social security scheme for the old and the disabled on the lines of the old-age pension.

3.40 There are six National Institutes for people with disabilities: the National Institute for Visually Handicapped, Dehradun; the National Institute for the Orthopaedically Handicapped, Kolkata; the Ali Yavar Jung National Institute for the Hearing Handicapped, Mumbai; the National Institute for the Mentally Handicapped, Secunderabad; the National Institute for Rehabilitation, Training and Research, Cuttack; and the National Institute for Physically Handicapped, New Delhi. All these institutes offer a variety of long term training programmes - three-year degree courses in physiotherapy, occupational therapy, mental retardation, education of the deaf, communication disorders - as well as shorter period degree and diploma courses in these disciplines as well as in prosthetic and orthotic engineering and audiology, speech therapy and teachers training for the blind.

3.41 At present, the National Institutes are paying more attention to building up technical manpower through degree and diploma courses. However, their role in the area of research and development and up-gradation of services in the states has been very limited and this needs to be strengthened in order to develop cost-effective aids and appliances. The activities of these National Institutes also need to be evaluated from time to time so as to diversify/ modify training programmes and to make them more relevant to the available job opportunities and from the point of view of their usefulness, coverage and cost effectiveness.

3.42 The Integrated Scheme to Promote Voluntary Action for Persons with Disability scheme is the result of the amalgamation of four similar Ninth Plan schemes with the common objective of promoting voluntary efforts for the welfare and development of persons with disabilities. This re-cast umbrella scheme not only incorporates all the components of the earlier schemes but also proposes to cover new areas like legal aids and legal counselling; support facilities for sports, recreation, excursions, creative and performing arts; promotion of research in various developmental areas, establishment of well equipped resource centres, etc. The scope of the revised scheme has been increased so that any voluntary organisation working for ameliorating the plight of the disabled is funded.

3.43 The presence of voluntary organisations in some states like Punjab, Haryana, Uttar Pradesh, Bihar and Jharkhand is very poor. There is an urgent need to promote credible voluntary organisations in these areas.

3.44 The Ministry of Social Justice and Empowerment facilitates delivery of various rehabilitation services to persons with disability by extending financial, technical and administrative support to public institutions and voluntary organisations so that they can enlarge the scope of vocational and professional opportunities, income generation opportunities and promote formal as well as non-formal employment through placement services. The funds are provided to the voluntary organisations for running rehabilitation centres for leprosy-cured persons, manpower development in the field of mental retardation and cerebral palsy, visual impairment and hearing impairment and special schools for the major areas of disability and for any other specific activities.

3.45 Although the Disability Division of the Ministry has a well-developed system of monitoring its schemes, programmes and institutions/organisations, there is need to further strengthen the system with more vigilance involving state governments and independent private institutions to keep check on misuse of the funds. A total 1,323 NGOs have been assisted under the Promotion of Voluntary Action for Persons with Disabilities scheme to benefit 4,67,000 persons and Rs.211.30 crore released (42 per cent) as grant to NGOs in the first three years of Tenth Plan.

3.46 The Assistance to Disabled Persons for Purchasing/Fitting of Aids and Appliances scheme, popularly known as ADIP, has a direct impact on the lives of indigent disabled persons through the supply of durables, standard sophisticated aids and appliances. Voluntary organisations, Red Cross Societies, the National Institutes and the Artificial Limbs Manufacturing Corporation (ALIMCO), Kanpur, are provided grant-in-aid for the purchase, fabrication and distribution of aids and appliances. Under the scheme, implementing agencies get 100 per cent non-recurring financial assistance for those aids that do not cost more than Rs.6,000. The fund utilisation and coverage of beneficiaries under the scheme indicate satisfactory progress. Against the outlay of Rs.354 crore in the Tenth Plan, the actual expenditure in the first three years will be Rs.165.46 crore, (46.67 per cent of outlay) and 5,12,000 beneficiaries were covered.

3.47 ALIMCO was set up in 1976 for developing, manufacturing and supplying artificial limbs and rehabilitation aids to the disabled. In spite of a strong element of subsidy built into its products, ALIMCO was, at one time, running into losses. However, over the last three years, it has significantly improved its operations, achieving substantial increase in turnover and cutting its cash losses. The value of production has gone up to Rs.41.41 crore in 2003-04 from Rs.34.33 crore in 2001-2002 and the value of sales from Rs.38.9 crore in 2003-04 from Rs.31.94 crore in 2001-02. Against the Tenth Plan outlay of Rs.20.50 crore, Rs.2.13 crore has been spent in the first year and there is no budgetary support provided for Plan outlay thereafter as the Corporation is able to generate internal resources to sustain its operations.

3.48 Some of ALIMCO's products are costlier compared to items manufactured by other agencies. However, the quality, efficiency and durability of ALIMCO products are better than the others and product range is much larger and varied than any other single manufacturing unit in the country. The products of ALIMCO include orthoses, prostheses for upper and lower extremities, spinal braces, traction kits, wheel chairs, crutches, three wheelers and special tools and equipment required for fitment of prosthetic and orthotic assemblies by limb fitting centres. There is an urgent need to evaluate the functioning of the Corporation to assess how it caters to the needs of poorer segments of the disabled and optimise the cost of production of various aids and appliances.

3.49 The Rehabilitation Council of India (RCI) was set up in 1986 to regulate and monitor the training policies and programmes for persons with disabilities, prescribe minimum standards of education and training for various categories of professionals dealing with persons with disabilities, regulating these standards in all training institutions country-wide to bring uniformity, recognising institutions/universities running courses in the field of rehabilitation, recognising foreign degree/diploma/certificates awarded by universities/institutions on a reciprocal basis, promoting research in rehabilitation and special education, maintenance of a Central Rehabilitation Register and related matters.

3.50 In addition to its normal activities, RCI has been engaging itself in the training of special educators and medical professional / personnel. Not only is this outside RCI's mandate but it also overlaps with the activities of other National Institutes and agencies. Regulating the training of rehabilitation professionals by itself is a huge task and the Council should confine itself to the mandate given to it under the existing provisions.

3.51 The National Handicapped Finance Development Corporation (NHFDC) was set up in 1997 to promote economic empowerment of persons with disabilities through financing of self-employment ventures and assisting beneficiaries in the upgradation of technical and entrepreneurship skills. During the first two years of the Tenth Plan, 1,0028 individuals and 98 NGOs, including micro-finance groups, were benefited. The NHFDC operates through the State Channelling Agencies (SCAs) nominated by the respective states governments, which number 46 at present. The Corporation has been doing satisfactory work as the number of individual beneficiaries has gone up from 2,913 in 2001-02 to 5,564 in 2003-04. However, there is need to reduce the administrative costs, which are about 3 per cent of the annual disbursement and to improve the loan recovery position. As of 25 November 2004, the Corporation had outstanding loans to the tune of Rs.5.77 crore.

SOCIAL DEVIANTS

3.52 The Prevention and Control of Juvenile Maladjustment scheme provides full coverage of services in all districts as contemplated under the Juvenile Justice Act, 1986 (JJ Act) as amended in 2000. Many states are not able to avail funds under this Centrally sponsored scheme because of their inability to contribute a matching share of 50 per cent. Although, the utilisation of the funds has been satisfactory (89.5 per cent in 2002-03 and 102 per cent in 2003-04), more than 72 per cent funds were utilised by only five states - Andhra Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu and Uttar Pradesh. Maharashtra alone received more than 35.5 per cent of of the total funds released under the scheme in 2002-03 and 45.31 per cent in 2003-04, which shows a huge inter-state disparity in utilisation of funds. The major gaps in the implementation of the Act have been inadequate and poor quality juvenile justice infrastructure, low priority given by the state governments and lack of trained manpower. The scheme was revised in 1998 and renamed Integrated Programme for Juvenile Justice. A Juvenile Justice Fund has been set up to bring about qualitative improvements in the infrastructure.

3.53 The Prohibition and Prevention of Drug Abuse scheme was launched in 1985-86 as a Central Plan scheme to educate the community and create awareness about drug abuse; provide motivational counselling, treatment and rehabilitation of drug addicts, ensure their social re-integration and to promote community participation and public cooperation for drug demand reduction. A total of 373 NGOs were assisted and 369 de-addition centres set up in 2002-03 and 295 NGOs assisted and 315 de-addiction centres established up to March 2004 in 2003-04. However, 57.6 per cent (170) of the 295 NGOs assisted in 2003-04 were located in just seven states and 124 of these are in four states - Maharashtra (45), Uttar Pradesh (40), Kerala (21) and Manipur (18). Similarly, out of the 315 de-addiction centres set up in 2003-04, 136 are in four states alone. Thus, the scheme has not been able to assist the needy groups and reach remote areas. Out of 46 counselling centres, there are only eight in the North-East, an area that deserves special attention. The scheme should be redesigned and activated.

OTHER DISADVANTAGED GROUPS

3.54 The Assistance to Voluntary Organisations for Welfare of the Aged, initiated in 1992-93 was revised in 1998 to make it more flexible. The new scheme, An Integrated Programme for Older Persons, was designed to meet the diverse needs of the aged including reinforcement and strengthening of the family and awareness generation on issues related to the aged. As many as 863 old age homes/day care centres/mobile medicare units are operational under the scheme. Financial assistance to 322 old age homes, 273 day care centres, 56 mobile medicare units was given in 2003-04. Of the Tenth Plan outlay of Rs.104 crore, Rs.47.05 crore was spent during first-three years of the Plan which shows utilisation of 45.2 per cent of the approved outlay.

3.55 The government announced a National Policy for Older Persons in January 1999 and an Action Plan 2000-05 to operationalise this policy was initiated in 2001. However, implementation of the action plan has been inordinately delayed. In order to translate the Policy into action and ensure equitable coverage, cost-effective operation and better convergence of programmes, emphasis needs to be laid on utilising available institutions, government/semi-government machinery, panchayati raj institutions (PRIs) and local bodies. Currently, there are very few NGOs working in the rural areas for the welfare and development of the aged. The elderly population in interior rural/backward areas remains neglected and there is, therefore, a need to mobilise human and financial resources for the community in a big way. The scheme for older persons should be implemented by PRIs because it falls under the domain of functions assigned to them by the 73rd amendment to the Constitution. Further, PRIs are the most appropriate levels where existing programmes for the elderly can converge.

3.56 The Integrated Programme for Street Children scheme assists a wide range of initiatives, which cover providing shelter, nutrition, health-care, sanitation and hygiene, safe drinking water, education, recreational facilities and protection against abuse and

Box 3.1.1
Commitment of the Tenth Plan

The Tenth Plan commitments for the well-being of the older persons were to be achieved through:

- effective implementation of the National Policy on Older Persons in extending support for financial security, health care, shelter, welfare, protection and other needs of the older persons;
- strengthening and expanding the NGO network with the objective of reaching the most needy on a priority basis;
- ensuring financial security, through various pension schemes, financial preparation for old age, productive aging, income generation activities, etc.;
- extending Zilla Aadhar facilities to all districts;
- identifying the salient features for an appropriate legislation on old age protection.

exploitation. The objective of this programme is to prevent destitution of children who are without homes and family ties and facilitate their withdrawal from the streets. The main services under the scheme include establishment of 24-hour drop-in-shelters, non-formal education, vocational training, placement, capacity building and general awareness. Since its inception in 1998 as many as 2,50,740 street children have been benefited through 214 voluntary organisations in 24 States/Union Territories.

3.57 One of the important initiatives taken for the welfare of the children was the establishment of a Childline service, which is a 24-hour toll-free telephone service (1098) that can be accessed by children in distress or by adults on behalf of these children to seek emergency assistance and for referring the child to an appropriate organisation for long-term follow-up care. The objective of the Childline is to attend to children in difficulties and facilitating their rehabilitation through providing a platform for networking among government and non-government agencies in the area of child welfare and sensitising those working in the police, judiciary, hospitals, etc. on child protection issues. Childline is presently functional in 55 cities and has responded to more than 48.79 lakh calls between its inception in 1998 and December 2003. An outlay of Rs.85.90 crore has been allocated for the Tenth Plan period but only Rs.39.10 crore (45.5 per cent) has been spent in the first-three years, indicating a shortfall of 14.5 per cent.

3.58 Despite the continuous efforts of the government, street children continue to be in a precarious situation. Coordinated efforts are required for implementation of the Integrated Programme for Street Children and for extending its reach in order to attend to problems and needs of these children. The programme has so far benefited 1,040 children against the target of 1,200 for first two years of Tenth Plan. In addition, 840 children have been benefited under the Sishu Grih scheme, which is a part of this scheme.

RESOURCE POSITION

3.59 In order to fulfil the Tenth Plan commitments, the government has been implementing 16 schemes (15 as Central sector and one as a Centrally sponsored scheme) for the care of the disabled as well as in the social defence and other disadvantaged groups segment. There are 10 Central sector schemes for the welfare of disabled during the Tenth Plan with an outlay of Rs.1465.40 crore (Annexure- 3.2) and the main schemes include Schemes for Funding National Institutes, AIDP, Scheme to Promote Voluntary Action for Person with Disabilities, NHFDC and Implementation of the PWD Act, 1995. Out of the outlay of Rs.1465.40 crore for the disability sector, Rs.1319.80 crore (about 90 per cent) has been earmarked for these five schemes and, therefore, the progress of the expenditure would largely depend on the progress made in these. Similarly, an outlay of Rs.538.60 crore has been earmarked during the Tenth Plan for social defence and other disadvantaged groups, of which Rs.453.40 (84.20 per cent) is for four schemes - Assistance to Voluntary Organisations for Providing Social Defence Services, Assistance to Voluntary Organisations for Programmes Related to the Aged, Grant-in-aid for Welfare of Children in Difficult Circumstances and Schemes for Prevention and Control of Juvenile Social Maladjustment.

3.60 The pace of progress made during the first three years of the Tenth Plan in both the disability and social defence sectors has been slow (Annexure 3.1.2). In the disability sector, the anticipated expenditure for the first three years of the Tenth Plan has been estimated at Rs.456.61 crore (31.20 per cent) against a total Central sector outlay of Rs.1465.40 crore, leaving a balance of Rs.1008.8 crore (68.8 per cent) for the remaining two years of the Plan. The shortfall of 28.8 per cent (considering 60 per cent as ideal expenditure for three years) is mainly due to poor performance of two schemes - Implementation of the PWD Act (Rs.15.92 crore expenditure against Rs.154 crore outlay) and College of Rehabilitation Science (Rs.1.00 crore expenditure against Rs.53.73 crore outlay). However, action is being taken to get these two programmes launched during 2004-05.

3.61 Similarly, in the social defence and other disadvantaged groups sector, only Rs.228.56 crore (42.4 per cent) of an outlay of Rs.538.60 crore has been spent, leaving a balance of Rs.310.04 crore (57.6 per cent) for next two years and there is a short fall of about 17.6 per cent. There has been slow progress on expenditure in six schemes relating to social defence and other disadvantaged groups. The overall performance in terms of financial achievements in the social welfare sector during the first three years of the Plan has been somewhat low. As against an outlay of Rs.2004 crore, only Rs.685.21 crore (34.2 per cent) has been spent, resulting in a shortfall of 21 per cent for the sector.

ISSUES OF CONCERN

3.62 The progress of implementation of the PWD Act by the states has not been very encouraging. The expenditure under the Implementation of PWD Act scheme has been only 10.82 per cent of the approved Tenth Plan Outlay in the first three years of the Plan.

3.63 Due to the changing demographic and socio-economic scenario, the numbers of the older population will increase. As a priority step, the Action Plan 2000-05 to operationalise the National Policy on Older Persons, 1999 should be prepared expeditiously.

SCHEDULED TRIBES

3.64 According to the 2001 Census, the total population of STs is 84.3 million, which constitutes 8.20 per cent of the country's population. Of these about 1.32 million (1.57 per cent) belong to Primitive Tribal Groups (PTGs).

3.65 As in the case of the SCs, the Tenth Plan objective of empowering the tribals is being achieved through a three-pronged strategy of social empowerment, economic empowerment and social justice. The Core Committee on zero-based budgeting carried out an extensive exercise to rationalise the 25 Plan schemes (16 Central sector schemes and 9 Centrally sponsored schemes) in the Ninth Plan and brought down the number to 14 (10 Central sector schemes and 4 Centrally sponsored schemes).

SOCIAL EMPOWERMENT

3.66 The flagship scheme of Post-Matric Scholarships, which is akin to the Post-Matric Scholarship scheme for SCs, was revised in 2003 on similar lines. Till 2004-05, 2 million tribal students availed of scholarships. The likely expenditure during the first three years of the Tenth Plan is Rs.182.67 crore, which is

47.7 per cent of the outlay of Rs.383.09 crore (Annexure 3.3).

3.67 The Ashram Schools in Tribal Sub-Plan (TSP) area scheme was launched in 1990-91 to promote educational development in tribal areas through the creation of residential facilities, especially focusing on ST girls and children of PTGs, migrant and nomadic STs. The scheme is being implemented in 21 states and two Union Territories. Against the Tenth Plan outlay of Rs.78.30 crore, the likely expenditure during the first three years is Rs.20.50 crore. Recent evaluation studies show that Ashram school buildings and infrastructure facilities are not maintained or utilised properly.

3.68 The Educational Complexes in Low Literacy Pockets scheme for the development of girls and women's literacy was introduced in 1993-94 in 136 districts of 14 states, where the literacy rates among ST females are less than 10 per cent. The scheme is being implemented through NGOs, institutions set up by government and autonomous bodies as well as registered cooperative societies. The likely expenditure during the first three years of the Tenth Plan is Rs.18.21 crore, which is 40.7 per cent of the outlay of Rs.44.74 crore. A total of 320 educational complexes were established in the first two years.

3.69 The Construction of Hostels for Scheduled Tribe Boys and Girls scheme was started during the Third Plan. A separate scheme for Construction of Hostels for Scheduled Tribe Boys was launched in 1989-90 and both the schemes were merged into one scheme during the Tenth Plan. The basic objective of the scheme is to provide hostel accommodation to tribal students so as to enable them to continue their studies. During the first three years of the Tenth Plan, the likely expenditure is Rs.41.95 crore, which is 30.9 per cent of the outlay of Rs.134.24 crore. Evaluation studies have noted that school buildings are not maintained properly and the state governments do not provide adequate facilities to the hostellers.

3.70 Seventy-five PTGs are living in very fragile conditions and without access to basic minimum services. Some are even facing the threat of extinction. The Central sector scheme for the development of PTGs is being implemented in 15 states/Union Territories through Integrated Tribal Development Projects (ITDPs)/Tribal Research Institutes (TRIs) and NGOs. A baseline survey on the situation of PTGs and action towards for their overall development (including literacy, agriculture, health, housing) have been initiated. During the first three years of the Tenth Plan, a sum of Rs.47.29 crore was utilised, which is 42.3 per cent of the total outlay of Rs.111.87 crore, by implementing 1,172 projects against the target of 2,900 projects.

3.71 A scheme of Grant-in-aid to Voluntary Organisations working for the STs was launched in 1953-54 to undertake developmental activities in the fields of education, health and sanitation in addition to need-based economic activities to supplement the efforts of the government, especially in the interior tribal areas. Coaching and Allied scheme is also playing an important role in preparing eligible ST candidates for competitive examinations being conducted by the Union Public Service Commission (UPSC), State Public Service Commission, Staff Selection Commission etc. Special incentives are also being given to NGOs/voluntary organisations who are doing exemplary work, like the Ramakrishna Mission Ashram. The Ministry could utilise only Rs.81.74 crore during the first three years of the Tenth Plan, which is 45 per cent of the total outlay of Rs.178.98 crore (Annexure 3.1).

3.72 In spite of the various educational and vocational training programmes in operation, the literacy rate, enrolment rate, health and other indicators of the tribal population remains poor as has already been seen in Table 3.1.1. There is a need for special efforts to identify the loopholes in the programmes, especially in delivery systems, and redesigning the schemes wherever necessary.

ECONOMIC EMPOWERMENT

3.73 Cultivation is the main occupation of 45 per cent of the tribals and 37 per cent of them are agricultural labourers, according to the 2001 Census. Forty-six per cent tribals in rural areas and 35 per cent in urban areas were living below the poverty line, according to 1999-2000 figures. Various schemes to empower the tribals through employment and income generating activities and food security are being implemented through the National Scheduled Tribes Finance & Development Corporation (NSTFDC), Tribal Cooperative Marketing Development Federation of India Ltd. (TRIFED) and State Scheduled Tribes Finance & Development Corporations (STDCs).

3.74 The NSTFDC was set up in April 2001 under the the nodal Ministry of Tribal Affairs. This is an apex institution providing financial assistance to the eligible STs for self-employment and income generating activities. The authorised share capital of NSTFDC is Rs.106.87 crore. The corporation has launched a new scheme, Adivasi Mahila Sashaktikaran Yojana, to provide concessional loans, particularly to women beneficiaries. The corporation, in close coordination with National Bank for Agricultural & Rural Development (NABARD), had identified thrust areas for the economic development of STs. During the first two years of the Tenth Plan, NSTFDC has advanced loans amounting to Rs.178.13 crore for income-generating activities and for working capital benefiting 8,67,740 tribal beneficiaries.

3.75 TRIFED was set up in 1987 with the objective of providing marketing assistance and remunerative prices to STs for their minor forest produce and surplus agricultural produce vis-a-vis value addition, in order to protect them from exploitation by private traders and middle men. TRIFED was given Rs.33.63 crore during the Tenth Plan, of which the likely expenditure is Rs.16.65 crore, while Rs.78.31 crore was given as grant-in-aid to STDCs, of which the likely expenditure is Rs.25.72 crore.

3.76 TRIFED'S work has been mostly related to the purchase of minor forest and agriculture produce from tribals and marketing this, instead of being a facilitator in the value addition of the produce and developing marketing/ credit linkages. It is beset with administrative/managerial problems and is making heavy losses. The Mid-Term Appraisal of the Ninth Plan had also undertaken a critical analysis of the Finance Corporations and TRIFED and it was suggested that business and managerial reforms be undertaken so as to make these bodies effective financial

Table 3.1.5

Outlay and expenditure under the schemes for economic development of STs in the Tenth Plan

(Rs. Crore) at 2001-02 constant price

S. No	Name of the Scheme	Tenth Plan	ANNUAL PLAN							
			2002-03		2003-04		2004-05		Total (2002-05)	
		Agreed Outlay	B.E.	Exp.	B.E.	Exp.	B.E.	R.E.	Likely Exp.	Col.10 %age of col. 3
1	Investment in TRIFED and price support	33.63	5.80	5.74	5.62	5.61	8.83	5.30	16.65	49.51
2	Grant-in-Aid to STDCs for Minor Forest Produce	78.31	13.50	14.46	16.82	4.21	15.87	7.05	25.72	32.84
3	NSTFDC. and grant-in-aid to STDCs.	178.99	30.85	33.94	35.05	16.43	34.61	31.31	81.68	45.63
	Total - I (CS)	**290.93**	**48.23**	**54.15**	**56.56**	**26.25**	**59.31**	**43.66**	**124.06**	**42.64**

Source: Ministry of Tribal Affairs, Government of India, New Delhi.

instruments in empowering the disadvantage groups. Evaluation studies have been undertaken to revitalise the Corporation and improve its functioning. Necessary changes need to be carried out in line with the suggestions to improve its performance.

3.77 The Establishment of the Village Grain Bank scheme was launched in 1996-97, with a view to setting up Grain Banks in remote, inaccessible tribal areas and drought-prone areas in order to provide a measure of food security. The scheme is being implemented in Andhra Pradesh, Jharkhand, Gujarat, Kerala, Madhya Pradesh, Manipur, Orissa, Tamil Nadu, Uttaranchal, West Bengal, Tripura and Maharashtra. The scheme is being revised in order to expand its coverage and to provide more grains per family besides supporting the cost of transportation and storage of grains. As against the target of 15,838 Village Grain Banks in the Tenth Plan, only 1,483 Banks benefiting 3,44,769 families could be set up during the first three years of the Plan period, with an expenditure of Rs.10.30 crore (4.5 per cent of outlay). The rapid evaluation of the scheme conducted by the Ministry of Tribal Affairs during the Tenth Plan indicates that the Grain Banks are operating effectively only at few places and that there is a serious problem of recovery of loan from the borrowers. However, the Village Grain Banks being operated through the NGOs are performing well. This points to the need to encourage involvement of the NGOs working in tribal areas especially to attend to the remote and inaccessible pockets.

SOCIAL JUSTICE

3.78 Constitutional guarantees ensure justice to the tribals. The Protection of Civil Right Act 1955 (PCR Act) and the Scheduled Castes/ Scheduled Tribes (Prevention of Atrocities) Act 1989 (POA Act) are two important legal instruments to protect the tribals from all kinds of social discrimination like untouchability, exploitation and atrocities. The POA Act provides for special courts/mobile courts for speedy trial and disposal of the cases. Nineteen states have appointed special cells/squads/officers to ensure effective implementation of the Act.

3.79 In order to enable the tribals to participate in the decision-making process, provisions of the Panchayat (Extension to the Scheduled Areas) Act, 1996, has been extended to the Scheduled Areas empowering them to formulate Plans, implement and monitor schemes.

TSP, SCA TO TSP AND GRANT-IN-AID

3.80 The two special strategies of TSP for STs and SCA to TSP have been receiving special attention right from their initiation in Fifth Plan. SCA to TSPs is extended to states as an additionality to their Plan in the form of 100 per cent grant to fill the critical gaps especially in family-based income activities for BPL tribals. The Central Tripartite Committee set up in the Planning Commission reviewed

Box 3.1.2
The Panchayats (Extension to the Scheduled Areas) Act

The Panchayats (Extension to the Scheduled Areas) Act, 1996 (PESA 1996) is a landmark legislation ensuring the involvement of tribals in their empowerment process not only as active participants, but also as effective decision makers, implementers, monitors and evaluators. The PESA Act, 1996 provides specific powers and responsibilities to gram sabhas to ensure the effective participation of the tribals in their development in harmony their culture. This Act extends panchayats to the tribal areas of nine states – Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, Orissa and Rajasthan – which intends to enable tribal society to assume control over their own destiny to preserve and conserve their traditional rights over natural resources.

the implementation SCP and TSP of 14 Central ministries/departments and suggested the state governments set up such Tripartite Committees at the state level to review the functioning of SCP and TSP.

3.81 SCA guidelines were revised in 2003 to extend financial assistance for the development of forest villages, irrigation facilities, SHGs/ community-based employment-cum-income generation activities etc All Central ministries and state governments have to earmark funds at least in proportion to the population percentage of the tribals in the country and the states respectively. Going by the information available, 25 Central ministries and 23 states/ Union Territories are earmarking funds under TSP. An amount of Rs.1351.23 crore (54.17 per cent) has been released to different states/ Union Territories as SCA during the first three years of the Plan.

3.82 Under Article 275 (1) of the Constitution, grants from the Consolidated Fund of India are extended annually to various state governments having Scheduled Areas. The guidelines for releasing the grant have been revised to extend financial assistance to forest villages, model schools, expansion and integration of minor irrigation schemes etc. During the first three years of the Tenth Plan, Rs.816.52 crore has been released (54.4 per cent of total outlay) to different states/ Union Territories.

RESOURCE POSITION

3.83 In order to fulfil the Tenth Plan commitments to empower the tribals, 14 Central and Centrally sponsored schemes were implemented with allocated funds to the tune of Rs.5,754 crore. The likely expenditure in the first three years is Rs.2,747.24 crore, which is 47.7 per cent of total outlay against the expected 60 per cent for the three years. However, the expenditure for the Central sector scheme and Centrally sponsored schemes is only about 32 per cent and 34 per cent respectively (Table 3.1.6).

TRANSFER OF CSS SCHEMES TO STATES

3.84 The Ministry of Tribal Affairs has suggested that the following schemes can be transferred to state governments without impairing their efficiency:

- Grants-in-aid to NGOs for STs including coaching and allied schemes and award for exemplary service.
- Educational Complex in low literacy pockets for development of women literacy in tribal areas.

Table 3.1.6
Outlays and expenditure of Ministry of Tribal Affairs for Tenth Plan at 2001-02 constant prices.
(Rs. crore)

Category	Tenth Plan	Annual Plan (2002-03)		Annual Plan (2003-04)		Annual Plan (2004-05)		Annual Plan 2005-06	Likely Expd. during 2002-05	Expd. During 2002-05 (%)
	Outlay	BE	Expd	BE	Expd	BE	RE	BE		
CS schemes	924.64	138.87	117.92	149.10	77.68	154.33	102.24	104.82	297.84	**32.21**
CSS schemes	829.36	140.78	79.30	121.98	90.80	126..98	111.55	224.24	281.65	**33.96**
SCA to TSP	2500.00	482.16	481.76	464.57	431.20	438.27	438.27	610.57	1351.23	**54.05**
G.I.A under Art. 275(1)	1500.00	289..3	289.3	280.43	236.21	291.01	291.01	319.14	816.52	**54.43**
Total	5754.0	1051.1	968.27	1016.08	835.89	1010.58	943.07	1174.78	2747.24	**47.74**

Source: Ministry of Tribal Affairs, Government of India, New Delhi.

- Schemes of upgradation of merit of ST students.

3.85 Since tribal areas are normally contiguously located, the state governments can adopt an area-based approach. The case for this is strengthened by the fact that the schemes have limited budgetary allocation, adopting this approach would put state governments in a better position to achieve effective implementation and control of these schemes as per the local needs. These schemes may be transferred to the states along with the 'Hostel for ST Students' scheme which is also facing the problem of timely allocation of funds and matching grants by the state governments.

ISSUES OF CONCERN

3.86 Since the enunciation of the late Prime Minister Jawaharlal Nehru's Panchsheel programme for tribal development, there has been no clear national tribal policy which could act as a roadmap for the welfare and development of tribals. The Tenth Plan recognises the need for formulating a comprehensive policy for tribals. A draft National Tribal Policy has been prepared by the Ministry of Tribal Affairs and has been circulated amongst the experts, administrators and Ministries for their comments. It is expected to be finalised by the end of 2005.

3.87 There are about 5,000 forest villages predominantly inhabited by the tribals, especially the PTGs, which lack basic minimum services. There is need to undertake development of these forest villages in coordination with the Ministry of Environment and Forests. Efforts have already been initiated to prepare comprehensive projects for their development, initially in Assam, West Bengal, Madhya Pradesh, Gujarat and Chattisgarh where 80 per cent of the forest villages are located. The funds available under SCA to TSP and Article 275(1) of the Constitution need to be utilised for this.

3.88 The PTGs live in the inaccessible pockets of forests, with declining sources of sustenance. A national plan of action for tribe-specific comprehensive development needs to be expeditiously formulated and administered.

3.89 The economic and livelihood activities of tribals are rooted in the forests where they live. However, they are being denied their traditional rights over forest land and over forest produce because of the development of sanctuaries, national parks and other environmental restoration projects. The National Forest Policy, 1988 stipulates certain measures to involve tribals in forest department activities The NCMP has also envisaged restoring the traditional rights of the tribals on forest produce, including tendu leaves. Minor forest produce has been now clearly defined to include all the bio-mass of non-timber forest produce and the Ministries of Environment & Forests and Tribal Affairs are working jointly to bring necessary legislations to confer ownership rights to the tribals living in forests. Action on this is required.

3.90 Tribals are being alienated from their lands due to acquisition of this land for public purposes, fraudulent transfers, forcible eviction, mortgages, leases and encroachments. The Ministry of Rural Development has estimated the extent of alienation of tribal land at the beginning of the Tenth Plan in different states: Andhra Pradesh (2.79 lakh acres), Madhya Pradesh (1.58 lakh acres), Karnataka (1.3 lakh acre), Gujarat (1.16 lakh acres). Settlement cases are not being disposed of easily. Thus, there is an urgent need to plug the loopholes in the administrative procedures and to restore the land alienated so far. Development of tribal land and augmentation of minor irrigation facilities through implementation of various schemes will boost the agricultural operations leading to increase in the income of the tribals.

3.91 Shifting cultivation is still being practised by about 600,000 tribals especially in the north-eastern states. The Ministry of Agriculture has a scheme for the control and transformation of shifting cultivation and this requires to be implemented properly.

3.92 Tribals have been displaced in large numbers on account of various large developmental projects like irrigation dams, hydro-electric and thermal power plants, coal mines and mineral-based industries. A National Policy on Relief and Rehabilitation of Project Affected Families (PAFs) has been notified on 17 February 2004 with a relief package of 17 parameters to be fulfilled before permitting dislocation. This needs to be effectively implemented in tribal areas.

3.93 Though it is mandatory to allocate population-proportionate funds under TSP, most state governments/Union Territories and ministries are not doing so. The Planning Commission has taken up the matter by constituting a Central Standing Tripartite Committee and directions have been given to the nodal Ministries of Social Justice & Empowerment and Tribal Affairs, but progress on this front is very tardy. There is also an urgent need for making the TSP and Schedule V areas co-terminus with the development and protection of tribals and raising the level of administration in scheduled areas. The allocation of funds in the TSP areas also need to to be monitored and programmes implemented with the active involvement of the tribals as per the provisions of PESA Act, 1995 so that, the funds are allocated and utilised for the intended purposes.

3.94 The 73rd and 74th amendments to the Constitution have paved the way for the involvement of panchayat raj institutions (PRIs) in the planning and implementation of schemes/programmes. All the state governments have enacted their state legislations in pursuance with the PESA Act, 1996. However, they are required to amend all the relevant Acts/Rules to bring them in conformity with the provisions of PESA to ensure effective participation of tribals in various developmental programmes.

3.95 The problems of nomadic and semi-nomadic tribes are distinct and there is no authentic data on them. As they do not have permanent residency due to their mobility, suitable welfare and development programmes need to be devised for their benefit.

3.96 The involvement of NGOs/voluntary organisations is are being sought to supplement the government's efforts in the implementation of the various schemes of educational, health, vocational training, hostels, ashram schools, TSP and Article 275(1) of the Constitution. Though some of the reputed NGOs/voluntary organisations are doing exemplary work, of late, spurious organisations have emerged. There is a need for standardisation of procedures in the identification of NGOs and awarding the programmes/schemes to the eligible one.

THE WAY FORWARD

Socially Disadvantaged Groups

- Put in place a mechanism to ensure timely disbursement of scholarships to SC/ST students
- Formulate and expeditiously operationalise/ implement a national fellowship scheme for SC/ST students for pursuing higher education, especially M.Phil and Ph.D programmes.
- Ensure that all the marginalized and deprived settlements, located on the outskirts of the main habitations, are provided with basic services.
- Involve the NGOs and corporate sectors in complementing the government's efforts for the welfare and development of the disadvantaged groups.
- Set up a Central bureau for screening and accrediting NGOs.

Social Welfare

- Evaluate the activities of the various National Institutes for persons with disabilities from time to time and modify their training programmes to make them more relevant to available job opportunities.

- Promote credible voluntary organisations in states where their presence is weak.
- Evaluate the functioning of ALIMCO to assess how it caters to the needs of the poorer segments of the disabled population.
- Prepare, on priority basis, the Action Plan to operationlise the National Policy on Older Persons.

SCHEDULED TRIBES

- Utilise funds available under SCA to TSP and grants under Article 275 (1) of the Constitution for providing minor irrigation facilities to the tribals and for the development of forest villages predominantly inhabited by tribals on a priority basis.
- Work towards ensuring that tribals are not denied their traditional rights over forest land and forest produce, including tendu leaves through enactment of suitable legislation conferring ownership rights to the tribals living in forests.
- Enact suitable legislation to confer ownership rights to tribals living in forests. Plug loopholes in administrative procedures relating to restoration of alienated tribal lands.
- Ensure effective implementation in tribal areas of the National Policy on Relief and Rehabilitation of Project Affected Families.
- Monitor the allocation of funds in the TSP areas and implement programmes with the active involvement of the tribals.
- Devise suitable welfare and development programmes for the nomadic and semi-nomadic tribes.
- Standardise procedures for the identification of NGOs to weed out spurious ones.

MINORITIES

- Establish primary schools in localities with concentrations of Muslim population during the remaining period of the Tenth Plan, with buildings, equipment and teacher-pupil ratio according to the prescribed standards.

Annexure 3.1

Outlay and Expenditure for Educational Development Schemes for SCs, OBCs and Minorities

(Rs.in crore at 2001-02 constant prices)

Sl. No.	Name of the Scheme	TENTH PLAN 2002-07 Agreed Outlay	ANNUAL PLAN							
			2002-03		2003-04		2004-05		Total - (2002-05)	
			B.E.	Actual Expdr.	B.E.	Actual Expdr.	B.E.	R.E.	Likely Expdr.	Col. 10 as a %age of col. 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I.	CENTRAL SECTOR SCHEMES (CS)									
1	Setting up of Residential school for SC students studing in Class VI to XII	0.00	0.00	0.00	9.35	0.00	7.94	0.01	0.01	0.00
2	Maulana Azad Education Foundation	30.00	0.00	0.00	28.04	3.51	0.88	0.88	4.39	14.62
3	Dr.B.R.Ambedkar Foundation	5.00	0.96	0.96	0.93	0.93	0.88	0.88	2.78	55.62
	Total - I (CS)	35.00	0.96	0.96	38.32	4.44	9.70	1.77	7.18	20.51
II.	CENTRALLY SPONSORED SCHEMES (CSS)									
4	PMS and Book Banks for SC Students	1558.00	265.19	151.90	247.71	247.70	281.79	281.79	681.39	43.73
5	Pre-Matric Scholarships for children of those families engaged in unclean occupations	87.00	13.98	4.94	13.55	13.66	14.11	8.82	27.41	31.51
6	Hostels for SC & OBC boys & girls	347.00	59.31	54.48	54.22	61.65	56.70	49.81	165.94	47.82
7	Coaching & Allied scheme for SCs, OBCs & other weaker sections	97.55	15.09	6.89	6.45	4.01	7.05	4.41	15.31	15.70
8	Merit Based Scholarships for SC students	346.50	40.50	2.94	60.76	1.73	22.05	1.76	6.43	1.86
9	Merit Based Scholarships for OBC & Minorities students	289.5	55.83	45.48	38.32	38.32	37.70	37.76	121.55	41.99
	Total - II	2725.55	449.90	266.63	421.01	367.06	419.40	384.35	1018.04	37.35
	Total - (CS + CSS)	2760.55	450.87	267.60	459.34	371.50	429.10	386.12	1025.22	37.14

Source: Ministry of Social Justice & Empowerment, Government of India, New Delhi.

Annexure 3.2

Outlay and Expenditure in the Social Welfare Sector of Tenth Plan (2002-07)
(Rs.in crore at 2001-02 constant prices)

Sl. No.	Name of the Scheme	TENTH PLAN 2002-07 Agreed Outlay	ANNUAL PLAN 2002-03 B.E.	2002-03 Actual Expdr.	2003-04 B.E.	2003-04 Actual Expdr.	2004-05 B.E.	2004-05 R.E.	Total - (2002-05) Likely Expdr.	Col. 10 as a %age of col. 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A.	DISABILITY SECTOR									
1	Scheme for Funding to National Institutes	210.80	30.86	26.89	39.91	33.32	37.92	30.21	30.21	14.33
2	Assistance to Disabled Person for Purchasing/ Fitting of Aids & Appliances	354.50	53.04	54.97	53.28	51.41	59.08	59.08	165.46	46.67
3	Sheme to Promote Voluntary Action for Persons with Disables	503.00	69.43	72.88	73.85	66.41	79.37	72.04	211.33	42.01
4	National Handicapped Finance and Development Corporation	97.50	14.46	9.64	9.35	0.00	9.70	0.88	10.53	10.79
5	Implementation of the Persons with Disables (PWD Act), 1995	154.00	31.34	10.13	21.03	3.30	29.10	2.50	15.92	10.34
6	Others five schemes	145.60	21.60	12.66	8.88	4.63	6.88	5.91	23.20	15.93
	Total - A	1465.40	220.73	187.17	206.30	159.08	222.05	170.62	456.65	31.16
B.	SOCIAL DEFENCE									
7	Assistance to Vol. Orgns. For providing Social Def. Services	158.50	27.48	27.19	26.64	23.51	28.35	26.42	77.12	48.66
8	Grant-in-aid for Welfare of Children in Difficult circumstanc	85.90	18.32	12.73	13.37	11.39	14.99	14.97	39.10	45.51
9	Assistance to Vol. Orgns. for programmes related to Aged Social Def. Services	104.00	19.58	15.91	18.70	14.77	19.40	16.37	47.05	45.24
10	Scheme for prevention & Control of Juvenile Social Maladjustment	105.00	15.43	13.82	14.96	15.32	18.60	18.55	47.69	45.42
11	Others	85.20	16.68	8.58	14.49	5.74	13.67	3.28	17.60	20.66
	Total - B	538.60	97.49	78.24	88.15	70.73	95.01	79.59	228.56	42.44
	Total - (A + B)	2004.00	318.23	265.41	294.45	229.81	317.05	250.21	685.21	34.19

Source: Ministry of Social Justice & Empowerment, Government of India, New Delhi.

Annexure 3.3

Outlay and Expenditure for Educational Development Schemes for Scheduled Tribes
(Rs.in crore at 2001-02 constant prices)

Sl. No.	Name of the Scheme	TENTH PLAN 2002-07 Agreed Outlay	ANNUAL PLAN 2002-03 B.E.	2002-03 Actual Expdr.	2003-04 B.E.	2003-04 Actual Expdr.	2004-05 B.E.	2004-05 R.E.	Total - (2002-05) Likely Expdr.	Total - (2002-05) Col. 10 as a %age of col. 3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I.	CENTRAL SECTOR SCHEMES (CS)									
1	Grant-in-Aid to NGOs for Coaching ST Students	178.98	30.86	29.79	29.91	25.14	29.98	26.81	81.74	45.67
2	Vocational Training Centres in Tribal Areas	67.12	11.57	6.08	7.48	4.84	7.50	5.29	16.21	24.15
3	Educational Complexes in low Literacy Pockets	44.74	7.71	5.79	7.48	5.37	7.50	7.05	18.21	40.69
4	Village Grains Bank	231.00	19.29	8.86	28.04	1.00	28.66	0.44	10.30	4.46
	Total - I (CS)	521.84	69.43	50.51	72.91	36.35	73.63	39.59	126.46	24.23
II.	CENTRALLY SPONSORED SCHEMES (CSS)									
1	Scheme of PMS, Book Banks and Upgradation of Merit of ST Students	383.09	66.05	51.97	52.80	62.81	80.66	67.89	182.67	47.68
2	Scheme of Hostels for ST Students	134.24	23.14	13.02	22.43	16.97	21.16	11.46	41.45	30.88
3	Ashram Schools in TSP Areas	78.30	13.50	9.16	13.09	6.05	12.35	5.29	20.50	26.18
4	Research & Mass Education, Tribal Festivals and Others	58.73	10.13	5.15	6.54	4.98	7.50	4.59	14.73	25.07
	Total - II	654.36	112.82	79.30	94.87	90.80	121.67	89.24	259.34	39.63
	Total - (CS+CSS)	1176.20	182.25	129.81	167.78	127.15	195.30	128.84	385.80	32.80

Source: Ministry of Tribal Affairs, Government of Inida, New Delhi.

Women, Children and Development

4.1 One of the six basic principles of governance laid down in the United Progressive Alliance government's National Common Minimum Programme (NCMP) is "to empower women politically, educationally, economically and legally." In the light of this, it is necessary to assess how women and children actually fared in the process of development during the Tenth Plan and what correctives need to be applied.

4.2 The Tenth Plan has set certain monitorable targets for women and children. These are:

- All children in school by 2003; all children to complete five years of schooling by 2007.
- Reduction in gender gaps in literacy and wage rates by at least 50 percent by 2007.
- Reduction of Infant Mortality Rate (IMR) to 45 per 1000 live births by 2007 and 28 by 2012.
- Reduction of Maternal Mortality Rate (MMR) to 2 per 1000 live births by 2007 and to 1 per 1000 live births by 2012.

Other objectives are:

- Arresting the decline in the child sex ratio.
- Increasing the representation of women in premier services and in Parliament.
- Universalisation of the Integrated Child Development Services (ICDS) scheme.

4.3 Though some of these targets are set for beyond the Tenth Plan, the Mid-Term Appraisal has been conducted in the light of these targets.

4.4 The goals appear almost impossible to achieve. It took two decades to reduce the gender gap in literacy from 26.62 in 1981to 21.69 in 2001. But the Tenth Plan envisages a reduction by 50 per cent in five years.

4.5 The burning issues relating to women and children are the adverse child sex ratio, persistently high infant, child and maternal mortality ratios, wide gender gaps in literacy and in wage rates, escalating violence against women and the rising incidence of female foeticide and infanticide.

4.6 Other important concerns are the feminisation of poverty and the exploitation of women in low paid, hazardous and insecure jobs in the unorganised sector and in the export processing or special economic zones. According to the NSS 55th Round (1999-2000), women casual workers in urban areas are more vulnerable to poverty compared to not just their male counterparts but also to workers — both female and male — in other employment categories.

4.7 The mid-term appraisal of women and child development has found glaring gaps and inconsistencies on the ground in the light of the promises made in the Tenth Plan and the NCMP. A high-powered inter-ministerial review (under the chairpersonship of the Prime Minister) of gender justice will bring the Tenth Plan back on track regarding its commitment to gender justice. Alternatively, a Prime Minister's Mission on Women, Children and Development can be considered.

PROGRESS IN THE TENTH PLAN

WOMEN'S PROGRAMMES

Swyamsidha

4.8 The Swyamsidha programme, a recast version of the Indira Mahila Yojana (IMY), organises women into self-help groups (SHGs) for income-generation activities. It also facilitates access to services such as literacy, health, non-formal education, water supply, etc. The Tenth Plan outlay for this scheme was Rs. 200 crore, which has been used for mobilising women into self-help groups (SHGs) and training them, capacity building, promotion of thrift, and access to micro-credit. The scheme, at present, covers 650 blocks (including 238 IMY blocks) and promotes 53,100 SHGs, benefiting 9,29,000 women and needs to be expanded to cover more than 6,000 blocks in the country. The target of the Department of Women and Child Development (DWCD) was to cover 2,000 additional blocks during the Tenth Plan at the rate of 400 blocks per year. However, only 650 blocks were covered up to the end of the second year of the Tenth Plan. There is no information available on the status of the SHGs already created under the scheme, and this makes it imperative that vigorous standards of evaluation be followed, especially to assess the usefulness of the scheme itself.

Swa-Shakti

4.9 Swa-Shakti involves the setting up of women's SHGs in rural areas, especially among farmers and agricultural labourers, and ensuring them access to credit for income-generation activities. The Tenth Plan outlay for this scheme is Rs. 75 crore and it also receives funding from the World Bank and the International Fund for Agricultural Development (IFAD). The scheme is being implemented in 57 districts of Bihar, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Uttar Pradesh and Uttaranchal. The target of creating SHGs has been exceeded, with 17,640 groups benefiting 3,00,000 women being formed up to 2003-04 against a target of 16,000 SHGs benefiting 2,40,000 women. However, the scheme needs to be evaluated.

4.10 Swyamsidha and Swa-Shakti are similar-sounding schemes with similar objectives. In the interest of rationalisation, therefore, these schemes need to be merged. Swa-Shakti, being externally funded, will lapse after June 2005. Other schemes like Swawlamban and Support to Training cum Employment Programme (STEP) - training programmes for women with the objective of earning a livelihood in the non-traditional and agro-based sectors respectively - can also be combined with Swyamsidha. It is imperative that these small schemes be combined into one substantial scheme for SHGs for women.

Rashtriya Mahila Kosh

4.11 The Rashtriya Mahila Kosh (RMK), or the National Credit Fund for Women, - was established in 1993 to extend micro-credit to SHGs. While schemes like Swyamsidha help get the SHGs started, the RMK extends credit to the SHGs. The Tenth Plan outlay for the RMK is Rs. 148 crore.

4.12 Although the RMK has been able to maintain a high recovery rate of about 90 per cent of the funds lent, it has not utilised a large proportion of available funds. It has become a regular practice to invest a major portion of its funds, considered as surplus, in interest-earning time deposits in commercial banks. Between 1 November 2002 and 15 September 2004, Rs. 79.00 crore was invested as bank deposits, whereas only Rs. 43.68 crore was sanctioned for micro-finance, out of which only Rs. 29.55 crore was disbursed. There has, thus, been a mismatch between the purpose and outcome of the scheme and remedial measures need to be taken to correct this or else further expansion of its corpus would result in undesirable parking of funds.

4.13 The RMK routes its funds through Non-Government Organisations (NGOs). Hence, there is a need to evaluate the credibility of the chosen NGOs, before the funds are committed. A committee of independent specialists in micro-finance and gender studies needs to be constituted to investigate and recommend measures to get the RMK back on stream. Experiences of how NGOs such as the Self Employed Women's Association (SEWA) which have organised women's micro-credit, need to be taken on board.

Hostels For Working Women

4.14 The Hostels for Working Women scheme aims to promote greater mobility for women in the labour market by providing safe and cheap accommodation to those from the lower income strata living away from home. The Tenth Plan outlay for this scheme is Rs. 85 crore but its utilisation during the first two years of the Plan period is unsatisfactory. During 2002-03, the utilisation was Rs. 6.00 crore against an outlay of Rs. 15.00 crore and during 2003-04 the utilisation was Rs. 5.14 crore against an outlay of Rs. 10.00 crore.

4.15 One of the reasons for this low utilisation is that NGOs are not able to avail funds due to strict norms of funding. Two factors that adversely affect implementation are slow pace of construction of hostels by the organisations to which grants have been released, and lack of suitable proposals from organisations for financial assistance.

4.16 The norms for financial assistance under the scheme discourage the NGOs, who find the cost and risk sharing unreasonable. For instance, at present 50 per cent of the cost of land (the land has to be acquired before the proposal for a government grant is submitted) and 25 per cent of the construction cost has to be borne by the NGO. During the past few years, there have been very few proposals from metropolitan cities where the need is acute, but the acquisition of land is a problem. Norms for assistance under the scheme must be changed to make it easier for the interested NGOs to avail financial assistance. It may even be necessary to overhaul the entire scheme. Public-private partnerships may be one way to go. Procedures have to be simplified now so that NGOs can access this scheme.

4.17 For adolescent girls, there is need for hostels with subsidised boarding and lodging facilities. This helps retain them in school and discourage early marriage because parents often push young girls into marriage because of lack of facilities for education.

Short-stay Homes

4.18 The Short-Stay Homes Scheme provides temporary shelters for women and girls who are victims of violence whether it is domestic, work-related, or societal. A sum of Rs. 75 crore has been allocated for this scheme in the Tenth Plan in the form of grant-in-aid to the Central Social Welfare Board (CSWB). Against the target of constructing 560 short-stay homes during the Tenth Plan, only 106 have been constructed till 2003-04. The shortfall is, therefore, substantial. A total of 32 short-stay homes were constructed during 2003-04 by utilising Rs. 12.80 crore. Gross underachievement is disturbing at a time when violence against women is increasing across the country and the victims desperately need these short-stay homes as places where they can get temporary security and live with dignity until their rehabilitation is complete.

Swadhar

4.19 The Swadhar scheme extends rehabilitation services to women in difficult circumstances. It provides food, shelter, clothing and care to destitute women, widows left in religious places, women survivors of natural calamities, trafficked women, women victims of political and communal violence who do not have family support or are living in difficult circumstances.

4.20 The Tenth Plan outlay for Swadhar is Rs. 100 crore. The progress under the scheme is not satisfactory. Only 35 projects have been sanctioned so far and utilisation of funds has also not been up to mark. Though the outlays were Rs.14.46 crore and 14.02 crore in 2002-03 and 2003-04 respectively, only Rs. 3.90 crore was utilised in 2002-03 and Rs. 1.05 crore in 2003-04. Such under-utilisation of funds defeats the objectives and concerns with which the scheme had been launched. This scheme needs to be reformulated to make it work. Women in difficult circumstances in "disturbed areas" like Jammu and Kashmir, the north-east and in riot or pogrom affected areas may need a reformulated Swadhar, which is compatible with adaptation to local requirements and conditions.

Children's Programmes

Integrated Child Development Services and Crèches

4.21 The Integrated Child Development Services (ICDS), launched in 1975, aims at the holistic development of children up to six years of age with a special focus on children up to two years, besides expectant and nursing mothers. This is done through a package of six services - health check ups, immunisation, referral services, supplementary feeding, non-formal pre-school education and advice on health and nutrition. Up to 2003-04, ICDS had been operationalised in 5,262 blocks against the target of 5,652 blocks to be operationalised by the end of the Tenth Plan to benefit 41.5 million persons comprising 34.4 million children and about 7.1 million pregnant and lactating mothers through 6.49 lakh anganwadi centres.

4.22 The Tenth Plan outlay for ICDS is Rs. 10391.75 crore. The significance of ICDS can be gauged from the fact that 75 per cent of the DWCD's Tenth Plan outlay is earmarked for this scheme. However, the quality of implementation of the scheme varies from state to state. A comparative evaluation study conducted in 1992 by the National Institute of Public Cooperation and Child Development (NIPCCD) found the health and nutritional status of pre-school children and nursing and expectant mothers in ICDS areas much better than in non-ICDS areas.

4.23 The NCMP envisages universalisation of ICDS and anganwadi centres in each settlement. A Supreme Court order, in Writ Petition (Civil) No. 196/2001, also directs the government to increase the number of anganwadi centres to 14 lakh and to revise the cost norm of Rs. 1 per child per day for supplementary nutrition, which was fixed way back in 1991. At present, there are 6.49 lakh operational anganwadi centres. Extension of centres to each settlement will require about 14 lakh centres, which amounts to more than double of the existing number.

4.24 Given the importance of ICDS in the survival and development of children and its centrality within the programmes of the DWCD, it merits a serious discussion, including a critique and suggestions.

- Women are both productive workers contributing to the economy as well as mothers and homemakers. There are around 106 million women (NSS 55th Round, July-June 1999-2000) in the workforce, out of which around 40-45 per cent are in the reproductive age group. Day-care support services are an essential requirement for these women. Though an estimated 30 million children under six need day-care, there are only 12,470 crèches catering to 3,12,000 children and this has remained more or less stagnant over the last three plans. The existing crèche facilities need to be expanded exponentially. This can partly be attained if the obligatory legal stipulation for provision of crèches at the place or site of work is strictly enforced. The government also has to play a major role in this.
- The ICDS programme does not have the critical component of day-care in the package of services provided, though lip service has been paid from time to time. This has prevented ICDS from achieving its objectives. For example, IMR cannot be brought down effectively without focusing on infant nutrition, but this has always remained the weakest part of the ICDS programme and is linked to the lack of day-care. Children under two years need to be fed frequently, appropriately and with loving care, which is not possible if the mother is at work. Day care could meet this need. An illustration of the lack of awareness about this is that even though anganwadi workers maintain as many as 17 records, none of these contain the occupation or the work status of the mother! One consequence of the lack of day-care is its impact on the education of the girl child, since she is made to stay home to take care of younger siblings. Another issue that

needs to be addressed is that disabled children must be encouraged to attend the crèches and crèche workers have to be trained for care of such children.

- Universalisation of ICDS, one of the goals of the NCMP, needs to be completed in five years time. Universalisation cannot and should not be interpreted merely in terms of doubling the number of centres to 14 lakh. The nature of change and quality improvement is as important. Children in the 0-14 years age group constitute 33.8 per cent of the population. A larger share of public expenditure, including investment expenditure, is required to be allocated for them.

- Lack of food security and poor nutritional status affects the physical growth, intelligence, behaviour and learning abilities of children and adolescents, especially during the development of the brain in the 0 to 3 years period. Malnutrition - understood as specific deficiencies of essential nutrients (vitamins and minerals) and prevalent in the form of goitre (inadequate intake of iodine), anaemia (iron deficiency) and vitamin A deficiency - is widespread. According to the National Family Health Survey, 1998-99, the incidence of malnutrition among children is as high as 47 per cent. Unfortunately, most states are unable to meet the supplementary nutrition component of the ICDS because of financial constraints. Food is either not available at the ICDS centres, or not in adequate quantities. A suggestion that the Centre could share the cost of supplementary nutrition in the ICDS programme could be considered. Supplementary nutrition can be supervised by women's SHGs on behalf of the panchayats. An annual cost estimate of supplementary nutrition is given in Annexure 4.1.

- One criticism of the ICDS programme relates to centres in remote areas inhabited by tribal people where the distances are formidable and the food is inadequate. For instance, in Jharkhand, there may be one ICDS centre for a village comprising four to five tolas (settlements). The tolas may be located at a distance of two-three km from each other, making it difficult for children to reach the centre. The facilities and the provision of food are never adequate to serve all the children in the village. This variable needs to be separately addressed.

- Pre-school education for children in the three to six years age group is a weak component of ICDS. The anganwadi workers need to be trained to be able to fulfil this requirement. The 93rd amendment of the Constitution, in effect, accorded elementary education the status of a fundamental right, but left out pre-school education. The exclusion of the latter would deprive many children in the three to six age group of pre-school education, which may lead to greater school dropout rates and other problems. District-level strategies must be designed for pre-school education. In addition, the State Councils for Educational Research and Training (SCERTs) must train the anganwadi workers to meet the needs of pre-school education.

- In order to meet the Tenth Plan goals relating to reduction of IMR and MMR, there must be a good maternal and childcare clinic at every block headquarters. The medical kits and services of the anganwadi centres are inadequate to meet the clinical needs of maternal and childcare. The inherent risks of motherhood need to be recognised, the kits need to be upgraded. There may not be a strict detailed division of labour between the anganwadi workers and the auxiliary nurse midwifes (ANMs) on the ground and the two need to work together in tandem so as to ensure better results in the immunisation of children and in pre-natal, neo-natal and post-natal care for mothers and infants.

- For the ICDS to achieve its objectives, an effective synergy is required between the DWCD and the Ministry of Health and Family Welfare, the Department of Education, the Department of Drinking Water Supply and other ministries/departments to meet the requirements of health, sanitation, drinking water, pre-school education, etc.
- Finally, accountability should remain with the state departments of WCD, but with increasing attempts to involve the panchayati raj institutions (PRIs) as partners.

Strengthening Delivery Mechanisms

4.25 The success of any scheme ultimately depends on the effectiveness of the delivery mechanism at the field level. Various government agencies, autonomous bodies, public enterprises, PRIs and NGOs are involved in the implementation of the different schemes/ programmes for women and children. Schemes such as Swyamsidha, Swa-Shakti, and Hostels for Working Women are implemented with the involvement of all these agencies at different levels. Schemes like Swadhar and the RMK are entrusted mainly to NGOs and operate through SHGs. The involvement/participation of women in the implementation process is established through SHGs, which have proved to be an effective medium at the grass-root level for the welfare and development of women and children. SHGs managed by and involving women are also being encouraged to participate in the implementation of specific schemes.

4.26 The NGOs/voluntary agencies continue to play an active role in the implementation of schemes that supplements/ complements the efforts of the government. The NGOs mobilise women into SHGs and enhance their capacity, especially under Swyamsidha, Swa-shakti and RMK. Training programmes are organised for women under Swawlamban and STEP. NGOs are also operating the Working Women Hostels, and implementing Swadhar. The PRIs can ensure transparency and strengthen social audit of the schemes by playing the role of a watchdog. The ICDS programme, which is implemented mostly through the district/block/field-level functionaries like Child Development Project Officers, Supervisors, Anganwadi Workers and Helpers needs the direct involvement of PRIs and SHGs to mobilise children and women to avail of the services. Involvement of the PRIs and SHGs in the delivery of services like immunisation, supplementary nutrition and pre-school education at the anganwadi centres will go a long way in maximising the benefits of the ICDS programme. The PRIs can also be directly involved in mobilisation of SHGs and in promoting micro-credit activities among women.

Financial Resource Position

4.27 The outlay for the Tenth Plan for the DWCD has been allocated keeping in view the priorities and commitments of the Plan. The Tenth Plan outlay for DWCD is Rs. 13,780 crore, which is 36.72 per cent higher than the Ninth Plan outlay. The details of the outlays and expenditures are given in Annexure 4.2. The data suggests that the child development programmes alone have been provided 89.65 per cent of the total Tenth Plan outlay as compared to 88.70 per cent in the Ninth Plan outlay. This is mainly because of the fact that ICDS alone gets the bulk of the total outlay of the DWCD. If the outlay provided for 2005-06 is included, the DWCD will have a projected expenditure of 67.47 per cent of the total outlay by the end of the fourth year of the Tenth Plan. The progress of expenditure in child development in the Tenth Plan has been equally satisfactory at 71.07 per cent. However, in the case of women's development, the utilisation of funds may not touch even the 50 per cent mark by the end of the fourth year of the Tenth Plan. This is disappointing in view of the commitment to the empowerment of the women. Hence, there is an urgent need for reactivating the implementation of the schemes for the socio-economic empowerment of women.

4.28 At the level of the states, the programmes of the DWCD succeed where the implementing machinery is effective and the states are able to supplement the efforts of the

Union government. Critical reviews of DWCD at the State level reveal some persistent lacunae. Some States and Union Territories are yet to set up an exclusive department/directorate for women and children, or for that matter, a State Commission for Women. So far 24 States/ union territories have set up a State Commission for Women. The performance of States/Union Territories with regard to the Women's Component Plan (WCP) is, on the whole, unsatisfactory. Also, a flagship scheme like ICDS has suffered a setback because of the inability by the states to provide the funds to meet the supplementary nutrition component of the scheme.

Other Areas Of Concern

Child Trafficking

4.29 Child trafficking is not merely confined to trafficking for commercial sexual exploitation, but can be for organ transplants, begging, entertainment (camel jockeying and circus), child labour and domestic work, drug peddling, and participation in armed conflicts, to name a few. For the vast multitude of homeless and street children, a more comprehensive policy on adoption and foster care of children must be formulated, which should be in consonance with the Convention on the Rights of the Child (CRC).

HIV-AIDs

4.30 There is no data indicating the extent to which children are affected by HIV/AIDS, although mother-to-child transmission is a serious problem. Also, there are instances where parents are HIV negative but children have been found to be HIV positive because of artificial insemination or use of used syringes/ needles. The Naaz Foundation India Trust, an organisation that runs a care-home for HIV-positive orphaned children and abandoned women, has come across instances of children getting infected due to vaccination. Semen for artificial insemination needs to be screened for HIV. Mother-to-child transmission rates can be brought down with drug treatment, but often the drugs are not available in many hospitals. To reduce the incidence of transmission due to breast-feeding, HIV-positive women should be provided with alternatives like soya milk for their children. Emphasis needs to be laid on well-accepted HIV/AIDS preventive measures such as the use of condoms, given multiple partner sexual behaviour. Social exclusion follows once HIV is detected. The problem of discrimination against HIV positive children while accessing public services like hospitals, schools, playgrounds, and other facilities needs to be addressed, perhaps with some special legislation.

Restraining Child Marriage

4.31 The Child Marriage Restraint Act of 1929 (as amended in 1949 and 1978) needs to be reviewed and amended, but this must be preceded by an investigation of contemporary trends. The problem is not so much a continuation of traditional cultural practices, but the emergence of new complex causes. These are growing insecurity of girls and increasing violence against them, adolescent pregnancy resulting from sexual ignorance and neglect, increasing drop-outs from post-primary schooling due to various reasons, and deep neglect of the physical and cultural development of girls, with no provisions for games/sports, healthy entertainment and reading facilities. The problem of ignorance among girls about how to cope with their nascent sexuality needs to be addressed by the Ministry of Human Resource Development and of Youth Affairs. These Ministries should also implement the recommendations of the 2001 Report of the Working Group on Adolescents for the Tenth Plan.

Protecting Girl-child Domestic Labourers

4.32 In pursuance of its mandate to suggest systemic changes, the National Commission for Women (NCW) should, among other things, suggest institutional mechanisms to prevent violence against women and girl children in several fields, for example, in girl child domestic wage labour. Classifying domestic wage labour by girl children as a hazardous occupation may help avoid their exposure to the risks of mental and physical harassment, and sexual exploitation. Such a proposal may be put before the Technical

Advisory Committee under the Child Labour Act that considers proposals to categorise any occupation as hazardous.

Women's Component Plan

4.33 The Women's Component Plan (WCP) involved efforts to ensure that not less than 30 per cent of funds/benefits were earmarked for women under the various schemes of the "women-related" ministries/departments. The Planning Commission and DWCD have been persuading the Central ministries and departments as well as state governments to draw up WCP, not only to quantify and earmark funds and benefits for women, but also to devise special programmes which directly and exclusively benefit women. Here it is important to note that most of the ministries and departments designated as women-related have not separately provided the women's component and hence cannot be evaluated on their WCP.

4.34 The review of the WCP of the related Central ministries and/or departments for the Tenth Plan reveals that the Department of Education has confirmed a flow of funds of 42.37 per cent of the gross budgetary support (GBS) to the WCP. The Ministry of Labour, which had reported flow of 33.5 per cent of GBS to the WCP in the Ninth Plan, has reported flow of funds of only 5 per cent of GBS during first three years of Tenth Plan. The Ministries and/or Departments of Agriculture and Cooperation, Urban Employment and Poverty Alleviation, Science and Technology/Biotechnology, Information and Broadcasting, Non-Conventional Energy Sources and Small-scale and Agro-related Industries, which had earlier reported on the WCP in their sectoral budgets, have stopped doing so. These Ministries and/or Departments are required to segregate the funds flow to WCP from the total, as was done in the Ninth Plan.

4.35 There are some Ministries and Departments, which have the potential to go beyond 30 per cent of funds under WCP as well as devise and administer "women-related" programmes. These include Education, Health, Family Welfare, Environment and Forests, Rural Development, Agriculture, Labour, Urban Affairs, Drinking Water Supply, Tribal Affairs, Social Justice and Empowerment, and possibly others. The ministries and departments that have defaulted in providing WCP allocations or whose WCP is less than 30 per cent of GBS are advised to immediately take the necessary steps to make amends. Since WCP is merely an add-on to their existing development programmes, their inability to fulfil this requirement is inexplicable. The Tenth Plan envisaged tying up WCP and gender budgeting to "ensure both preventive and post-facto action in enabling women to receive their rightful share from all the women-related general development sectors". The reality is that women still remain largely untouched by gender-just and gender-sensitive budgets as well as WCP. This stagnation needs to be shaken up across the board.

Assessing the Gender Impact of All Programmes

4.36 Although, this chapter keeps referring to "women-related ministries and departments", *all* ministries and departments are "women-related". It is, therefore, recommended that every programme across all Ministries and Departments should clearly identify and disaggregate the group of intended beneficiaries or users in terms of gender. The programme should then explore the possibility of undertaking special measures to ensure the participation of women or facilitate access of the services provided to them. The gender pattern of employment generated, as a result of the programme, should be highlighted and measures taken to enhance women's recruitment. Further, in every programme, the extent to which women are decision makers should be specified and measures taken to correct gender imbalances and biases. It should then be possible to arrive at a comparative status of women before and after the programme, on the basis of which it should then be possible to suggest modifications in the programme to enhance gender sensitivity and equity.

Towards Women's Empowerment

4.37 In keeping with the NCMP's aim of providing good governance through, among other things, the effort "to empower women politically, educationally, economically and legally", it is necessary to review the status of women in 2005. Through the NCMP, the government is bound to taking a series of measures that lead to women's equality and empowerment. An analysis of existing institutions and how to get a level playing field for women by changing institutional rules and practices is, therefore, required. As a first step, the review of laws (which is an ongoing exercise) affecting women and children needs to be accelerated and made more comprehensive.

Increasing Women's Participation

4.38 Women are under-represented in the process of the formulation and implementation of the Plan itself. WCP seems an afterthought, simply added on to pre-existing development programmes and projects. The actual experiences of women in empowering themselves need to be first understood and those experiences used as a benchmark.

4.39 A smooth passage for the much-delayed Women's Reservation Bill should now be ensured. To make women's grassroots political participation a living reality, they should be enabled to monitor and audit the various programmes and schemes at the level of the panchayat through a local committee. Given patriarchal domination and women's consequent lack of an independent voice in decision-making, the elected women representatives to PRIs may be restrained in independently exercising their rights and fulfilling their duties. As it is, the disincentives to political participation upon violation of the two-child norm unfairly penalises women since they may have had no choice in decisions regarding the number of offspring. At every step therefore, there is a need to increase the participation of women in the process of formulation and implementation of development planning so that gender equity issues are accounted for and plans have a positive impact on women.

From Self-help Groups to Mass Organisations

4.40 The Tenth Plan emphasises SHGs only as vehicles for savings and credit. The self-help concept should be extended to cover mass-based organisations of women working to help each other. The vast majority of poor women are legitimately concerned about the lack of food, housing, potable water and employment. Their poverty also stems from the absence or paucity of such mass-based organisations and the self-confidence and knowledge that they bring to women. For instance, the Rajasthan-wide Ekal Nari Shakti Sangathan, a 16,000-strong organisation of low-income widows and separated women help each other to reclaim land rights and stop atrocities. The government can help catalyse such organisations by helping to get them registered, providing them with seed money and funding for training in legal awareness, etc. The right conditions need to be created for such organisations of women to emerge and collectively grapple with their problems. But, at the same time, women's dual areas of activity and their need to balance their productive and reproductive roles – a compounded burden which leads to intensification of their workload – should not be ignored. For example, the SHG strategy, while empowering women, has also increased their workload, rendering them more vulnerable to stress. A re-launch of a very focused and intense literacy campaign especially for adolescents and young women in the backward districts will bring these women together and hopefully catalyse women's organisations to collectively grapple with their problems.

Mitigating Negative Impacts of Development and Displacement

4.41 The impact of development projects such as mega dams, uranium and open cast (coal) mining etc. on women is well documented. Exposure to pollution from uranium mining in the Jaduguda area in Jharkhand, for example, has resulted in a peculiar problem of infertility among women, premature delivery and birth of disabled children. It must be remembered that women bear multiple burdens in the process of displacement as a result of large development projects. Not only do they have to find an alternative livelihood, but they are also expected to bear a greater responsibility to rehabilitate all the members of their household in the process of involuntary resettlement. Although environmental and social impact assessments of projects are a requirement, they should be strictly enforced as a pre requisite, with special attention to the gender fallout.

Gender-sensitive Resettlement and Rehabilitation Policy

4.42 The Tenth Plan makes a commitment regarding resettlement and rehabilitation related to large hydel and thermal power plants. The process of involuntary resettlement as a result of such large development projects often leads to loss of land, wage employment, and housing and shelter, calling for gender-sensitive plans toward land-based re-settlement, re-employment and reconstruction of houses. For instance, women should also get legal rights to land allocated as part of a resettlement package. Women's livelihood and economic activities – be they gathering forest produce, working in the fields or selling agricultural, animal husbandry, forestry or fishery produce - need to be enumerated so that the resettlement and rehabilitation plan also makes provision for the restoration of their livelihood and income. Women's views need to be solicited regarding the house, toilets, water and sanitation.

4.43 The process of displacement and involuntary resettlement also leads to increased stress, psychological trauma, increasing exposure to parasitic and vector-borne diseases and to social evils and violence. Endemic infections may lead to the death of children and the elderly in the care of women. Alcoholism, gambling and prostitution and increase in the incidence of sexual abuse and violence as a result of large-scale dislocation of peoples' lives adversely affect women in ways different from that of men. Involuntary resettlement also increases the risk that the affected household may fall into chronic food insecurity. Loss of common property resources (CPRs) like access to forests, water bodies and grazing lands are often disregarded by planners and are not compensated for. Loss of CPRs leads to women spending more time and energy accessing fuel, fodder and potable water. Involuntary resettlement also leads to loss of social status as a result of loss of community networks and social marginalisation. Women are affected, more deeply and differently than men, because they generally have lower levels of skills and education and have a limited social exposure. Women rely on community networks for emotional and practical support, for example, taking care of the children, and thus the dislocation of community networks can be traumatic for them. Community services and assets need to be restored and social networks and communities need to be rebuilt in consultation and with the active participation of women.

4.44 The fact that the impact of dislocation is different for women needs to be understood and mitigated. Also, in drawing up resettlement and rehabilitation plans, care should be taken to see that widows, elderly persons, divorced women and women-headed households do not suffer a loss of their rights as a result of patriarchal biases. Detailed studies of the impact of development projects, say large dams, on women's lives, especially regarding resettlement and rehabilitation need to be sponsored, which can then be used to formulate a gender-sensitive resettlement and rehabilitation policy. Although the Tenth Plan makes a commitment regarding this, the issue of a gender-sensitive resettlement and rehabilitation policy has not been addressed and this deserves immediate public attention.

Addressing Caste

4.45 Efforts for benefiting scheduled caste/ scheduled tribe (SC/ST) women and children from the "women-related" programmes remain unabated. But school dropout rates continue to remain high; children from lower castes such as the *musahar jati* in Bihar do not go to school even today. The location of schools and training centres make them inaccessible to SCs and STs because these groups are socially excluded from certain areas in the community of the village. Untouchability is still alive in many parts of the country. In Rajasthan and Gujarat, dalit children are made to sit separately in the classrooms. In the Mid-Day meal scheme, parents of upper-caste children have protested against SC/ST women being employed to cook or serve meals. The Ministry of Human Resource Development, together with the Ministry of Social Justice and Empowerment, and with the cooperation of the states, should enforce penalties for such blatant violation of the Constitution and the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, 1989.

4.46 Despite the law prohibiting manual scavenging, dry latrines still exist in many parts of the country. SC women, working as manual scavengers, are the worst sufferers. They are not provided protective gear and carry the night soil as head-loads, thus getting exposed to the risk of infectious diseases. Though the malaise is visible, the corrective measures are not. The Ministry of Social Justice and Empowerment should hold itself accountable for this condition and present an action taken report before the 2005-06 Union Budget is approved.

Addressing Maternal Healthcare

4.47 Failure to meet the target of reducing MMR has brought the problem of maternal healthcare to the forefront. Enhancing the quality of maternal health services, among other measures, through appropriate training of the ANM is essential. Training in mid-wifery is critical in rural India where most births take place at home rather than in institutional settings. Pregnant rural women are caught in a bind between the poor quality of public health service delivery on the one hand, and the lack of indigenous expertise to cope with obstetric complications on the other. What the Ministry of Health and Family Welfare needs to do has been developed as the new paradigm for health in the chapter on Health and Family Welfare.

The Girlchild's Dwindling Numbers

4.48 The high incidence of female foeticide throws up the most disturbing figures. Sex determination before birth is widely prevalent, in spite of the Pre-Natal Diagnostic Techniques (PNDT) Act, 1994. Certain districts in Punjab and Haryana account for a substantial drop in the decennial child sex ratio. Richer districts tend to account for a larger decline in the child sex ratio. For instance, the South Delhi district has one of the highest records of the decline in the child sex ratio. The incidence of the use of sex determination techniques tends to be more in the most modern and developed districts. This calls into question the argument that the market economy undermines patriarchal authoritarian and male-biased traditional attitudes and spreads egalitarian values. Policy has to address the concern that inculcation of the values of market economy seems to be only enhancing gender inequity as reflected in the female foeticide and infanticide indicators. The Ministry of Home Affairs, in consultation with the states, must stringently implement the PNDT Act to stop any further decline in the child sex ratio.

4.49 There are two important issues of policy associated with this decline in the child sex ratio. One is the obsession with population control, which assumes that all the failures in development can be mono-causally linked to population explosion. The other more recent issue is the intrusion of the two-child norm into the Panchayati Raj Acts of many states, despite its absence from the Population Policy of 2000, leading to disqualification of many elected representatives. Most of the excluded belong to the SCs and STs.* Some experts have suggested a link between the imposition of the two-child norm and sex selective abortions. Imposition of the two-child norm, then, cannot be the route to population stabilisation, for it may lead to a disturbingly unbalanced population. The reworded sentence in NCMP stating that population stabilisation would be achieved by strengthening primary health care focuses on reducing infant, child and maternal mortality. This philosophy needs to underpin all schemes and all programmes. The Centre, should, therefore urge the chief ministers of the state governments that are implementing coercive population control programmes to immediately withdraw the programme.

* Thorat, Sukhadeo [2001] "Strategy of Disincentive and Targeting for Population Control - Implication for Dalits and Tribals", Professor of Economics, Center for the Study of Regional Development, Jawaharlal Nehru University, New Delhi. Paper presented in *Colloquium on Population Policies*, organised by Singamma Sreenivasan Foundation, Bangalore & Center for Social Medicine & Community Health, Jawaharlal Nehru University, New Delhi, April 20-21, 2001.

THE WAY FORWARD

- Expand the day care/crèche services by integrating them into ICDS. These services are essential requirements not only for children below two years age but also for working mothers.
- Complete the universalisation of the ICDS in a time-bound manner. Redesign the scheme to ensure qualitative improvement in the services delivered.
- Provide supplementary nutrition to all children under ICDS. Amend the funding pattern so that the cost of supplementary nutrition is shared by the Central government.
- Strengthen the pre-school education component of ICDS in order to ensure smooth transit of children in the three to six years age group to formal education. Anganwadi workers need to be trained accordingly.
- Formulate and implement sector-specific WCP and gender budgeting in order to ensure gender justice. All ministries/departments should strictly adhere to the plans. Develop a mechanism for regular assessment of the gender impact of all programmes.
- Launch a focused and intense literacy campaign for adolescent girls and young women, especially in the backward districts, in order to bring them together and further catalyse women's organisations towards empowering them with knowledge and political standing.
- Formulate a gender-sensitive resettlement and rehabilitation policy, especially to safeguard the interests of widows, elderly and divorced women plus female-headed households in instances of natural or man-made calamities and displacement.
- Undertake a high-powered inter-ministerial review (under the chairpersonship of the Prime Minister) of gender justice in order to bring the Tenth Plan back on track regarding its commitment to gender justice. Alternatively, consider a Prime Minister's Mission on Women, Children and Development.

Annexure 4.1

Annual cost estimate of supplementary nutrition in the Integrated Child Development Services (ICDS) - at present and at universalisation (a national common minimum programme goal)

AT PRESENT

CHILD/WOMAN	BASIS OF CALCULATION	ANNUAL COST ESTIMATE
Children, 0-6 years	Suppl. nutrition at Rs. 2 per child per day x 300 days x 379.94 lakh children	**Rs. 2279.6 crore**
Pregnant and lactating women	Suppl. nutrition at Rs. 2.30 p. per woman per day x 300 days x 76.17 lakh women	**Rs. 525.6 crore**
	TOTAL	**Rs. 2805.2 crore**

AT UNIVERSALISATION IN FIVE YEARS TIME (AN NCMP GOAL)

CHILD/WOMAN	BASIS OF CALCULATION	ANNUAL COST ESTIMATE
Children, 0-6 years	Suppl. nutrition at Rs. 2 per child per day x 300 days x 84.41 million children*	**Rs. 5064.6 crore**
Pregnant and lactating women	Suppl. nutrition at Rs. 2.30 p. per woman per day x 300 days x 16.9 million women#	**Rs. 1166.1 crore**
	TOTAL	**Rs. 6230.7 crore**

* The number of children in the 0-6 years age group as per the 2001 census is 168.82 million. With universalisation, we assume that half of this number, i.e., 84.41 million will be attending the ICDS centres, roughly the number of children suffering malnutrition.

\# A ratio of 5:1 of children to women attending ICDS centres has been assumed.

Annexure 4.2

Sub -Sector-wise Outlays and Expenditure of the Department of Women and Child Development During Ninth & Tenth Plans

(Rs. in Crore at 2001-02 constant prices)

Sl. No.	Sub-sector	Ninth Plan (1997-2002)				TenthPlan (2002-07)			Annual Plans								
									(2002-03)		(2003-04)		(2004-05)		(2005-06)	Total (2002-06)	
		Outlay	%age to Total	Expen-diture	%age to Outlay	Outlay	%age Increase over 9th Plan	%age to Total	BE	Actual	BE	Actual	BE	RE	Outlay	Total (Col. 9+11 +13+14)	%age to Tenth Plan
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
a.	Welfare & Development of Children	8940.50	88.70	6245.51	69.86	12353.87	38.18	89.65	1942.26	1882.96	2245.25	1805.67	1944.42	1965.19	3125.83	8779.65	71.07
	Central Schemes (CS)	508.71	5.05	198.65	39.05	107.00	-78.97	0.78	17.55	9.64	24.30	9.71	33.07	20.21	30.74	70.31	65.71
	Centrally Sponsored Schemes(CSS)	8431.78	83.65	6046.86	71.72	12246.87	45.25	88.87	1924.71	1873.32	2220.95	1795.96	1911.35	1944.97	3095.10	8709.35	71.11
b.	Welfare & Development of Women	1091.92	10.83	456.68	41.82	1221.10	11.83	8.86	163.79	120.92	175.27	107.62	150.79	134.33	110.81	473.67	38.79
	Central Schemes (CS)	746.15	7.40	409.99	54.95	946.10	26.80	6.87	120.40	89.32	119.18	84.27	111.11	100.51	89.81	363.92	38.46
	Centrally Sponsored Schemes(CSS)	345.77	3.43	46.69	13.50	275.00	-20.47	2.00	43.39	31.59	56.09	23.35	39.68	33.82	21.00	109.76	39.91
c.	Grant-in-Aid and Other Schemes	46.84	0.46	23.49	50.15	205.03	337.68	1.49	15.46	4.80	9.84	4.81	21.19	16.89	17.99	44.49	21.70
	Central Schemes (CS)	46.84	0.46	23.49	50.15	105.01	124.17	0.76	14.48	4.80	9.81	4.81	21.16	16.89	17.96	44.47	42.35
	Centrally Sponsored Schemes(CSS)					100.02		0.73	0.97	0.00	0.03	0.00	0.03	0.00	0.03	0.03	0.03
	Total (CS)	1301.70	12.91	632.13	48.56	1158.11	-11.03	8.40	152.43	103.77	153.30	98.79	165.34	137.61	138.52	478.69	41.33
	Total (CSS)	8777.56	87.09	6093.56	69.42	12621.89	43.80	91.60	1969.07	1904.91	2277.06	1819.31	1951.06	1978.79	3116.12	8819.13	69.87
	Grand Total (CS+CSS)	10079.26	100.0	6725.69	66.73	13780.00	36.72	100.0	2121.50	2008.68	2430.36	1918.11	2116.40	2116.40	3254.63	9297.82	67.47

Agriculture and Food-security

5.1 The Tenth Five-Year Plan had targeted gross domestic product (GDP) growth in agriculture and allied sectors at 4 per cent per annum, aiming to reverse a sharp deceleration in the second half of the 1990s - from 3.2 per cent per annum in the period 1980-81 to 1995-96 to 1.9 per cent per annum during 1996-97 to 2001-02.[1] This has not been achieved. Drought conditions caused agricultural GDP to fall by 7 per cent in the first year of the Tenth Plan (2002-03) and, despite a smart rebound by 9.6 per cent in the second year (2003-04), growth in the first two years of the Plan averaged only 0.9 per cent per annum. With the monsoon weak in 2004, agricultural growth in 2004-05 will be modest at best, being placed at 1.1 per cent according to advance GDP estimates. On this basis, GDP growth in agriculture and allied sectors during the first three years of the Tenth Plan averages only 1 per cent per annum. The Tenth Plan target of 4 per cent growth is, therefore, far from being realised. In fact, per capita agricultural GDP shows no significant upward trend after 1996-97, only fluctuations. The erratic monsoon in recent years has once again underlined concerns that led the Tenth Plan to lay emphasis on irrigation, water conservation and land management, but actual growth outcomes during the Ninth Plan and in the Tenth Plan so far suggest deeper problems as well. This requires a comprehensive re-examination of the agricultural strategy.

PROGRESS IN THE TENTH PLAN

5.2 Although the Tenth Plan had aimed to reverse deceleration in agricultural growth, its allocation for agriculture and allied sectors was relatively modest. The proposed Plan outlay on these sectors, at Rs 58,933 crore for Centre, states and Union Territories combined, was 39 per cent higher than the Ninth Plan outlay in nominal terms, compared to corresponding increase of 89 per cent between the Eighth and Ninth Plans. The share of agriculture and allied sectors was only 3.9 per cent of total Tenth Plan outlay as against 4.9 per cent in the Ninth. And, despite increase in the share of irrigation, the total share of agriculture, irrigation and rural development stood reduced from 20.1 per cent in the Ninth Plan to 18.7 per cent in the Tenth Plan.

5.3 This was because the Tenth Plan had assumed that the incremental capital-output ratio (ICOR) for agriculture and allied activities, which had more than doubled in the Ninth Plan from the Eighth Plan, could be halved. Implicit in this was the view that sufficient capacity had been built up for agricultural production to respond quickly to policy reform and to well-directed Plan spending. Moreover, Ninth Plan actual expenditures had fallen well short of planned outlay. The Tenth Plan combined Centre, states and Union Territories outlay on agriculture and allied sectors was, therefore, considered adequate, being 60 per cent higher than the corresponding Ninth Plan actual expenditure. In particular, at Rs 21,068 crore, the Tenth Plan outlay of the Union Ministry of Agriculture represented a 93 per cent increase over its Ninth Plan actual expenditure.

5.4 The thrust areas identified in the Tenth Plan are summarised in Box 5.1. As far as the Central Plan was concerned, these priorities were to be implemented through a number of schemes, many of which were ongoing. However, following a detailed exercise of zero-based budgeting, it was decided to reduce the

1 These figures are based on estimated growth rates from fitted semi-log trends. The extent of deceleration varies depending on the end points used.

number of schemes of the Department of Agriculture and Cooperation (DAC) from 147 at the start of the Ninth Plan to 30 at the start of the Tenth. Similarly, in the case of the Department of Animal Husbandry and Dairying (DAHD), 10 Ninth Plan schemes were to be weeded out, four were to be merged into a single scheme and one was transferred from DAC to DAHD. The 235 ongoing Ninth Plan schemes of the Department of Agricultural Research and Education (DARE) and the Indian Council of Agricultural Research (ICAR) were to be merged into 72.

5.5 Zero-based budgeting was expected to bring about convergence between various Central sector and Centrally sponsored schemes. However, actual progress on convergence/integration has been slow and many schemes continue to maintain a separate identity. Along with the new schemes added, the DAC currently has about 60 schemes with over 100 distinct components and DAHD 19 schemes with 30 components. The DARE/ ICAR schemes/projects currently number over 200, since most erstwhile projects continue as per original approval.

5.6 Progress in implementing Plan programmes in the first two years of the Tenth Plan was also slow. There was delay in starting new schemes meant to impart specific thrust to the Tenth Plan strategy. So far, the DAC has started nine new Tenth Plan schemes, the DAHD three and DARE/ICAR five. These do cover Tenth Plan priorities: micro-irrigation, missions on horticulture and bamboo technology, development of market infrastructure, small farmer agri-business consortia, extension support to states and through mass media, breed conservation, clean milk production, venture capital fund for dairying/poultry, organic farming, transgenic and genetically modified crops, veterinary type culture and assessment of vulnerability to climate change. But none of these really took

Box 5.1
Thrust areas for the Tenth Plan

The following areas were identified for giving special attention during the Tenth Plan:

- Utilisation of wastelands and un-utilised/under-utilised lands.
- Reclamation/ development of problem soils/ lands.
- Rainwater harvesting and conservation for the development of rainfed areas.
- Development of irrigation, especially minor irrigation.
- Conservation and utilisation of biological resources.
- Diversification to high value crops/activities.
- Increasing cropping intensity.
- Timely and adequate availability of inputs.
- Strengthening of marketing, processing/ value addition infrastructure.
- Revamping and modernising the extension systems and encouraging private sector to take up extension services.
- Bridging the gap between research and farmer's yields.
- Cost-effectiveness while increasing productivity.
- Promotion of farming systems approach.
- Promotion of organic farming and utilisation of organic waste.
- Development of eastern and north eastern regions, hill and coastal areas.
- Reforms to introduce proactive policies for the farm sector

off and total expenditure on all these during the first two years of the Tenth Plan was negligible. More generally, actual Plan expenditure of the Ministry of Agriculture during 2002-03 and 2003-04 was only 27 per cent of total Tenth Plan outlay, much less than the norm for the first two years. Only 31 per cent of Plan outlay was budgeted during 2002-03 and 2003-04, and actual expenditure was 86 per cent of the budgeted amount.

5.7 Recognising the tardy progress in the first two years, a very substantial correction was made in 2004-05 when the Union Budget in July 2004 increased allocations for DAC, DAHD and DARE/ICAR by 22, 67 and 29 per cent respectively over corresponding provisions of the previous year. These allocations were further enhanced by 13 per cent by the Planning Commission using its additional budgetary support, to a level 45 per cent higher than in 2003-04 BE. This took actual Plan expenditures in the first three years of the Tenth Plan to 48 per cent of total Plan outlay. Since this was still less than the norm, further increase in allocations over 2004-05 RE of 42 per cent for DAC, 16 per cent for DAHD and 28 per cent for DARE have been made in the Union Budget for 2005-06. These increases have brought the nominal Tenth Plan outlay within target, although expenditure in real terms is likely to remain short of norm at the end of 2005-06 because of back-loading. Nonetheless, with almost two-thirds of the increased expenditure this year on new schemes identified in the Tenth Plan and with sizeable increases also in Plan allocation for the Ministries of Water Resources and Rural Development, it can be said that the Plan has finally taken off as far as agriculture is concerned. Detailed outlay and expenditure are given in Annexure 5.1.

5.8 However, it should be emphasised that the decision to increase Plan allocations in 2004-05 was taken after kharif sowing had begun and any impact should be visible only from rabi at the very earliest. Since the latest data available are second advance estimates for 2004-05, which give tentative projection of rabi output, the only mid-term assessment possible at this stage is of the first two and a half years of the Tenth Plan, which effectively continued with the Ninth Plan. The Ministry of Agriculture has indicated the need for higher expenditure step up from this base to achieve the Tenth Plan outlay. In the absence of actual experience of specifically Tenth Plan schemes, this requires to be assessed against trends observed since the beginning of the Ninth Plan.

PERFORMANCE REVIEW

National Accounts

5.9 National Accounts Statistics (NAS) are not available after 2003-04 and many details are available only till 2002-03. The data available show the following:

- There was deceleration in both livestock and crop sectors, but more markedly for crops. Growth rates of livestock and crop output have averaged about 3.6 and 1.1 per cent per annum respectively after 1996-97, down from 4.5 and 3.1 per cent during 1980-97.
- Within the crop sector, only fruits and vegetables, condiments and spices and drugs and narcotics continued to grow at over 2.5 per cent per annum. Excluding these, growth rate of output of remaining crops fell below 0.5 per cent per annum after 1996-97 as compared to over 3 per cent earlier.
- Growth of input use in agriculture also decelerated after 1996-97, to about 2 per cent per annum from over 2.5 per cent during 1980-97. This occurred mainly after 1997-98 when, reversing an earlier trend, output prices began to fall relative to input prices.
- Part of the deceleration in agricultural growth can, therefore, be attributed to lower profitability leading to slower increase in input use. But, in addition, growth of input productivity (defined as difference between output and input growth) fell from about 1 per cent per annum prior to 1996-97 to negligible thereafter.

- During 1997-2002, agricultural prices declined relative to prices not only of inputs but also non-food consumer goods. As a result, purchasing power of agricultural incomes (current price GDP divided by consumer expenditure deflator) decelerated more than GDP at constant prices. Real farm incomes defined in this way not only show no per capita growth after 1996-97, but also exhibit increased variability.
- The deceleration in output growth after mid-1990s thus coincided with a fall in the relative price of agricultural produce. This suggests a demand problem that also increased market risks.
- National Accounts data on private consumption confirms this. Real per capita food consumption declined after 1998-99 despite fall in relative food prices. Per capita consumption declined absolutely in case of cereals, pulses and edible oils and its growth decelerated for all types of food, including fruits, vegetables and milk

Thus, National Accounts show serious setback to agriculture from the Ninth Plan onwards. Input use and productivity growth decelerated on the supply side. This was accompanied by low demand growth and higher farm income variability.

Production

5.10 The Tenth Plan foodgrains target was modest. It aimed to meet a requirement of 230 million tonnes in 2006-07, estimated on the basis of nutritional norms and about the same in per capita terms as actual production of 212.9 million tonnes in 2001-02. Nonetheless, actual performance is well below this. Drought caused **foodgrains** output to fall to 174.2 million tonnes in 2002-03, and the subsequent recovery to 212.1 million tonnes in 2003-04 remained below the level of 2001-02. The second advance estimate for 2004-05 places kharif production at only 102.9 million tonnes, about 9 per cent lower than in 2003-04. Although rabi is expected to be much better, overall foodgrains production in 2004-05 is unlikely to cross the 2001-02 level.

5.11 This poor performance is more worrying in view of the fact that the underlying trend of **rice** and **wheat** production was already less than population growth by the end of the Ninth Plan. Yield growth decelerated throughout the 1990s to only about 1 per cent per annum from 3 per cent during the 1980s, indicating a potentially serious exhaustion of technological progress. The huge stocks that emerged at end of the 1990s have so far masked this. But, since large exports at below domestic prices and subsequent poor monsoons have now reduced stocks to almost normal, a significant production effort is necessary to meet requirement. For this, it will be essential to tap potential of the Eastern region, in part by ensuring adequate price support and removing distortions that have recently depressed prices in this region because of sale from stocks built up from traditional surplus areas through high Minimum Support Prices (MSP).

5.12 Unlike rice and wheat, yield growth of **coarse cereals** was maintained at about 2 per cent per annum through the 1990s, mainly because of good performance in maize. However, except maize, area shifted from coarse cereals to other crops and, as a result, there was no growth in total coarse cereals output. **Pulses** yields continued to stagnate although these crops have been under a Technology Mission since early 1990s, and the area under cultivation has also shrunk. Despite some promising new varieties and proven benefits from micronutrients and sprinkler irrigation, there is as yet no break-through at the farm level. Although the MSP of pulses have been increased recently to encourage technology adoption, it is the view of the Commission for Agricultural Costs and Prices (CACP) that a sharp increase in imports has blunted this effort.

5.13 **Oilseeds** have been under a Technology Mission since 1986 and there was substantial expansion of area, yield and production till the mid-1990s. But in the absence of technological breakthrough and because of pressure from cheaper imports, the Ninth Plan period saw stagnation in yield and decline in area, taking production down from 24.4 million tonnes in 1996-97 to 20.7 million tonnes in 2001-02. In 2002-03, the first year of the Tenth Plan, monsoon failure caused production to decline further to 15.1 million tonnes. There was a rebound to a record 25.1 million tonnes in 2003-04, but growth continues to be negligible. In the current year, 2004-05, there has again been a marginal fall in output.

5.14 Imports of edible oils were less than 10 per cent of domestic production till 1994-95, but have since increased sharply so that import volumes are now at par with domestic production. Rising domestic demand, trade liberalisation and a sharp fall in world edible oils prices in the late 1990s contributed to this rise in imports. Domestic prices of edible oils/oilseeds remained low and were disincentives to domestic producers. India is already among the largest markets for global edible oils trade, and productivity improvements are required for domestic oilseeds production to remain competitive. This calls for a fresh look at the working of the Technology Mission on Oilseeds and Pulses (TMOP), which appears to be failing in its objectives.

5.15 **Cotton** production had also fared poorly during the Ninth Plan. Yields declined due to a combination of lower prices and increased pest incidence following rapid price-induced area expansion in the previous decade. Output fell from 14.2 million bales in 1996-97 to 10 million bales in 2001-02. Drought caused production to fall further in 2002-03, to 8.7 million bales, the lowest since 1987-88. Although this recovered to 13.8 million bales in 2003-04, production remained lower than reached in 1996-97. The second advance estimate for 2004-05 however shows substantial increase to 17.1million bales. Nonetheless, India's cotton economy continues to suffer from well-known problems causing low yield and poor quality. It is also well known that, if these problems are addressed, very large gains are possible with end of the Multi-Fibre Agreement. In view of this, a Technology Mission on Cotton (TMC) was launched in February 2000 and approval given for cultivation of Bt varieties. With limited results from these efforts thus far, mills are importing larger quantities of quality cotton. There is an urgent need to re-look the TMC and, in particular, to involve the textile industry more closely on cotton technology.

5.16 **Sugarcane** production increased at about 1.5 per cent per annum during the Ninth Plan, from 278 million tonnes in 1996-97 to 297 million tonnes in 2001-02. But this was entirely on account of area expansion, with yield growth decelerating to almost nil from about 2 per cent per annum in the previous decade. In the Tenth Plan period, production fell to 282 million tonnes in 2002-03 and again, more sharply, to 236 million tonnes in 2003-04. The second advance estimates for 2004-05 indicate further marginal decline. Recovery of sugar from sugarcane has also not increased much during the last decade. This twin failures on yield and recovery points to weakness on the part of industry to leverage research and extension, make available good planting material, propagate better agronomic practices and improve crushing efficiency. Although Indian cane yields are relatively high and cost of cane production relatively low by world standards, Indian sugar was unable to compete in the world market when world prices crashed in 1998. This is despite the fact that levy obligations on mills were reduced sharply and licensing eased. Very large sugar stocks built up as production expanded much more than domestic demand in response to liberalisation of industry and excessive State Advised Prices. The main concern now is whether the large subsequent downturn indicates a return to the high amplitude cane cycles that were moderated during the 1980s and 1990s or whether industry will emerge more efficient out of the downturn. Issues such as use of ethanol in automobile fuel and of profitable cogeneration of electricity are important in this context.

5.17 **Plantations** have also performed poorly in recent years, particularly since 1998 when world prices turned downwards. **Tea** production increased 2.5 per cent per annum between 1990-91 and 1998-99 but has, if anything, declined since then. **Coffee** production decelerated from

5.5 per cent per annum to nil. And, although less steep, there was deceleration also of **rubber** production, from over 6 per cent per annum to 3 per cent. Moreover, given product inflexibility, these sectors suffered even more on the income side. Poor realisations turned a number of tea gardens sick and many closed down or were abandoned, while small holders (who dominate coffee and rubber production and are increasingly important in tea) suffered severe financial crisis. In response, the government has provided funds for relief, stabilisation and rehabilitation. But, quite apart from the limited longer-run utility of some of these short-run responses, the really necessary tasks are of replanting old and less productive plantations, improving cost and quality through better processing and, most importantly, to devise better longer-run protection against market risk. It is now evident that, with imports liberalised, India's large domestic market is no longer an adequate buffer against consequences of high world price volatility.

5.18 In contrast to poor performance of all the above crop sectors, data from NAS show high growth in the Ninth Plan of **fruits and vegetables**, at 4 per cent per annum, about the same as during 1980-97. However, not only does this data show deceleration after 2001-02, unlike for the other crop groups, but there are serious differences between these and official estimates from the DAC. For example, the NAS shows value of output (at constant 1993-94 prices) of fruits and vegetables up 12 per cent from Rs 54,138 crore in 1999-00 to Rs 60,634 crore in 2002-03, while for the same years DAC reports fruits output down marginally from 45.5 to 45.2 million tonnes and vegetables output down quite substantially from 90.8 to 84.8 million tonnes. Fruits and vegetables are undoubtedly among the fastest growing sectors within agriculture (DAC data imply annual growth at 4.2 per cent between 1991-92 and 2001-02 and at 2.2 per cent between 2001-02 and 2003-04), but the database is unreliable. The system of horticulture statistics needs urgent improvement to make it reliable for planning and analysis.

5.19 The Tenth Plan had projected that fruits and vegetables production would grow at 6-8 per cent per annum, and contribute very significantly to an upturn in overall agricultural growth. This has not been achieved even on the most optimistic interpretation of data and raises doubts on the feasibility of Tenth Plan assumptions. Any attempt to increase growth of fruits and vegetables output through area diversification will reduce land under other crops and put downward pressure on fruits and vegetables prices. The extent to which it is feasible to plan production increase beyond normal demand growth depends on the extent to which costs of production can be reduced by increasing productivity. Not only do all available data show much lower actual demand growth than Tenth Plan projections, DAC data show no increase in fruits yields per hectare since 1991-92 (output grew entirely through area expansion) and vegetables yields actually declined from 1999-00, reversing an increase earlier.

5.20 Given climatic diversity, India has long-run comparative advantage in horticulture. But despite appreciable production growth through area expansion, yields and produce quality remain unsatisfactory on international comparison. The National Horticulture Board and the Technology Mission for the North East run a number of schemes but major constraints remain, namely, senility of many existing orchards, non-availability of quality planting material, lack of strong extension machinery, and inadequate marketing, cold storage and processing infrastructure. The Tenth Plan had proposed to focus on these to double horticulture production by 2011-12 through a National Horticulture Mission (NHM) linking ICAR, DAC, Ministry of Food Processing Industries (MFPI) and the private sector. This mission, which is overdue, will be launched in 2005-06 with clearly focused initiatives for different crops and regions and needs to be expedited on a scale consistent with growth of demand. With area under horticulture already growing and responding to demand, no special effort (e.g. subsidy) is necessary to shift areas from existing crops. Rather, the priority must be on technology to improve yield and quality and on post-harvest management, infrastructure and processing.

5.21 The proposed NHM extends beyond fruits and vegetables, to **medicinal plants** and **spices**. These are also crops where recent growth has been relatively high and export prospects are good. India already exports about 8 per cent of its spices production and has significant share in world markets. However, like other export crops, producers have recently suffered from uncertainty and low prices, e.g. for pepper, cardamom and vanilla. In addition to competition from lower cost producers, other issues are the growing food safety concerns in major buying countries, absence of comprehensive food safety standards in India, promotion of Indian brands abroad and encouraging organic · production and certification.

5.22 **Livestock** is another sector where data is less reliable than for forecast crops but where it is generally accepted that growth has been higher than in other sectors of agriculture and allied activities. According to NAS, total livestock output increased at 3.8 per cent per annum during the Ninth Plan, slower than the 4.5 per cent growth rate achieved during 1980-97. The Tenth Plan target for milk production was set at 108.4 million tonnes envisaging 5 per cent annual growth over the 84.4 million tonnes reached in 2001-02. Egg and wool production targets were set at 43.4 billion numbers and 63.7 million kg, implying annual growth of about 2.5 per cent and 5 per cent over 2001-02 levels. However, performance in the first two years of the Tenth Plan has not been satisfactory, falling not only behind targeted growth but also Ninth Plan achievement. In comparison to the Ninth Plan, growth rates in the first two years of the Tenth Plan have declined quite significantly – milk (2.2 per cent from 4.3 per cent), egg (2.14 from 7.3 per cent) and wool (-0.6 per cent from 2.1 per cent). Thus, as in case of most crops, the deceleration in livestock sector during the Ninth Plan continued into the Tenth. A matter of concern is that milk and egg production has decelerated despite the latest Livestock Census showing large increase in the number and proportion of crossbred cattle and also of poultry since 1997. Besides drought conditions, feed availability and marketing problems of livestock products appear important.

5.23 The target for **fish** production during the Tenth Plan was fixed at 8.2 million tonnes implying growth of 5.4 per cent per annum. This too sought to reverse deceleration during the Ninth Plan, from about 6 per cent per annum during 1980-97 to only 3 per cent in the Ninth Plan, mainly due to stagnation in the marine catch. Fish production has increased from 5.9 million tonnes during 2001-02 to 6.2 million tonnes during 2002-03 and is provisionally placed at 6.4 million tonnes in 2003-04. This implies a growth rate of 4 per cent during the Tenth Plan so far, higher than in Ninth Plan but less than target.

5.24 To summarise, almost every sector experienced lower growth after 1996-97 than in the previous decade and a half. The magnitude of deceleration was such that although 2003-04 was a year of excellent monsoon and record production, per capita output in that year was less than 1996-97 in every crop sector except horticulture. Underlying this was productivity deceleration across all sectors, implying lower cost reduction through technological progress than earlier. The deceleration coincided with a downturn in world prices, and this impacted domestic farm prices more than in earlier decades because of greater openness. The consequence was that farm incomes became more variable and decelerated more than output in many cases.

5.25 The available data on growth of State Domestic Product (SDP) from agriculture and allied sectors shows that the deceleration observed at the all-India level occurred also for almost every state individually. However, some distinct regional patterns do emerge from district-wise data on production of individual crops:

- In the relatively rich irrigated rice-wheat and wheat-sugarcane regions, although yields decelerated and almost stagnated, income growth did not slow down significantly. This is because of effective implementation of MSP and generous MSP awards throughout the Ninth Plan. There was no crop diversification and area increased further under wheat, rice and sugarcane.

- In high rainfall unirrigated regions mainly growing rice, growth decelerated but yields continued to grow faster than the national average However, since MSP policy was ineffective, farm incomes declined in these regions when it was decided in 2001 to reduce stocks by lowering sales prices and increasing food for work. Nearly a third of crop growth in these regions since mid-1990s has been on account of diversification, mainly towards vegetables.
- The dry and arid regions growing unirrigated coarse cereals, cotton and oilseeds were the most dynamic during 1992-98 when world prices were high. Yield growth was moderate but area increased rapidly and there was very significant diversification from coarse cereals, pulses and lower valued oilseeds towards cotton, higher value oilseeds and horticulture. However, lower world prices since then have combined with successive droughts to reduce incomes very significantly. These regions, already most vulnerable to monsoon risk, bore the brunt of transmitted world price volatility.
- The other regions affected significantly by world price movements were the plantations and the already diversified coastal regions in the South.

CONSUMPTION DEMAND AND FOOD SECURITY

5.26 A consequence of the marked deceleration of agricultural growth has been that food consumption has stagnated since the beginning of the Ninth Plan. This conclusion follows not only from the NAS, which shows per capita real consumption expenditure on all food and beverages lower in 2002-03 and 2003-04 than in 1996-97, (but also from the National Sample Survey which suggests an even larger decline. These data-sets show larger decline in cereals consumption than of other food, so there is some evidence of diversification of the food basket). But the matter of concern is that the decline in cereals consumption is not being made up by increased consumption of other foods. In fact, the National Accounts data shows real per capita consumption lower in 2003-04 than in 1998-99 of cereals, pulses, edible oils, sugar, milk, fruits and vegetables, with consumption higher only of meat, fish and eggs. Moreover, this data shows that prices of all food items, except fruits and vegetables, increased less than the overall price level.

5.27 Since per capita GDP grew at about 3.5 per cent per annum during this period, the above is evidence of a major structural weakening of demand impulses that the agricultural sector can expect from the growth of other sectors of the economy. In addition to changes in patterns of consumption due to variations in life-style, this outcome is almost certainly linked to the fact that overall employment growth has been very slow and real agricultural incomes (which still provide a large source of food demand) have been stagnant or declining. From the point of view of planning future agricultural growth, this means that the demand side can no longer be ignored. This implies that it might be difficult to increase agricultural growth while maintaining profitability unless either costs are reduced by enhanced technological progress or definite steps taken to increase demand, for example, through greater exploitation of export prospects and, even more importantly, through policies which aim directly at increasing rural employment and incomes. Furthermore, these outcomes require that the performance of agriculture be viewed in conjunction with the continuing need for food security since recent trends appear to have set back progress in tackling the problem of under-nutrition, where India still lags behind other developing countries.

5.28 India's food security system is one of the largest in the world but is confined almost entirely to provisioning cereals. This system comprises the Food Corporation of India (FCI) which implements the MSP for cereals, holds buffer stocks, and delivers grain to a public distribution system (PDS) with a network of about 400,000 fair price shops (FPS). Since its inception after the food shortages of the mid-1960s, this system has managed to help the country avoid famine, contain food price variability to much less than in world markets and offered enough price support for farmers to nearly triple cereals production. Quite apart from PDS entitlement, this delivered an almost steady decline in real market prices of cereals over the 1970s and 1980s and rising per capita availability. Till 1997, the annual cost of the entire system was less than 0.5 per cent of GDP.

5.29 However, the yield deceleration from early 1990s had cost implications that made it more difficult to reconcile producer, consumer and fiscal interests, especially with MSP being used in the early 1990s as an instrument to compensate farmers for cuts in fertilizer subsidy. The system ran into crisis during the Ninth Plan when large MSP increases were continued despite falling world prices and, simultaneously, the PDS was converted from universal to a targeted benefit.

5.30 The targeted Public Distribution System (TPDS) was introduced in 1997 in response to the 1990s reversal of the earlier decline in real cereals prices and to meet criticism that PDS did not deliver adequately to the poor. The TPDS replaced the earlier universal PDS entitlements with differential prices for the below poverty line (BPL) population and those above the poverty line (APL). BPL prices were set much lower than earlier uniform prices and, in order to reduce subsidy outgo, APL prices were increased in phases to reach full cost by 2000.

5.31 But since MSPs were above market prices, full cost pricing caused the APL to exit PDS, rendering many FPS unviable, while FCI bought almost the entire market arrivals in traditional surplus areas. PDS sales declined from over 19 million tonnes in 1996-97 to less than 12 million tonnes in 2000-01 even as procurement went up from 21 million tonnes to over 37 million tonnes. With exports restrained by low world prices, stocks increased from 18 million tonnes at end of 1997 to 58 million tonnes at end of 2001. The increased cost of stock holding doubled the food subsidy to nearly 1 per cent of GDP. And, most importantly, per capita cereals availability fell 20 per cent between 1997 and 2001, to its lowest level since 1980.

5.32 This perverse operation of the system not only reduced consumption, but, at the same time, prices and supplies became less stable and farm incentives were disturbed. As stocks built up, the wholesale price index for cereals increased 31 per cent between 1996-97 and 1999-00, distorting inter-crop parities and inflating money wages at a time when prices of other agricultural commodities were weak. Subsequently, in order to reduce stocks, BPL prices were cut further and quotas increased sharply in 2001-02. But such cheap supplies depressed farm prices of cereals wherever MSP was ineffective and, in particular, paddy prices in eastern India fell below full cost of production

5.33 Large exports at BPL prices and the drought of 2002-03 finally brought stocks down to near normal levels at the end of 2003. MSP policy has since been more restrained and procurement has stabilised at about 40 million tonnes. PDS sales have climbed back from 13 million tonnes in 2001 to about 25 million tonnes and total off-take, including for the Food for Work and Mid-Day Meals programmes, is now also about 40 million tonnes. However, this return to balance has been reached with much larger proportion of cereals production being procured and distributed by public agencies than before 1997. Moreover, per unit subsidy is much higher because about 60 per cent of PDS supply is now at BPL prices that are well below MSP and another 20 per cent at even lower prices for the Antyodaya Anna Yojana (AAY). The food distribution system has, therefore, been converted from its price stabilisation role to primarily one of transfer to the poor.

5.34 The failure during 1997-2003 of the till then quite effective food security system is a matter of grave concern. Not only were huge costs incurred (exceeding Central Plan outlays on agriculture, irrigation and rural development put together) without delivering food security, but its perverse operation also distorted producer incentives and added to the already increasing uncertainties. The problem arose because the stabilisation objective of the system was overridden by other objectives such as income support to farmers, compensating for input subsidy reduction and targeting consumer subsidies to the poor. An important question, since BPL prices are below costs of production of wheat and rice, is whether differential PDS pricing is the best way of serving the equity objective? With a decision already taken to introduce Employment Guarantee and expand Mid-Day Meals and the Integrated Child Development Services (ICDS), an alternative may be to move rapidly to full all-India coverage of these welfare initiatives and revert simultaneously to uniform PDS pricing (linked to but no less than MSP) and to the original clear-cut and much less expensive objective of stabilising prices at above costs of production. This would of course still leave the question of reaching the urban poor for whom no expansion of employment schemes is yet on the anvil and the old and infirm currently covered by AAY. But these relatively smaller parts of total PDS could either continue or be replaced by an expanded old age and disability pension. The important objective should be to redesign the system so that the food security and poverty alleviation objectives are strengthened and purchasing power of the poor increased so that agricultural demand growth is restored without distorting price incentives for agricultural growth.

AGRICULTURAL EXPORTS AND IMPORTS

5.35 Since the mid-1970s, India has been a net exporter of agricultural products. Although the World Trade Organisation (WTO) Agreement on Agriculture in 1995 was expected to improve India's agricultural trade, this has not happened. In fact, the gap between agricultural exports and imports has been narrowing in recent years. The ratio of dollar value of exports and imports of agricultural products, which was close to 5 in 1996-97 has steadily come down to 2.2 in 2003-04. This is explained by the relatively faster growth of agricultural imports than of agricultural exports.

5.36 India's agricultural exports had performed extremely well in the first half of the 1990s. But since 1995-96, this has shown extreme fluctuations. Exports growth accelerated 45 per cent in 1995-96 over the low base of the previous year, to US $ 6,320 million, decelerated to less than 12 per cent in 1996-97 and then registered negative growth for three years in succession. This recovered somewhat in 2000-01 but suffered another setback in 2001-02. However, there has again been a turnaround during 2002-03 and 2003-04 and indications are that this favourable trend will continue in 2004-05.

5.37 Nonetheless, it needs to be noted that not only has the share of agri-exports in total merchandise exports come down steadily from 21 per cent in 1996-97 to 12 per cent in 2003-04, but the share of agricultural exports (including processed foods) in agricultural GDP also declined from 7.6 per cent in 1995-96 to 6.3 per cent in 2001-02 and recovered to only 6.9 per cent in 2003-04. Although the declining share of agri-exports in total exports is explained in terms of the relatively faster growth in the volume of merchandise exports, it appears that there are other and more fundamental reasons such as loss of competitiveness that many an Indian agri-export items had to suffer in a depressed world prices situation which underlie the sluggishness of agri-export. This is quite evident in the case of coffee, tea, spices and even fruits and vegetables whose market share has displayed declining trends in recent years.

5.38 In the context of the inadequate domestic demand growth that has been discussed earlier, the slow and uncertain export growth of agri-products is a cause for worry. Although the Foreign Trade Policy 2004-09 has emphasised the importance of agricultural exports and announced a number of measures to boost them, namely, the Special Agricultural Produce Scheme (Vishesh Krishi Upaj Yojana), Funds for Development of Agri Export Zones (AEZ) and relaxation of Export Promotion Capital Goods (EPCG) scheme for AEZ, etc., these do not really address the fundamental problem of competitiveness which essentially depends on higher productivity, better quality and lower cost of exportable agri-products. Apart from agronomic measures for raising productivity, interventions are required for educating farmers to enable them to upgrade their skills to improve the quality of products so that they conform to the strictest sanitary and phyto-sanitary standards.

5.39 As in the case of agri-exports, India's agri-imports have also displayed extreme fluctuations, having varied in the range of 58 per cent to (-)29 per cent in the post 1995-96 period. The percentage share of agri-imports in total imports also has shown very high volatility, having moved in the range of 28 per cent to less than 2 per cent during the same period. There was, in fact, a negative growth of 29 per cent in 2000-01 but since then, agri-imports have grown at a relatively high rate of about 23, 22 and 27 per cent in 2001-02, 2002-03 and 2003-04 respectively. In recent years, imports of only two items, namely, pulses and edible oils have recorded consistently high volumes. Import of pulses, which used to vary in the range of 3-6 lakh tonnes in recent years – except in 1997-98 when over 1 million tonnes were imported – surged to over 2 million tonnes in 2001-02 and has been close to that level since then, essentially reflecting shortage of domestic production. Similarly, import of edible oils surged from 1 million tonnes in 1995-96 to over 4 million tonnes in 1999-2000 and has since been moving in the range of 4.2 to 5.3 million tonnes per year, accounting for about half of domestic consumption. As in the case of agri-export items, concerted efforts are required to raise the productivity and production of both pulses and oilseeds in the country.

MAJOR SUPPLY-SIDE ISSUES

5.40 Although poor performance of agriculture in the Tenth Plan is partly due to poor monsoon and to sluggish implementation outlined earlier, this is largely attributable to longer-term trends. Besides the demand problems, the supply side problems are: declining public investment; failure to carry out essential reforms to conserve water and soil; unabated degradation of natural resources, and weakened support systems due to financial problems of state governments, i.e. unresponsive agricultural research, nearly broken down extension, inadequate seeds production, distribution and regulation etc. There is consensus among experts that steps are needed in several areas to reverse this trend, and that there are also some inherent problems.

AGRICULTURAL INVESTMENT

5.41 The deceleration in the growth of agriculture in the 1990s is generally attributed to inadequate investment. This is supported by the fact that the share of agriculture in total gross capital formation (GCF) had progressively come down from 15.4 per cent in 1980-81 to about 8 per cent by the end of the Ninth Plan (2001-02), and that as a percentage of GDP it has declined from 3.5 in 1980-81 to 1.6 in 2001-02. More importantly, real public sector GCF in agriculture and allied sectors has actually declined in the last two decades. This reduced steadily from over Rs. 7,300 crore in 1980-81 to less than Rs. 5,000 crore 1990-91, registered a slight turnaround to around Rs. 5,300 crore in the mid-1990s before declining to Rs. 4,658 crore in 2001-02. Based on this, and the fact that huge amounts are being spent on various subsidies, namely, food, fertilizers, power and irrigation, a view is generally expressed that the latter have crowded out the resources for public investment in agriculture-related infrastructure.

5.42 However, although it is true that public sector investment in agriculture was squeezed, it is not clear that low investment alone explains the deceleration in the growth of agriculture. It needs to be noted in this context that real private sector investment was able to make up much of the slack in public sector investment, resulting in acceleration of overall growth in GCF from about 1.6 per cent per annum in the period 1980-81 to 1996-97 to over 2.6 per cent during 1996-97 to 2003-04, i.e. precisely during corresponding periods when GDP growth in agriculture decelerated sharply. In fact, there was a large increase in the capital intensity of agricultural production during the 1990s, doubling the incremental capital-output ratio from about 2 to 4, implying higher cost of production and lower profitability in a situation of depressed domestic and global commodity prices.

5.43 The primary task now is to find ways to make the fixed capital more productive. The bulk of the investment that has taken place in both the public and the private sectors is accounted for by investment in augmenting irrigation resources: canal irrigation in the case of public investment and groundwater exploitation in the case of private investment. In order to make the fixed capital more productive, it is necessary to invest more for completion of incomplete irrigation projects, better water management in the running projects and augmenting land and ground water resources in the non-command areas through the watershed development approach.

5.44 The question of funding public investment still remains. Subsidy reduction is one way to find resources. But it needs to be noted that much of what is Plan capital expenditure in agriculture is also subsidy. Therefore, instead of viewing subsidy reduction as a means to mobilise resources for agriculture related investment, it may be more beneficial to focus on those aspects of all subsidies, current and capital, that lead to distortions and deleterious effects on natural resources and cropping pattern. In fact, there is scope for significant reduction in the cost of subsidy through better designing of the programmes and delivery mechanism.

5.45 For example, the magnitude of food subsidy could be significantly reduced by fine-tuning the MSP of rice and wheat to the level of costs/market prices so that procurement remains close to the requirement of buffer stock as well as of PDS, thereby eliminating subsidy attributable to excessive carrying costs of stocks, export incentives and wastage. Restraint in fixing MSP is absolutely essential since the volume of procurement cannot be delinked from price-support operation under the concept of MSP, which is a commitment on the part of the Government to purchase whatever quantity is offered at that price. Making MSP of rice and wheat to conform to costs/market prices is also necessary to remove distortions in cropping pattern in favour of rice-wheat and rice-rice rotation, which have known adverse environmental impacts. In order to reduce costs and make price support more widely available, it is also necessary to expand coverage of decentralised procurement that has so far received only limited response from the states.

5.46 As for subsidies on inputs such as water and fertilizers, these should also be viewed in terms of the possible distortions and deleterious effects that they may be causing. For example, over-exploitation of ground water and ecological degradation from water-logging, salinity, etc., due to subsidised or free power or wasteful use of canal water leading to tail-ender problems on the one hand and inadequate funds for the maintenance of delivery systems due to negligible user-charges on the other. Similarly, subsidy-induced overuse of nitrogenous fertilizers, vis-à-vis, potassium and phosphoric fertilizers leading to degradation of soil needs to be prevented. While full recovery of costs of material inputs and services may not be feasible, systems can be developed to reduce the subsidy bill with consequential benefits on the conservation/ environmental protection side.

5.47 It also needs to be mentioned that merely rolling back subsidies and diverting these to agricultural investment cannot solve the problems of agriculture. In order to make investment in agricultural infrastructure yield the desired results in terms of higher productivity and production, it would be imperative to pursue reforms vigorously in many areas such as agricultural research, extension, credit, marketing, etc., since these reforms collectively would determine the profitability of agriculture. It is profitability that would ultimately drive the engine of innovation, entrepreneurship and growth.

IRRIGATION AND WATER RESOURCE MANAGEMENT

5.48 From the point of agricultural production, the single most effective supply-side constraint is that irrigation coverage still extends to only about 40 per cent of net sown area. In particular, slow expansion of surface irrigation through investment in major and medium projects has been the main reason why public investment in agriculture has declined since the early 1980s. While there are genuine problems that make it difficult to initiate new irrigation projects quickly, a concentrated effort is required to expedite ongoing but unfinished projects that involve 13.4 million hectares of potential, and bring under irrigation about 14 million hectares in command areas of completed projects that lie unirrigated due to lack of field channels, silting of reservoirs and similar problems.

5.49 The Accelerated Irrigation Benefits Programme (AIBP) has this objective, and allocation for this has been stepped up in 2004-05. But there is need also to address factors that have so far caused AIBP to be sluggish on benefit delivery. Currently, projects are prioritised on the basis of likely completion time and continue, with no further projects financed till selected projects are completed. This allows selected projects to drag and pre-empts resources from other projects. A better priority may be to allocate across projects according to likely additional irrigation possible from a given investment within given time, without insisting on project completion but with actual benefits monitored directly through remote sensing or otherwise. Also, to expedite projects involving more than one state, it may be necessary to define these as national projects and route Central funding through a single executive authority.

5.50 It is equally important to take measures to improve water use efficiency at both farm and community levels. The Tenth Plan had visualised large investments in micro-irrigation as a technology-driven method to conserve water at the farm level and also to improve yields. The Planning Commission has now given in-principle clearance to the proposed scheme but details are yet to be finalised. Since technologies such as drip irrigation are expensive and relatively novel in most parts of the country, subsidies are necessary to encourage their use, particularly in the initial stages. But how much subsidy is justified beyond technology demonstration and how to distribute it best requires further analysis. For example, a high subsidy would be required to encourage adoption if irrigation water is free. But if resources are limited, it makes more sense to keep subsidy low to ensure that it goes to those who value water saving most.

5.51 Similarly, participatory irrigation management (PIM), through water user groups or panchayats, can lead to more efficient water use at the command area level. But this works best if the community group is able to charge for water and retain the proceeds. Synergy with private investment may be possible if subsidies are kept low for individual purchases of devices such as drip but larger subsidies are made available through panchayats, empowering them to decide on both how much to charge for water and how much subsidy to pass on to members. Moreover, this can make it possible to direct more resources to villages with greater water shortage.

5.52 Some innovative mix of proper utility pricing, community control and provision of subsidies on water conservation techniques is urgently necessary in regions displaying acute water stress, i.e. over-exploited and dark blocks, particularly in low rainfall regions. The problem is growing due to over-exploitation of groundwater facilitated by cheap (in some states, free) supply of power. There can be no solution to this without proper pricing of water and electricity. However, it must also be recognised that what is required is an acceptable framework since simply increasing electricity tariffs may neither be politically feasible nor sufficient. For example, even high tariffs without proper metering will not reduce waste while it is possible to design metered pricing that is both effective in conservation and allows a fixed quantum of free electricity. In addition, there is a need for definite non-price initiatives.

5.53 The Tenth Plan had envisaged community-level investment on artificial recharge of ground water and on rainwater harvesting, and had also mooted legislation to regulate groundwater use. If the latter is to extend beyond imposing bans on sinking new wells to regulation at the aquifer level, panchayats will need the power to regulate allocation and pricing of ground water. For this to be acceptable, panchayats must be able to deliver visible gains over what is possible through individual ownership. Besides capacity building, this requires that community control receives more government support and subsidy than can be accessed individually.

WATERSHED DEVELOPMENT AND RECLAMATION OF WASTELAND/ DEGRADED LAND

5.54 Rain-fed areas constitute about 60 per cent of net sown area and are characterised by low levels of productivity and low input use. The bulk of India's rural poor lives in rain-fed regions and face high variability of rainfall, resulting in wide variation and instability in yields. For sustainable development of these areas, the watershed development approach has been adopted and given high priority for several years. Evaluation studies show several benefits:

- increase in water level and recharge of ground water aquifers;
- reduction in soil erosion;
- increase in cropping intensity;
- change in cropping pattern leading to higher value crops;
- increase in crop productivity;
- rise in overall bio-mass in the watershed;
- increase in employment; and
- reduction in rural and urban migration.

5.55 Expenditure on the several schemes for watershed development has been stepped up in 2004-05. This is also a major focus of productive works under the new National Food for Work Programme, already launched in the poorest 150 districts and to be converted into an Employment Guarantee scheme.

5.56 However, while expanding the pace and scope of watershed development, much greater attention needs to be paid on why past efforts have delivered less than promised. Some watersheds are poorly designed. Most do not reach full potential in terms of agricultural production except under initiative and supervision of a few non-government organisations (NGOs). In many cases, watersheds have not been properly maintained because community involvement waned after the initial development stage. In any case, community involvement in watershed planning and design has typically been low; and distributional problems are persistent, arising from existing inequalities in land distribution or because of ill-defined rights and encroachment.

5.57 Some of these problems arise because watershed development is capacity-intensive and inherently slow. In addition, there are too many agencies of the Central and state governments implementing watershed schemes. This makes a coordinated approach towards prioritised planning and implementation rather difficult. A more structured and monitorable system with much greater community participation needs to be put in place. Lack of community participation is widely regarded as the principal reason why efforts towards watershed development do not yield better and desired results. It is important for the planned distributional outcomes to be equitable and widely acceptable in order to ensure that there is a sense of ownership and participation on the part of the community at large both in implementation and maintenance of the water retention structures. It is necessary, in this context, to collect and collate information on successful experiences in designing and implementing watershed projects so that these can be replicated elsewhere in the country.

5.58 The National Common Minimum Programme (NCMP) has envisaged that the government will introduce a special programme for dryland farming in the arid and semi-arid regions of the country. Since this is eminently amenable to watershed development approach, it should be conceptualised in a manner so that it can be integrated with the activities and coverage of on-going watershed development programmes of the DAC and the Department of Land Resources in the Ministry of Rural Development.

5.59 Out of an estimated area of 107 million hectares of degraded land, 64 million hectares is categorised as wastelands. These wastelands and degraded lands are either unutilised or under-utilised. Being a common property resource, individuals do not have the right to utilise these lands for any productive purpose.

Land under the control of government or panchayats or other para-statal bodies could be parcelled out in viable units and allotted to landless and others, especially the deprived social groups, not only for homestead and kitchen gardening but also for specific purposes such as tree plantation or agro forestry. Distribution of such lands to the landless is actually being planned under two major recent initiatives, namely, the National Mission on Bamboo Technology and Trade Development and the National Mission on Bio-Diesel. The problem, however, is that the landless do not have capital and finance. Organising these people under cooperative structure and leveraging the employment guarantee programme could be a viable solution to the problem. Without resolving this issue, it would be difficult to involve local communities, which is a pre-condition for implementing these programmes successfully.

5.60 Despite a plethora of schemes and many years of implementation, the physical progress of treatment of degraded land has been rather slow. This should, however, be seen in the light of the overall magnitude of the task and the complexities of the issues involved, apart from the huge amount of funds that is required for the purpose. According to the Working Group on Watershed Development, Rainfed Farming and Natural Resource Management for the Tenth Plan, the total cost of treatment of 88.5 m.ha. of degraded land that would require treatment by the Thirteenth Plan would come to around Rs. 72,750 crore to be shared by the Centre, states and the community. The Centre's share works out to about Rs. 23,600 crore at 1994-95 prices. A detailed plan of action has yet to be chalked out. For this, the different ministries viz. Ministry of Agriculture, Ministry of Rural Development and Ministry of Environment and Forest will have to take up a comprehensive exercise to determine the acreage that can be treated and the financial resources required, under each scheme/ programme, in order to meet the above target.

EXTENSION SERVICES

5.61 Revival of agricultural dynamism calls for corrective steps to deal with the near collapse of the extension system in most states. One of the key reasons for the breakdown of the system is the financial stringency experienced by the states as well as the Centre. As a result, farmers are becoming increasingly dependent on the private sector for extension services. While this can be an effective alternative if private services are supplied efficiently and competitively, in the absence of assured public provision of such services at a certain standard, the resource poor and gullible farmers can become victims of exploitation by unscrupulous traders and money-lenders interested in selling spurious inputs such as seeds, fertilizers and pesticides or simply interested in pushing excessive dependence on inputs, whether spurious or not. There is, therefore, an immediate need for reforming and revitalising the existing agricultural extension system in the country. Obviously, adequate financial support from the Centre to the states would be required. The main ingredients of this reform should be:

- active involvement of farmers through user groups/ associations;
- increasing the use of media and information technology including cyber kiosks to disseminate knowledge of new agricultural practices and information on output and input prices;
- building gender concerns into the system, for example, by having the extension services managed predominantly by women; and
- inducting agricultural graduates and NGOs to offer extension advice.

5.62 DAC has moved in the direction of extension reforms by embracing the elements indicated above. It has formulated a scheme for replicating the Agriculture Technology Management Agency (ATMA) model of extension services, which was successfully pilot-tested under the National Agricultural Technology Project (NATP). The scheme aims at converging resources at the grass-root level (district, blocks and villages) through involvement of farmers, subject matter specialists, NGOs, Krishi Vigyan Kendras (KVKs), etc.

5.63 Under the theme of Mass Media Support to Agriculture Extension, DAC has taken three new initiatives – launching of the Kisan Channel on Doordarshan, Narrow-casting and the use of the All-India FM Transmitter Network. The Kisan Channel telecasts agriculture-related programmes by utilising the national and regional centres of Doordarshan. In addition, through Narrow casting, area-specific telecast of agricultural programmes is being done through 43 stations of Doordarshan. Under the FM radio network, presently 96 FM Stations of All-India Radio are broadcasting half-hour agriculture programmes.

5.64 DAC has also established Kisan Call Centres, which have started functioning from January 2004. Farmers can call a common toll free number and access expert advice. At present, 13 such centres located at Delhi, Mumbai, Chennai, Kolkata, Hyderabad, Bangalore, Chandigarh, Lucknow, Ahmedabad, Kanpur, Indore, Jaipur and Kochi are engaged in agricultural technology dissemination. Though this is still at an early stage, these call centres have so far received over 600,000 calls and the number of calls averages about 100,000 per month at present.

5.65. A Central sector scheme viz. Establishment of Agri-clinics and Agri-business by Agriculture Graduates is being implemented with the aim of supporting agriculture extension and development. The scheme is being jointly implemented by Small Farmers' Agri-business Consortium (SFAC), National Institute of Agricultural Extension Management (MANAGE) and National Bank for Agricultural and Rural Development (NABARD) in association with 66 training institutes.

5.66 Although all these Central sector schemes are important to revive the extension system, it should be emphasised that this is primarily a responsibility of the states. While national level inputs, such as through basic research and advice on comparative advantages, is a long-term necessity, Central help to revitalise state extension systems should ideally be time-bound, helping to create capacity for eventual ownership by the states and their ability to meet their specific problems.

AGRICULTURAL CREDIT

5.67 According to preliminary results from the 59th round of the National Sample Survey, 58 per cent of the credit requirement of farmers was met by institutional sources in 2003 and the remaining 42 per cent by informal sources like money lenders and traders who charge very high interest rates. This suggests worsening of the debt and credit situation since a similar survey a decade ago. Small and marginal farmers depend far more heavily on informal sources and, in the process, get exploited.

5.68 The reasons for the inability of the institutional services to meet fully the credit needs of the farm sector are fairly well known, namely, the commercial banks' inclination, given financial sector liberalisation, to avoid high cost of intermediation in retailing rural credit and to prefer collateral based lending due to fear of high level non-performing assets (NPAs), poor recovery rate and generally perceived high risk associated with agricultural lending. Despite reports and recommendations of numerous high level committees over the years, the country has not been able to make a dent in the problem. There is obviously a need to turn the focus on to farm credit in order to improve the situation in the shortest possible time.

5.69 However, there are some welcome developments also. Self-help groups (SHGs) especially of women, for providing micro credit have been a success story. Their experience points to the promise that groups comprising of small and marginal farmers hold in managing credit for land saving activities like animal husbandry, dairy, horticulture, agro-forestry, etc., provided there are contractual arrangements with dealers and processors for the provision of inputs and services of the marketing. The apparent success of SHGs should not distract attention from the host of problems that SHGs, in general, and those of women, in particular, face. In fact, under the SHG-Bank Linkage Programme of NABARD, the outreach achieved in many states is inadequate. Even in those states where a sizable number of SHGs are financed, the quality of linkage continues to be low. Common problems SHGs face are: delays/refusal of banks to open savings bank accounts of SHGs; large number of visits required to be paid to branches for accessing credit access; inadequate credit support being extended by banks; delays in renewal of credit limits and impounding of savings of SHGs as collateral of loans. NABARD/ banks need to address these problems urgently. Moreover, SHGs have only a limited role in overall farm credit.

5.70 There are signs of improvement in the disbursement of ground-level credit, which increased from Rs. 62,000 crore in 2001-02 to about Rs. 70,000 crore in 2002-03 and to Rs. 87,000 crore in 2003-04. In fact, realising the need for enhancing credit to agriculture, the government had, in June 2004, announced its intention to double the flow in three years and accordingly, set a target of Rs. 1,05,000 crore for 2004-05. Based on data on credit flow up to December 2004, it appears that, notwithstanding unsatisfactory performance by cooperative banks, all three segments together will disburse Rs. 1,08,500 crore in 2004-05. In his Budget 2005-06 Speech, the Finance Minister has further proposed asking commercial banks, Regional Rural Banks (RRBs) and cooperative banks to increase the flow of credit by another 30 per cent in 2005-06. Thus, it appears that the target of doubling the credit in three years beginning 2004-05 would be realised. However, sustaining such a high growth rate would require steps to address the deep-seated problems indicated earlier.

5.71 Moreover, increased credit alone does not address the problem of existing farm debt. One of the reasons for credit-related distress of the farmers is that share of cooperative banks in the institutional credit for agriculture and allied activities has declined. There is a need to revitalise the cooperative structure, which still constitutes the largest network of rural credit outlets, through infusion of capital and increased quantum of refinance. More importantly, there is a need to amend the cooperative laws of the states with a view to inject professionalism, autonomy and transparency in the functioning of cooperative societies. The Task Force on Revival of Cooperative Credit Institutions under the chairmanship of Prof. A. Vaidyanathan to examine the reforms required in the cooperative banking system has recently submitted its report recommending, among other things, special financial assistance to wipe out accumulated losses and strengthen the capital base of cooperative credit institutions, institutional restructuring to ensure democratic institutions and changes in the legal framework to empower Reserve Bank of India (RBI) to enforce prudent financial management. These recommendations should be implemented in order to bring banking cooperatives under the full regulatory control of the RBI.

AGRICULTURAL INPUTS

Seeds

5.72 Despite a huge institutional framework for seed production both in the public and private sector, availability of good quality seeds continues to be a problem for the farmers. As a result, they prefer to rely on farm saved seeds; seed replacement rate continues to remain in the range of 2-10 per cent in certain states for certain crops, which is much below the desired level of 20 per cent for most crops. As is well known, seed replacement rate has a strong positive correlation with the productivity and production of crops. There is a need to rejuvenate the seeds sector through revamping the public sector seed companies, including the State Seed Corporations. The private sector currently supplies around 40 per cent of the total seeds distributed, but this success has been largely on account of hybrids with little impact on open-pollinated varieties. There is a need to strengthen the regulatory machinery to prevent proliferation of sub-standard/ spurious seeds.

5.73 A Central sector scheme, Development and Strengthening of Infrastructure, Facilities for Production, and Distribution of Quality Seeds, is being implemented during the Tenth Plan in order to develop and strengthen the seeds infrastructure facility (i.e. production, processing, storage, and distribution of certified/ quality seeds), upgrade the quality of farmer's saved seeds, disseminate seed production technology and ensure the availability of seeds during natural calamities. This scheme, which comprises of assistance to improve infrastructure at the level of State Seed Corporations as well as the private sector and also has a component for providing subsidised foundation seeds to individual farmers, is expected to boost the availability of quality seeds which will translate into higher seed replacement rate / productivity.

5.74. The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2003 has been enacted to protect the Intellectual Property Rights of plant breeders and to stimulate investment in research and development in new varieties. Necessary rules and regulations under the Act have been notified. The Act will enable the research organisations to reorient their research for commercial returns. Breeders, researchers and farmers will also be able to protect their rights globally, which would facilitate enhanced import and export of seeds.

5.75 In order to replace the existing Seed Act, 1966, a draft Seed Bill was formulated. After necessary formalities, the Bill has now been cleared by the Cabinet and is likely to be enacted shortly as Seed Act, 2005. This new Act provides for regulation of all activities relating to seeds and planting material for agricultural, horticultural and plantation crops. It is expected to ensure availability of true-to-the-type seeds to the farmers, increase in seed replacement rate (SRR), increase private participation in seed production, distribution, certification and seed testing. The Act also provides for regulation of import and sale of transgenic seeds and planting material and stringent penalties to check the sale of spurious seeds.

Integrated Nutrient Management

5.76 One of the proven and well-documented reasons for stagnation in the productivity and production growth rate since the early 1990s is the unbalanced use of fertilizers. Although matters have improved considerably since the mid-1990s, the current fertilizer ($N:P_2O_5:K_2O$) consumption ratio in the country is 6.5 : 2.5 : 1 as against the conventionally accepted ratio of 4:2:1. The consumption ratio in several agriculturally advanced states is still wider.

5.77 Although the DAC emphasises on increasing fertilizer use, especially in the states where their consumption is low, by providing adequate infrastructure and quality control measures, it has been unable to develop or implement schemes/strategies for promotion of balanced fertilizer use. In fact, with the increasing incidences of multiple nutrient deficiencies in the soils, the meaning of balanced fertilizer use is entirely changed. It is not only confined to the use of NPK but also need-based application of nutrients like sulphur, zinc, iron and boron which have become essential for exploiting the potential of high yielding varieties. Experimental evidences indicate that the productivity of existing varieties can be enhanced appreciably provided rational crop nutrition schedules are followed. The major bottlenecks are:

- inadequate availability of straight fertilizers of nutrients other than NPK and zinc;
- less exposure of extension agencies towards advances in crop nutrition;
- lack of strong policy support on balanced fertilizer use; and
- lack of awareness among farmers.

5.78 Continuation of the subsidy on urea while decontrolling P&K fertilizers further adds to the inadvertent promotion of imbalance in fertilizer use on the one hand and excessive use of fertilizer-N on the other, leading to environmental pollution and lowering of profits to the farmer.

Integrated Pest Management

5.79 Use of bio control agents in controlling crop pests have emerged as an important eco-safe alternative for the management of pests and diseases in agriculture.

However, farmers are still to adopt it in a major way. A restructured scheme for Strengthening and Modernisation of Pest Management Approach in India has been launched for the promotion of an eco-friendly approach for pest management encompassing cultural, mechanical, biological and need-based use of chemical pesticides with preference to the use of bio-pesticides, bio-control agents. The ICAR/State Agricultural University (SAU) system is being strengthened for developing modules of Integrated Pest Management (IPM). Apart from promotion of IPM, the scheme covers implementation of the Insecticides Act, 1968, locust survey, surveillance and control and training of extension functionaries in plant protection.

5.80 In view of the heightened food safety and environment security concerns, people need to be educated about IPM at all levels right from the school stage. A multi-disciplinary course on IPM at the undergraduate level needs to be introduced in the curriculum. IPM could be popularised with the farmers only if the availability of critical inputs is ensured at the critical time. Therefore, efforts should be made to increase the growth of bio pesticides production from 2.5 to 5 per cent over the next five years. The KVKs and directorates of extension must work together in a network mode to popularise the IPM programme. Video material on IPM should be prepared and shown to farmers. Farmers adopting IPM and getting higher yields need to be encouraged and suitably rewarded.

Organic Farming

5.81 Promotion of organic farming through utilisation of organic waste is one of the thrust areas of the Tenth Plan. Organic farming is a holistic approach involving the use of inputs of organic or biological origin for crop production, processing and packaging of the produce. This approach largely excludes the use of synthetic agro-chemicals and fertilizers. The purpose of organic farming is not to go back to primitive forms of agriculture, but to blend modern scientific technologies with the indigenous knowledge and skills using the vast potential of various kinds of residues and wastes, so as to achieve sustainability of natural resources on the one hand and to exploit growing global market of organic food on the other.

5.82 In order to promote organic farming, a new Central sector scheme, National Project on Organic Farming, has been approved with an outlay of Rs.57.05 crore by re-structuring the on-going scheme of National Project on Development and Use of Bio-fertilizers. The scheme is being implemented at a pilot scale during the Tenth Plan in the areas where use of agro-chemicals is very low, those which fall in agri-export zones, and in urban hinterland (peri urban) areas. The main components of the scheme are: putting in place a system of certification of organic produce; capacity building through service providers; financial support for commercial production units of fruit and vegetable-waste compost, bio-fertilizers, hatcheries for vermiculture, and promotion and extension of organic farming.

Farm Machinery/ Implements

5.83 One of the thrust areas of the Tenth Plan is the development of energy and time-saving machines/implements and their adequate production/supply. A restructured scheme for Promotion and Strengthening of Agricultural Mechanisation through Training, Testing and Demonstration has been launched. New equipments like zero-till seed-cum-fertilizer drill, raised bed planter, rotavator, multi-crop thresher, sugarcane cutter planter, vertical conveyer reaper, paddy transplanter, etc. have been demonstrated.

AGRICULTURAL INSURANCE

5.84 In India, crop insurance is one of the instruments for protecting farmers from agricultural variability, mainly weather-induced. The initial Comprehensive Crop Insurance Scheme (CCIS) was implemented during the 1985-1999 period. For improving the scope and content of CCIS, a broad based Central sector scheme, National Agriculture Insurance Scheme (NAIS) was introduced from the rabi season of 1999-2000. The scheme is available to

Box 5.2
Organic Farming

Concept, Scope and Initiatives

- Organic farming is a way of farming which excludes the use of chemical fertilizers, insecticides, etc. and is primarily based on the principles of use of natural organic inputs and biological plant protection measures.
- Properly managed organic farming reduces or eliminates water pollution and helps conserve water and soil on the farm and thereby enhances sustainability and agro-biodiversity.
- Organic farming has become popular in many western countries. There are two major driving forces behind this phenomenon: growing global market for organic agricultural produce due to increased health consciousness; and premium price on organic produce fetched by the producers.
- India has comparative advantage over many other countries because of the vast cultivated area, which has remained free of contamination from chemicals, spread over distinctly varying agro-climatic conditions. For example, large areas in north-east region, northern hills and rainfed regions with very low or nil use of agro-chemicals can be instantly converted to organic farming.
- In India, a National Programme for Organic Production is being implemented by the Agricultural and Processed Food Products Export Development Authority (APEDA), Ministry of Commerce, with major responsibility for developing standards for organic farming and regulatory mechanism for export purposes.

Organic Uttaranchal : A success story

- The Uttaranchal Organic Commodity Board (UOCB), a nodal agency of the Government of Uttaranchal for promotion of organic farming, was registered under the Societies Act in May 2003. A project called Centre for Organic Farming (COF), "Himotthan Pariyojna", funded by the Sir Ratan Tata Trust was anchored within the Board for providing technical and marketing expertise for product development, supply chain management, market linkages, certification, etc.
- Crop certification is being facilitated under the internal control system supported by COF. Regular training is being provided by the field staff available with different programmes. The certification is done by a team of field staff, internal inspectors and Quality Managers in coordination with an External Certification Agency.
- Initially, a pilot programme of demonstration of certain technologies was taken up in 16 villages of Uttaranchal. Later, it was expanded to 212 villages. The term bio-village has evolved along with the development of demonstration villages to 100 per cent saturation villages where commodity production, certification and market linkage has been established. Presently, 1200 bio-villages are covered under the organic programme and 20,000 farmers have been sensitised.
- The tangible results are: export of 100 tonnes of organic rice to Germany and a product expansion plan for 400 tonnes of commodities like kidney beans, lentils, buckwheat and millets. An increase of 35-40 per cent in unit price has been realised for the farmers. The groups logged domestic market sales to the tune of Rs. 35 lakh in 2004. Organic producer groups have been trained to semi-process and package the products at the village level itself. A total of 40 organic commodities have been developed, including organic detergents.
- A number of farmer groups are actively engaged in exploring organic opportunities and some NGOs are also active in linking farmers with health food activists.

all farmers (both loanee and non-loanee) irrespective of the size of their land holdings. It covers a wide range of crops including annual commercial/ horticultural crops. At present, 23 states and two Union Territories are implementing the scheme. The NAIS provides for 50 per cent premium subsidy to small (1 hectare) and marginal (1-2 hectare) farmers. The subsidy burden is shared equally by the states and Central governments. The basic limitation of the scheme is that it covers only a small fraction of the eligible cropped area or the number of farmers and has a very high claims to premium ratio. Since its inception in rabi 1999-00 till rabi 2003-04, NAIS has registered a very high claims ratio of over 3.8 on an all-India basis; although the penetration in terms of both the number of farmers and acreage was about 11 per cent. The low coverage and high claims to premium ratio has made the scheme unviable. It can be improved by transition to actuarial rates, increasing the accuracy and timeliness of crop estimation methods and making the implementing agency, namely, Agriculture Insurance Company, share some risk. However, since actuarial premia are likely to be high for regions with low and erratic rainfall, a special budgetary subsidy might be necessary for these regions.

AGRICULTURAL DIVERSIFICATION

5.85 Agricultural diversification has to be a major element in the strategy for accelerating agricultural growth and this calls for action on several fronts. Ideally, there should be a shift of land from cereals to non-cereals (in the process increasing both farm income and employment) combined with an increase in productivity in cereals to ensure that the per capita availability of cereals does not decline. Diversification also means a shift from crop agriculture to animal husbandry/dairy and fisheries. Diversification is unlikely to be a feasible strategy all over the country, but it does hold great promise in many areas, particularly in the case of the shift away from crops. The shift from cereals to horticulture crops requires a supportive policy framework, notably, a much greater focus on marketing arrangements, including encouragement to private sector involvement in marketing; and encouragement of downstream food processing and research linked to market requirements for diversifying into horticulture. The shift from crop agriculture to animal husbandry, dairy and fisheries is constrained by the lack of availability of green fodder and grazing land and a host of problems in marketing dairy products of the kind that horticulture faces. This calls for policy changes, particularly in the area of the management of the common property resources in the villages and a much greater thrust on revitalising milk and other such cooperatives at the grass root level.

5.86 Since fruits, vegetables, milk, etc., are perishable, success in diversifying into production of these depends critically on the existence of a complete supply chain, with cooling facilities and final market avenues. This calls for a strong contract farming system. Agricultural research would also need to be tailored to developing varieties/ products suitable to the different requirements of particular markets such as for domestic consumption/ exports/food processing. Extension services and supply of inputs would need to be tailored to the requirements of the specific varieties. The country needs a credible strategy for tying up all the missing links so that the National Common Minimum Programme's (NCMP) objectives of augmentation and modernisation of rural infrastructure consisting of cold chain and marketing outlets are realised quickly.

5.87 Development of marketing links also requires changes in the agricultural marketing laws of the states and facilitation of contract farming, whereby crop buyers can organise farmers to produce under contract, using inputs which meet buyers' specifications. The changes needed are at the state level and there is enormous resistance to (as well as lethargy in) bringing about these changes because of entrenched vested interests who control existing mandis and the associated activities. Clearly, a strategy which identifies the package of changes needed and provides for incentives for making changes in the Agricultural Produce Marketing Committee (APMC) Acts and penalties for not doing so, would be necessary.

AGRICULTURAL PRODUCE MARKETING COMMITTEE ACTS

5.88 The Agricultural Produce Marketing Committees Acts do not allow the setting up of parallel competitive markets. The markets set up under the Acts also do not provide direct and free marketing, organised retailing, smooth raw material supplies to agro processing industries, competitive trading, information exchange and adoption of innovative marketing system and technologies. The supporting services like grading, standardisation, and storage with pledge finance facilities have become secondary activities. These deficiencies are going against marketing and processing efficiencies as well as acting as disincentives to farmers, traders and industries. The DAC has drafted a model Agricultural Produce Marketing Act and circulated it among the states. The Model Act provides for legal persons, growers and local authorities to establish new markets, growers to sell their produce in markets other than the regulated markets, establishment of direct purchase centres, consumers'/farmers' markets for direct sale, promotion of public-private partnership in the management and development of agricultural markets, regulation and promotion of contract farming, etc. Although most states agreed to consider amending their respective APMC Acts, there has been little progress on this.

INNOVATIVE MARKETING AND CONTRACT FARMING

5.89 Some states have been working on various innovative marketing strategies to get a better share of the consumer price for the farmers. Some experiences with direct marketing have been quite successful such as direct sale of fruits and vegetables to consumers in Hadapsar market in Pune (since 1976), Horticultural Producers Co-operative Marketing and Processing Society Ltd or HOPCOMS in Karnataka (since 1965). Some more recent experiments on the peripherals of cities are Uzhavar Santhail (since 1999) in Tamil Nadu, Ryathu Bazars (since 1999) in Andhra Pradesh and Apni Mandi in Punjab and Rajasthan. Further improvement in direct marketing is possible if provision is made for better marketing infrastructure and information. Some private initiatives such as ITC's e-choupal, Tata's Kisan Centres, ICICI Bank's convergence of agri services, etc., have given encouraging signals for the future of the agriculture. One variant of direct marketing is contract farming. Contract farming can reduce risks of deficient market demand and adverse price fluctuation while the corporate bodies/ buyers reduce their supply risks i.e. risk of non-availability of desired quality raw material. These arrangements are on the increase and can be further enhanced by providing appropriate legal and regulatory framework. However, it should also be emphasised that small farmers can be at disadvantage in contract farming because of contract enforcement and other transactions costs and it is necessary to enable farmers groups, co-operatives and panchayats to assist in contract design and implementation.

ESSENTIAL COMMODITIES ACT

5.90 The NCMP has stated that controls that depress the incomes of farmers will be systematically removed. The Tenth Plan had identified the Essential Commodities Act, 1955

Box 5.3
Contract farming

Contract farming is a system for the production and supply of agricultural/ horticultural produce under forward contracts between growers and buyers. The terms and nature of the contracts differ according to variations in the nature of crops to be grown, the technologies and the context in which they are practiced. Contract farming can help the farmers access credit, quality inputs, technical guidance and reduces risks of deficient market demand and adverse price fluctuation. The corporate bodies/buyers of the agricultural produce benefit from contract farming through the assured supply of quality raw material. The experience with contract farming shows that it has been beneficial in many ways.

- Due to Pepsico's involvement in contract farming with the farmers of Punjab, tomato cultivation has stabilised in the state on 25,000 hectares with a crop size of about 5,00,000 tonnes. The average yield of the contract farmers' is 25-50 per cent higher than the state average, while their per hectare income is reported to be 40 per cent higher than that of the other farmers. The Pepsico project has introduced new seed varieties, new technology of deep chiselling, new methods of transplantation like shovel technique and bed head planting etc. to Punjab.

- Agricultural seed production and distribution, which are the business of over 150 companies, survive on contracts. A case study by the Maharashtra Economic Development Council of seed multiplication by JK Agri-genetics, ProAgro and Nath Seeds in Andhra Pradesh, Maharashtra and Gujarat respectively have found that these companies attribute their healthy volumes and profits to the contracts;

- Hindustan Lever Limited (HLL) entered into a joint venture with the Madhya Pradesh government to grow wheat. The project, which started about three years ago on 250 acres, has expanded to cover to 15,000 acres.

- Rallis' Kisan Kendras have set-up contract farming pilot projects for fruits, vegetables and basmati rice in Hoshangabad (Madhya Pradesh), at Bangalore (Karnataka), Nashik (Maharashtra) and Panipat (Haryana). The company has come together with credit providers ICICI Bank and buyers of agricultural produce like HLL and FoodWorld.

- ITC's e-choupal, an information technology based intervention, has created a direct marketing channel, eliminating wasteful intermediation and reducing transaction costs. E-choupals have been set up in around 29,500 villages, benefiting more than 3million farmers.

- Mahindra Shubh Labh Services (MSSL) offers extension services to farmers for a fee, with assured level of yield. As a result of the company's experiment in Madurai, Tamil Nadu, the average yields of the farmers who availed the services of the company were reported to have been improved.

Farmers' perception

The Maharashtra Economic Development Council's study has found that contracts are not always well understood, with prices, quality stipulations, and respective responsibilities being the main areas of confusion. Overall, however, farmers were distinctly satisfied with contracts and were ready to repeat them, in general, and with the same parties, in particular, if offered. Farmers reported higher incomes and prestige due to association with a large organisation as the main benefits of contracts. Nevertheless, they firmly believed that buyers were responsible for disputes, underlining the antagonistic nature of contracts in general.

Move forward

To further strengthen the contract farming, it is important to establish:

- an appropriate legal framework,
- a credible contract enforcement mechanism, and
- an inexpensive and simple arbitration arrangement.

Further, the involvement of the farmers' associations, NGOs and the State is important to ensure that the contracts are not biased against the farmers.

(ECA) as one such impediment and, in May 2002, an Inter-Ministerial Task Force on agricultural marketing reforms had enumerated more than 200 control orders by various states. Although a number of agricultural commodities have been taken off the ECA, the rigid rules framed under the Act continue, for the most part. However, the NCMP also states that the ECA will not be diluted. It has been suggested that the ECA be so amended that rules framed under it apply in specified situations without hampering normal market activity.

INFRASTRUCTURE

5.91 Inadequacies of rural infrastructure like roads, transport, electricity, marketing infrastructure, storage facilities (both warehouse and cold storages), and other post harvest facilities continue to impede the generation of market surplus and value addition in Indian agriculture. Market infrastructure is important for the performance of various marketing functions, expansion of the size of the market and transfer of appropriate price signals for marketing efficiency etc. A new Central sector scheme for Development/Strengthening of Agriculture Marketing Infrastructure, Grading and Standardisation, has been formulated which would be implemented as a reform-linked scheme. To attract private investment under the scheme, credit-linked back-ended subsidy for capital investment would be provided for setting up general or commodity-specific marketing infrastructure for agricultural commodities. Subsidy would also be provided for strengthening and modernisation of existing agricultural markets, wholesale markets and rural haats in tribal areas.

5.92 The DAC is implementing the on-going Central sector scheme, Capital Investment Subsidy for Construction/Renovation of Rural Godowns, during the Tenth Plan for the creation and renovation of storage capacity. It is expected that 140 lakh tonnes of storage capacity will be created/renovated under this scheme during the Tenth Plan. It is necessary to introduce a negotiable warehouse receipt system for the farmers to harness the full benefit of the storage capacity.

ANIMAL HUSBANDRY AND DAIRYING

Cattle and Buffalo Development

5.93 The National Project on Cattle and Buffalo Breeding (NPCBB) Phase-I is one of the major schemes of the DAHD for genetic upgradation, as well as conservation of indigenous cattle and buffalo breeds. It appears that the emphasis has been shifted to the improvement of cattle through crossbreeding, using frozen semen technology, whereas the conservation of the indigenous well-adapted cattle and buffalo breeds has been neglected, thus leading to their progressive elimination from the production system. It is advisable that before starting on Phase-II of NPCBB, the DAHD undertakes an independent evaluation study with special reference to the extent of conservation works on indigenous cattle and buffalo breeds that had been undertaken under Phase-I, financial viability of all the state implementation agencies and their sustainability without assistance from Plan funds during Phase-II, and achievement of state-wise financial and physical targets, which had been fixed during the district level planning in consultation with the local authorities.

5.94 The Department is spending about Rs. 8 crore per year in the Central Cattle Development Organisation for production of about 300 bull calves. There are few takers for these very expensive bull calves produced by the seven Central Cattle Breeding Farms, as they are not progeny tested. Only 36 per cent of the total bull calves produced since inception have been distributed to different states for meeting their requirement. The Central Cattle Breeding Farms may be closed or they may be used exclusively for the conservation of indigenous breeds particularly draught breeds of cattle, which are facing threat of extinction.

Dairy Development

5.95 The sharp deceleration in the growth rate of total milk production is worrying, as this could drag down the total output from the agriculture and allied sectors. Many district level milk cooperative unions established under Operation Flood are running in losses and the effort to rehabilitate them through the Central sector scheme Assistance to Cooperatives has also not been effective in most cases. The Operation Flood programme covered 265 districts while the remaining 250 districts are covered by the ongoing scheme, Integrated Dairy Development Project (IDDP). The DAHD has so far approved 53 projects in 23 states and one Union Territory (covering a total of 149 districts) with an outlay of Rs. 292.19 crore. The major problem is poor planning, with unrealistic physical targets and slow pace of implementation.

5.96 There is little meaning in enhancing milk productivity without providing marketing facilities. A good year of milk production would bring cheer to the dairy farmers of Gujarat (which has an effective marketing network under AMUL for milk collection), but not in states like Orissa, Bihar, Kerala and Karnataka because the excess supply would lead to prices falling or the Milk Unions in these states suffering losses. Milk Unions created under both the Operation Flood and IDDP are unable to bear the additional expenditure required to purchase surplus milk in the flush season and are often compelled to declare 'milk holidays' (refusing to collect milk from the producers). The National Dairy Development Board (NDDB) could initiate a programme for creating a buffer stock for milk powder during the flush season, with assistance from the Government of India. The total cost would not be more than Rs. 100 crore per year, which is a modest amount in comparison with the expenses on buffer stock operations on food grains (wheat and rice).

Poultry Development

5.97 In the past decade, egg production has grown around 4.5 per cent per annum, but the growth rate has decelerated to 2.14 per cent in the first two years of the Tenth Plan. The present poultry production model (high input-high output) is becoming ineffective due to high feed cost, non-availability of credit at reasonable interest and lack of adequate marketing support. The high cost of maize is the major roadblock in the future development of poultry farming. Further, there are no organised arrangement or agencies with enough incentive to buy up the local surplus of egg or broiler birds. The local trader may or may not have sufficient capital to take advantage of low prices to buy up the excess produce but the paucity of storage facilities deters even an attempt at this. If the farmer has some sense of certainty about a remunerative price of his produce, things will change dramatically. Demand management should be the major focus of the DAHD in the remaining period of the Tenth Plan.

5.98 During the Tenth Plan, 13 Central poultry farms under the Central Poultry Development Organisation have been reorganised to form four Regional Directorates. These farms have produced about 3 lakh chicks and 8.5 lakh hatching eggs in two years at a cost of more than Rs. 8 crore. It would be more cost effective if the private sector and ICAR institutions are actively encouraged to produce and distribute parent stock to the state farms (both public and private). Under the Centrally sponsored scheme, Assistance to State Poultry Farms, the DAHD had released Rs. 11 crore to 27 state poultry farms in the Ninth Plan and close to Rs. 16 crore in the first two years of the Tenth Plan for promoting backyard poultry. There is need to restructure all the poultry schemes with the aim of creating the necessary infrastructure for managing demand side problems.

Meat Production and Surplus Male Animal

5.99 In India, meat production is largely a by-product of the system of livestock production, which utilises spent animals at the end of their productive life. The sector is presently neglected primarily due to lack of a clear policy on the utilisation of surplus male animals. Rearing of bullock is also becoming uneconomic. The share of mechanical power, consisting of tractors, power tillers, electric motors and diesel engines in agriculture has risen from 40 per cent in 1971-72 to 84 per cent in 2001-02. On the other hand, the share

Box 5.4
Indian Poultry Sector: A Profile

- The Indian poultry industry has evolved from a backyard activity to an organised, scientific and vibrant industry. Among the livestock products, the most notable growth has been recorded by eggs, the production of which has grown at 8.5 per cent per annum between 1980-81 and 1989-90. However, the growth rate declined to 4.3 per cent per annum in the 1990s and further to 3.3 per cent between 2000-01 and 2003-04.
- The high growth rate in egg production in the last two decades was the result of investments by the private sector and its efforts in balancing the demand and supply in the market. Although India is the world's fourth largest egg producer (3.13 million tonnes), as of 2003, it is far behind the highest producer China (43.26 million tonnes) as well as the United States (8.47 million tonnes).
- Karnataka, Kerala, Tamil Nadu, Andhra Pradesh and the western region of Maharashtra accounted for more than 62 per cent of total national egg production in 2003-04 and 60 per cent of total broiler production.
- The poultry sector includes both commercial as well as backyard operations. However, more than two-thirds of total egg production and almost the entire commercial broiler production are from improved poultry birds in the organised sector.
- The Venkateshwara Hatcheries Group, the flag-bearer in this sector, has more than 80 per cent share in the layer day old chick market and more than 50 per cent of the broiler market and is the largest exporter of poultry products.
- The broiler sector is currently dominated by Venkateshwara Hatcheries, Sugunal Hatcheries, Arambagh Hatcheries and Pioneer Hatcheries. Broiler production has now stabilised to fulfil the entire demand of the country.
- Rural poultry continues to be a significant socio-economic activity primarily with BPL and tribal households. The backyard sector is dominated by Keggfarms, which is operating in West Bengal, Uttar Pradesh, Orissa, Bihar, Jharkhand, Chhattisgarh, Karnataka, Andhra Pradesh, Kerala and Uttaranchal. This farm and its agencies are presently distributing about 1.5 crore improved birds per year to the rural people.

of draught animals has gone down from 45 per cent in 1971-72 to less than 10 per cent in 2001-02. During 1992 to 1997, there was a decline in the male cattle (–6.8 per cent) and buffalo (–7.5 per cent) population used for work purposes. The issue of surplus animals, particularly surplus male animals, has been discussed in earlier Plans. The Second Plan Document had noted that 'a complete ban on the slaughter of all cattle would tend to increase their number further and to jeopardise the well-being of the limited number of good cattle, which the country possesses'. The Third Plan Document also recognised the seriousness of the problem of surplus and uneconomic cattle. The issue of effective utilisation of surplus and culled animal needs to be resolved through dialogue involving all concerned, as it has wide socio-political ramifications.

5.100 The area under fodder crop and permanent pasture is about 80 lakh ha and 110 lakh ha (1996-97) respectively. Indian agriculture is characterised by mixed crop-livestock farming. But the delicate balance between crops and livestock is on the verge of breaking down. The reasons are:

- **India has seen rapid increase in the number of animals.** Total livestock population has increased from 369 million in 1977 to 482 million in 2003. The poultry population has increased from 160 million (1977) to 444 million (2003).

- **Human population growth is leading to farm sizes fragmenting to the point where mixed farming systems are collapsing.** Bullocks can no longer be maintained on the farm, thus depriving farming households of draught power and denying soils recycled nutrients.
- **The policy bias towards crop production actually prevents integration of crops and livestock.** The restriction on the import of food grains in order to protect domestic cereal production, in turn, encourages farmers to grow crops on marginal land previously used for livestock grazing. Cheap, subsidised mineral/chemical fertilizer and fuel are replacing farm manure and animal traction.
- **Livestock on grazing lands.** Livestock farmers do not own the land they use for grazing and this is causing damage to pasture lands because farmers are not willing to improve land unless they are sure that they will reap the benefits.

5.101 The DAHD is required to evaluate the present status of pasturelands and evolve a work plan for convergence of all relevant schemes/programmes implemented by other ministries/departments. Plans/programmes are needed for cultivation of fodder crops and fodder trees to improve the availability of green fodder. The Department is yet to formulate a new scheme on feed and fodder development in the Tenth Plan.

Livestock Health

5.102 The country lacks the necessary infrastructure for rapid diagnosis of animal diseases and reporting these to all the concerned agencies. There is a lack of coordination (particularly in the case of exotic diseases) between the animal disease diagnostic and forecasting system of ICAR and the policy makers in the DAHD. Further, the quality control mechanism in respect of veterinary biological products like vaccines, diagnostics, embryo, semen etc. is not adequate. Establishment of a Veterinary Biological Products Quality Control, which had been sanctioned in the Ninth Plan, has not yet been completed. The Department should gradually withdraw from the areas like direct participation in the Foot and Mouth Disease (FMD) Control Programme because some states like Haryana, Kerala are doing reasonably well on their own. Large amounts of unspent balance (Rs. 20.26 crore against release of Rs. 51.41 crore in the first two years of the Tenth Plan) in the programme, Assistance to States for Control of Animal Diseases, is a matter of concern and needs to be addressed immediately and, if required, the scheme may be restructured.

Fisheries

5.103 Fisheries not only provide an important alternative source of protein rich food, but also contribute to socio-economic development by generating employment as well as stimulating subsidiary industries. About 6.7 million fishermen/fish farmers depend on fisheries and aquaculture for their livelihood. Fisheries contribute 1.2 per cent to overall GDP and account for 21 per cent of the total agricultural exports. Fish production has increased from 4.36 million tonnes in 1992-93 to 6.2 million tonnes in 2002-03. Foreign exchange earning through exports also increased to Rs.6,800 crore in 2002-03 from Rs.1,767 crore in 1992-93. The present production from marine sources is about 3 million tonnes against a potential of 3.93 million tonnes whereas the production from inland sources is 3.2 million tonnes against a potential of 4.5 million tonnes.

5.104 A holistic approach for the sustainable development of fisheries and aquaculture has been adopted during the Tenth Plan, with the objective of optimising production and productivity, augmenting the export of marine products, generating additional employment opportunities and improving the socio-economic conditions of the fisher community, including removing gender bias in the fisheries sector. Emphasis was also laid on conserving aquatic resources and genetic diversity and increasing the per capita availability and consumption of fish besides the development of non-food fisheries and aquaculture such as pearl-oyster culture, development of ornamental fisheries etc. which would provide a source of additional income to the fishermen and fish farmers.

5.105 A major constraint to the development of the fishery sector is inadequate infrastructure facilities, namely, fishing harbours and fish landing centres with the modern amenities which are necessary to maintain the quality of fishery products in line with international standards of Hazard Analysis and Critical Control Point (HACCP), European Union (EU) norms etc. The present level of infrastructure facilities is reported to be adequate to meet only about 25-30 per cent of the actual requirement. The absence of an institutional mechanism for easy flow of finance for deep-sea fishing and for fish seed hatcheries in the private sector is another issue that needs to be addressed on a priority basis.

5.106 Currently, about 70-75 per cent of inland fish production is obtained through aquaculture. The production and productivity from inland water bodies in states like Gujarat, Jharkhand, Maharashtra, Tamil Nadu, and those in the North-East (except Assam) should be increased to the level of national productivity of 2.2 tonnes per hectare per annum at present. Apart from this, flood plain wetlands or beels are other potential fishery resources in the Assam, West Bengal, and Bihar, which offer tremendous scope for both culture and capture fisheries. Reservoirs, which form the largest inland fisheries resources, also remain largely under-exploited. Steps to increase production of quality fish seed including seeds for fresh water prawn farming and other species of fin/shell fish which are not cultured on a large scale at present are also required, along with measures for seed certification, disease diagnosis and other health management.

5.107 The fish farmers are not getting the same concessions in income tax, water and power tariffs, etc. as the agriculture sector does, although aquaculture is recognised as a part of agriculture, even by NABARD. Therefore, policy intervention is required to treat aquaculture at par with agriculture. Necessary policy guidelines on uniform long-term leasing of all suitable water bodies need to be circulated to states/Union Territories for streamlining the efforts to enhance production and productivity through aquaculture. Policy intervention is also required for the effective management of in-shore fisheries and rational exploitation of deep sea, offshore and oceanic fishery resources for the overall development of marine fisheries. Subsidiary industries relating to fisheries like culture of pearls, development of global trade of ornamental fish to provide high-margin business opportunities for fishers, setting up of adequate fish marketing network etc. are some of the other areas which need adequate attention.

AGRICULTURAL RESEARCH

5.108 A review of the research and development activities of the ICAR system during first two years of the Tenth Plan highlighted several weaknesses. These include: proliferation of programmes resulting in resources being spread thinly, and lack of focus in areas of relevance and opportunity; crop bias with major focus on rice and wheat; and inadequate priority to emerging challenges, particularly post-harvest, marketing and environmental conservation. There is inadequate emphasis on the needs of rainfed areas, which account for over 60 per cent of cultivated area, and the role of women in agriculture. The multiplicity of institutes with overlapping mandates has led to duplication of research work. Lack of accountability, less emphasis on multidisciplinary research; weak interaction among researchers, extension workers, farmers and the private sector and excessive centralisation of planning and monitoring are other important weaknesses that need to be addressed through appropriate policy initiatives.

5.109 The following areas deserve particular attention in order to address the weaknesses of the National Agricultural Research System (NARS):

- **Refining the mandate of the System's operating units and rationalising their**

number. There are considerable overlaps in the mandates of the newly established units with that of other units in the system, primarily because the institution from where the new establishment was hived off continues to work in the areas which it should have shed. For the immediate, there is need to redefine the mandate of the institutions to remove the overlaps and, in the long run, to pay attention to reducing the number of institutions by consolidation and rationalisation.

- **A better definition of research responsibilities among the components of NARS.** The SAUs should handle the research, education and extension needs of the regions of their jurisdiction and the ICAR institutes should concentrate on basic, anticipatory and strategic research. There should also be greater synergy between the two sets of institutions; in fact, ICAR should assume the responsibility of mentoring and grooming regional institutions and SAUs.

- **Improving the financial situation of the SAUs.** The financial situation of most SAUs are precarious. Historically, ICAR has been contributing about 10-15 per cent of the SAU budgets; the rest coming from the respective state governments, which are themselves starved of funds. On the other hand, ICAR and its constituent institutes are flush with funds. There is a need to strengthen the finances of the SAUs commensurate with their responsibilities. A part of the annual allocation to ICAR should be earmarked for transfer to SAUs for carrying out specific, problem-oriented research. In order to encourage the SAUs to undertake problem-oriented research and application of technologies in the field, a system of recognition for good work by way of certificates, awards, prizes, etc., for individual scientists, group of scientists and/or for a SAU as a collective entity should be operated. Although ICAR hands out awards to SAUs for extraordinary research/innovation, this is only a token gesture. The monetary component of awards, etc., should be enhanced substantially to, say, Rs. 10 crore, in order to generate competition amongst SAUs.

- **Strengthen anticipatory and strategic research.** The system's capacities for anticipatory and strategic research have waned over the years and this is one of the major reasons for its inability to halt the stagnation in the growth of agriculture in the recent decades. The rapid pace of developments in science globally also requires consistent scouting of leads from basic research, from which materials and technologies can be derived for developmental activities. Based on the recommendation of the Task Force on Revamping and Refocussing of National Agricultural Research headed by Dr. M.S. Swaminathan, the Government has already announced a National Fund for Strategic Agricultural Research with an initial provision of Rs. 50 crore in the 2005-06 budget of ICAR. The Fund should be operationalised expeditiously.

- **Improving research/performance and monitoring.** Block grant to the Department and, in turn to the institutes, has led to a deterioration in the performance profile of the institutions and the overall inability to effectively monitor and assess their performance. It is important that project based-funding is introduced and implemented immediately. This will require that a limited number of 'system priorities' are identified on the basis of objective criteria in consonance with national needs. The projects should clearly enunciate a work plan, expected outputs with milestones, time lines and criteria for validating the claimed achievements, etc.

- **Decentralised management and functioning.** An essential requirement for the success of project-based operations is financial and administrative autonomy of the project leaders, i.e. decentralisation and delegation of power down the line from the headquarters to the institute and right up to project leader.

- **Emphasis on development of technologies for remunerative agriculture.** A major area of concern is that agriculture is becoming increasingly uneconomic as a profession. There is, therefore, a need for developing technologies that can enhance farmer's income. It should be stressed that while developing technologies for the resource poor farmer, the researcher must take into account the cost-return-risk factors. If the cost and risk factors are low and returns are high, the technology will be easily adopted by the farmer even with minimal extension effort. There is also a need to make agricultural research/ technology gender-sensitive by devising agricultural equipments which are women friendly and generally reduce drudgery.

- **Developing and implementing progressive personnel policies.** Any successful operation needs to be manned by competent people, backed by progressive policies. For this to happen, the recruitment system needs to be fair and transparent and the career advancement should be based on rational and objective criteria for assessment and promotion. Processes must be put in place that provide incentives to the performer through recognition and award. At the same time, there should also be provision to identify and weed out of the ineffective persons.

- **Human resource development, manpower planning and grooming leadership.** Inadequate attention to human resource development has weakened the system progressively. There is increasing attrition due to retirements and recruitments are not being done. There are also no conscious efforts towards grooming leadership. Remedial steps are required.

THE WAY FORWARD

- Increase investment and input use and improve use efficiency of the latter. This should address the issue of low investment and low growth of input use, and of higher capital output ratios and low factor productivity growth experienced since the mid-1990s.
- Step up public investment, particularly in irrigation and water resources management; watershed development and reclamation of waste/degraded land; and provision of essential infrastructure such as roads, markets and electricity.
- Focus on reducing those subsidies that lead to distortions and have deleterious effects on natural resources and cropping patterns, instead of viewing subsidy reduction as a means of mobilising resources for agriculture-related investment.
- Work out some innovative mix of proper utility pricing, community control and provision of subsidies on water conservation techniques in the regions displaying acute water stress, i.e., over-exploited and dark blocks, particularly in low rainfall regions. Proper pricing of water and electricity are essential elements of any solution to the problem of over-exploitation of groundwater. But this must be done within an acceptable framework, such as metered supply, a part of which is subsidised.
- Re-examine fertilizer subsidies in order to improve the nutrient balance and also to target this more to smaller holdings, for example, through higher subsidy on fixed quantity per farmer.
- Reform and rejuvenate support systems such as agricultural research, extension and credit and delivery systems of inputs

such as seeds, fertilizers, pesticides, veterinary services etc. Identify specific problems arising at the state level in these areas and link Central assistance to corrective action so that state government efforts become sustainable. In particular, this will involve re-balancing the roles of ICAR vis-à-vis the SAUs, of scheduled commercial banks vis-à-vis, cooperatives, and enabling states to induct practices and personnel with the capacity to deal with new challenges.

- Focus on the demand side problems, because the experience since the mid 1990s has been that growth of agricultural products exports has slowed down and per capita domestic consumption of most agricultural products have either remained stagnant or declined despite declining relative prices. Undertake some demand side initiatives and, in order to increase rural incomes, diversify cropping patterns. Simultaneously, provide adequate insurance to those carrying out diversification either within agriculture or from agriculture to non-agriculture.
- Restore the growth rate of yields per acre of cereals to levels actually attained during the 1980s from the current negligible levels. This is an essential pre-requisite for sustainable diversification. Although diversification from cereals to other crops is necessary both in view of changing demand patterns and of sustainability of natural resources, per capita production of cereals has actually been declining over the last decade.
- Move rapidly to full all-India coverage of welfare schemes like employment guarantee, Mid-Day Meals and the ICDS. Simultaneously, revert to uniform PDS pricing and to the clear-cut and much less expensive objective of stabilising prices at above costs of production. For this, the MSPs should be reasonable and extended to cover the entire country. Differential PDS pricing is not the best way of serving the equity objective since this distorts incentives and leads to heavy leakages.
- Improve the National Agriculture Insurance Scheme by transition to actuarial rates, increasing accuracy and timeliness of crop estimation methods and making the implementing agency, namely, Agriculture Insurance Company, share some risk. However, since actuarial premia are likely to be high for regions with low and erratic rainfall, a special budgetary subsidy might be necessary for these regions.
- Undertake policy changes in the area of management of common property resources in the villages to address the problem of the lack of green fodder and grazing land. Place greater thrust on revitalising milk and other cooperatives at the grass root level to solve the problems in marketing dairy products. Policy roadblocks are discouraging the shift from crop agriculture to animal husbandry, dairy and fisheries.
- Change agricultural marketing laws of the states and facilitate contract farming to help develop the marketing links that are necessary for raising the efficiency of agriculture. Link Central assistance to the initiation of market reforms in order to bring about changes in the Agricultural Produce Marketing Committee (APMC) Acts. However, since transactions costs and contract enforcement can work against small farmers, this must be accompanied by steps to empower cooperatives/ panchayats to negotiate on behalf of such farmers.
- Make demand management of milk and milk products one of the major priorities. Create a buffer stock of milk powder during flush season and use it to introduce a 'school milk programme' along with the ongoing Mid-Day Meal scheme. Similar programmes are in vogue in countries like Bangladesh, Indonesia, China, Germany, Sweden and the United Kingdom.

Annexure 5.1

Financial performance of the Ministry of Agriculture during Ninth and Tenth Plans

(Rs crore)

		DAC	DAHD	DARE	TOTAL	DAC	DAHD	DARE	TOTAL
		(At Current Prices)				(At 2001-02 prices)			
I	Ninth Plan Outlay@	9153.82	2345.64	3376.95	14876.41	11812.90	3027.02	4357.92	19197.84
II	Ninth Plan Expenditure*	7512.55	1038.82	2388.91	10940.22	8115.91	1128.41	2570.92	11815.24
III	Tenth Plan Outlay (2002- 07)**	13200.00	2500.00	5368.00	21068.00	13200.00	2500.00	5368.00	21068.00
IV	2002-03(BE)#	2167.00	300.00	775.00	3242.00	2089.68	289.30	747.35	3126.33
V	2002-03 (Expenditure)#	1655.94	230.26	650.75	2536.95	1596.86	222.04	627.53	2446.43
VI	2003-04(BE) #	2167.00	300.00	775.00	3242.00	2025.61	280.43	724.43	3030.47
VII	2003-04 (Expenditure)#	2050.34	269.35	748.98	3068.67	1916.56	251.78	700.11	2868.45
VIII	2004-05(BE)#	2650.00	500.00	1000.00	4150.00	2336.86	440.92	881.83	3659.61
XI	Additional GBS during 2004-05	440.00	100.00	-	540.00	388.01	88.18	-	476.19
X	2004-05 (RE)#	2945.00	575.00	900.00	4420.00	2597.00	507.05	793.65	3897.71
XI	2005-06 (BE)#	4179.32	669.08	1150.00	5998.40	3509.97	561.92	965.81	5037.71
XII	**Total of first 3 years' expenditure in Tenth Plan (V+VII+X)**	**6651.28**	**1074.61**	2299.73	**10025.62**	6110.42	**980.88**	2121.29	**9212.59**
XIII	3 years' expenditure as per cent to Tenth Plan outlay	50.4	43.0	42.8	47.6	46.3	39.2	39.5	43.7
XIV	**Total of 4 Years' expenditure in Tenth Plan (V+VII+X+XI)**	10830.60	**1743.69**	3449.73	16024.02	9620.39	**1542.80**	3087.11	**14250.30**
XV	4 years' expenditure as per cent to Tenth Plan outlay	82.05	69.75	64.26	76.06	72.88	61.71	57.51	67.64

BE= Budget Estimate; RE= Revised Estimate; GBS= Gross Budgetary Support.

DAC= Department of Agriculture & Cooperation. DARE= Department of Agricultural Research and Education. DAHD= Department of Animal Husbandry and Dairying.

Sources:

@ Ninth Five-Year Plan (1997-2002), Vol I, Planning Commission, Government of India

* For Ninth Plan Expenditure figures: Agricultural Statistics at a Glance, 2004 of the Department of Agriculture and Cooperation for DAC, Annual Report 2001-02 of the Department of Animal Husbandry and Dairying and Union Expenditure Budget Vol. I 2003-04 for DAHD and Union Expenditure Budgets Vol. I from 1999-2000 to 2003-04 for DARE

** Tenth Plan Five-Year Plan (2002-07), Planning Commission, Government of India

Union Expenditure Budget Vol. I, Ministry of Finance, Government of India, from 2002-03 to 2005-06.

Water Resources

6.1 Water is an essential requirement for many reasons. Drinking water is the most essential requirement, even more than food, for sustaining human life. Water is also the most vital input for agriculture and increasingly also for industry. The Tenth Five Year Plan identified several issues that need to be tackled in the water sector including irrigation, flood control and command area development as also the requirement for rural and urban drinking water supply and rural and urban sanitation.

6.2 The National Common Minimum Programme (NCMP) has also endorsed the importance of this. It has indicated that public investment in irrigation is to be stepped up in a significant manner and that all ongoing projects are to be completed according to a strict time schedule. It has also laid stress on rain water harvesting, de-silting existing ponds and launching of a scheme for minor irrigation of all lands owned by dalits and adivasis. It also talks about pursuing, in a fully consultative manner, the interlinking of rivers. Other priority areas are: flood management, especially prevention of erosion in West Bengal; expansion of water supply, sewage treatment and sanitation. The major issues in this area identified in the Tenth Plan are summarised in Box 6.1.

PROGRESS IN THE TENTH PLAN

Irrigation and Flood Control

State Sector

6.3 Creation of irrigation potential the first two years of the Tenth Plan period was significantly below the levels projected by state governments and, therefore, scaling down of targets is unavoidable. (Table 6.1)

6.4 The shortfall in achievements of targets is a reflection of the fact that funds for irrigation, flood control and command area development (CAD) in the state sector fell short of the envisaged levels. Since the expenditure level in first two years of the Tenth Plan has been 30 per cent against a target of 40 per cent, the projected total Plan expenditure is expected to be 75 per cent of approved outlay. (Table 6.2)

Central Sector

6.5 The Ministry of Water Resources has incurred only 22 per cent expenditure out of the Plan outlay of Rs. 3,600 crore in the first two years of the Plan period. The percentage in the first three years, including the anticipated expenditure in 2004-05, is likely to increase to 41 per cent. Substantial savings are thus envisaged. However, the NCMP commitments relating to flood control require additional allocations, which can be met from within the overall savings by re-appropriation. No reduction in the Tenth Plan outlay of the Ministry is thus proposed.

Water Supply and Sanitation

State Sector

6.6 The strategy for water supply and sanitation in the Tenth Plan was to provide potable drinking water to all villages. At the beginning of the Plan, a total of 1,49,103 habitations – 15,798 Not Covered (NC) and 1,33,305 Partially Covered (PC) – were yet to be provided drinking water or the required augmentation of supplies. In 2002-03 and 2003-04, 39,240 and 34,256 habitations have been respectively covered. Of the balance 75,607 habitations, 5,759 are NC category, with Rajasthan alone accounting for 2974 habitations. The strategy in the remaining part of the

Box 6.1
Issues in the water sector

The Tenth Plan has identified the following key issues in the water sector:

- An increasing demand for water accompanied by constraints on availability.
- A large number of on-going irrigation projects (388 major and medium irrigation projects) with a huge balance cost of Rs.90,634 crore.
- A gap of nearly 14 million hectares (m.ha.) between created and utilised irrigation potential.
- Low water use efficiency in irrigation (25 per cent to 35 per cent) and in urban water supply (30 per cent to 40 per cent losses).
- Low tariffs for both irrigation and urban water supply, which do not cover even the operation and maintenance (O&M) costs.
- Slow pace of take-over of irrigation systems by Water User Associations (WUAs).
- Overuse of groundwater and ineffectiveness of legislation to check this.
- Floods, drainage and water logging.
- Surface and groundwater pollution; problems of water quality.
- Providing potable water to all villages, which is one of the monitorable targets of the Tenth Plan.
- Low coverage of rural sanitation, leading to hygiene problems.
- Growing problem of urban solid waste management.
- Multiplicity of ministries/departments dealing with water.

Tenth Plan should be to cover these balance habitations.

6.7 It has been assessed that presently about 89 per cent of the urban population has got access to drinking water supply facilities. The Census of India, 2001 indicates that out of a total of 53.69 million urban households, 36.86 million households had access to water supply from taps. Of these, 26.68 million had taps within the premises, 8.08 million near the premises and 2.09 million away from the

Table 6.1
Tenth Plan targets and achievement in irrigation sector

(in m.ha)

Sector	Tenth Plan target	Achievement		Target for 2004-05	Total	Percentage achievement	Proposed revised target
		2002-03	2003-04				
Major & medium irrigation	9.936	0.812	1.004	1.551	3.367	33	6.5
Minor irrigation	6.807	0.687	0.696	0.746	2.129	31	4.0
Total	16.743	1.499	1.700	2.297	5.496	32	10.5

Note:In the Ninth Plan, a potential of 4.12 m.ha in major and medium irrigation and 3.6 m.ha in minor irrigation was created (total 7.72m.ha)

Table 6.2
Outlay and expenditure on irrigation and flood control in Tenth Plan

(in Rs. crore)

Sub Sector	Tenth Plan approved outlay	Actual expenditure / revised outlay		Total	Percentage expenditure
		2002-03	2003-04		
Major & medium irrigation	70861.78	9784.92	12264.28	22049.2	31
Minor Irrigation	13872.86	1656.36	2540.77	4197.13	30
CAD	2789.88	251.88	236.41	488.29	17.5
Flood Control	4619	507.68	500.41	1008.09	21.8
	92143.42	**12200.84**	**15541.87**	**27742.58**	30

premises (beyond 100 metres). The balance households had access to water supply from handpumps, tubewells etc.

6.8 The Tenth Plan approved outlay for both urban and rural water supply and sanitation in the State sector was Rs.44,206.55 crore. The actual expenditure for 2002-03 and revised approved outlay for 2003-04 were Rs.5795.97 crore and Rs.6356.03 crore respectively (total expenditure in first two years is 27 per cent of the approved outlay). Thus, the Tenth Plan expenditure is likely to be around 70 per cent of the approved outlay.

Central Sector

6.9 The Department of Drinking Water Supply was allocated Rs.14,200 crore for rural water supply and sanitation in the Tenth Plan. The cumulative expenditure in the first two years of the Plan has been Rs.5011.8 crore or 36 per cent of outlay, which is expected to reach 60 per cent when the expenditure in

Box 6.2
Water and sanitation situation in rural north India

The results of a survey of 15,293 rural households in Uttar Pradesh, Rajasthan and Himachal Pradesh were extrapolated to rural north India as a whole. This threw up the following findings:

- 62 per cent of households do not have water supply in or near their homes;
- 71 million households spend 102 billion hours per year to collect water from outside the home.
- Only 7 per cent of households are connected with sewerage facilities.
- Only 9 per cent of households have toilet facility inside the house.
- Only 1 per cent of households use community toilets.

The survey also showed the proportion of households willing to pay for various services:

- Clean drinking water : 7%
- Community-based drinking water supply : 25%
- Sewerage facilities : 28%
- In-house toilets : 29%
- Community toilets : 25%

Source: Jyoti Parikh, Kirit Parikh and Vijay Laxmi, India Development Report (2004-05)

2004-05 is included. Thus, the full outlay is likely to be utilised and this sector may, in fact, need a step-up.

6.10 The Ministry of Urban Development and Poverty Alleviation was allocated Rs.1,769 crore in the Tenth Plan for six schemes in urban water supply, urban sanitation and solid waste management. The cumulative expenditure in the first two years is Rs.365 crore (21 per cent of outlay). When the anticipated expenditure in 2004-05 is included, the percentage is likely to be 35 per cent. The Ministry has proposed a large scheme to cover all urban areas and hence the outlay of the Ministry will have to be stepped up.

6.11 It has been proposed that Plan assistance for urban development be made conditional to the implementation of a unified comprehensive scheme for all urban infrastructure projects with focus on urban reforms and e-governance.

PROBLEMS HIGHLIGHTED BY THE MID-TERM APPRAISAL

DEMAND AND SUPPLY OF WATER

6.12 While India has 16 per cent of the world's population, its share in the world's fresh water availability is only 4 per cent. A per capita availability of 1700 m^3 is required in order to be free of water stress, while availability below 1000 m^3 is termed as water scarcity. Per capita availability was about 5200 m^3 in 1951 but it had fallen to 2200 m^3 in 1991 and further to 1820 m^3 in 2001, reflecting the effect of rising population. It is expected to fall further to 1340 m^3 in 2025 and 1140 m^3 in 2050. Average availability is therefore likely to fall below the water-stress level in the near future and given the wide variations across the country, water stress conditions already exist in many parts. The per capita storage in the country of about 207 m^3 is way below the storage achieved in many of the countries such as Russia (6103 m^3), Australia (4733 m^3), Brazil (3145 m^3), United States (1964 m^3), Turkey (1739 m^3), Spain (1410 m^3), Mexico (1245 m^3), China (1111 m^3) and South Africa (753 m^3). The country thus seems to be on the threshold of a grave water crisis in the none too distant future (Box 6.3).

6.13 Demand is linked to population growth and, at the macro level, an effective population policy is a *sine qua non* for demand management. There is also a need to review

Box 6.3
Looming Water Crisis

India is already on the verge of a grave water crisis as brought out below.

- Per capita availability below 1000 m^3 is water scarce.
- This availability is made up of 200 m^3 for domestic/industrial use, 200 m^3 for ecology/maintaining minimum flows and 600 m^3 for food security.
- A minimum per capita storage of 1000 m^3 is thus required to meet all the three uses.
- Nine river basins with 20 crore population are already under water scarce condition.
- In India, the per capita availability now is 1820 m^3 and per capita storage is 207 m^3.
- 631 billion cubic metre (BCM) in Ganga- Brahmaputra is unutilisable. Hence actual per capita availability is only 1200 m^3.
- Even if all ongoing and potential storages are completed, per capita storage will increase only up to 400 m^3.
- Increasing population will vitiate both per capita availability and per capita storage.
- Improving water use efficiency through proper water management in both irrigated and rain fed areas, implementation of watershed programmes and artificial recharge of ground water, restoring the traditional water bodies, interlinking of rivers, maintaining the water quality standards through pollution abatement programmes and downward revision of water supply norms will somewhat improve the situation on the water front.

Box 6.4
Recommendations of the Inter-Ministry Task Group on Efficient Utilisation of Water Resources

The Inter-Ministry Task Group on Efficient Utilisation of Water Resources made the following important recommendations:

- Further relaxation in Accelerated Irrigation Benefit Programme guidelines.#
- Taking up mega irrigation projects as national projects.#
- Introduce schemes for system rehabilitation, ground water development and artificial recharge.#
- Promote cropping patterns suited to specific agro-climatic zones.
- Include command area development works as part of the project.

Identified as inputs for Bharat Nirman to achieve one crore assured irrigation by 2009.

the per capita norms for water supply, something that many European countries have already done, and also to take steps to evolve rational pricing systems which would encourage moderation of demand in areas where at present there is wasteful use of water.

6.14 On the supply side, completion of on-going storages will add another 76 billion cubic meters (BCM) of storage and thus improve the per capita storage availability by 75 m^3. Interlinking of rivers will enable the utilisation of about 170 BCM of water now running waste to the sea. Improvement in irrigation efficiency by about 10 per cent will add another 50 BCM to availability. Rehabilitation of irrigation systems needs to be taken up on a massive scale to achieve this. It is estimated that 20 to 25 m.ha. of irrigation systems needs rehabilitation. Such rehabilitation has to be linked to participatory irrigation management and raising of water tariff so water user associations can undertake proper maintenance. In urban areas, detection of leakage and water audits can add to available supplies. In many cities, additional needs can be met immediately by such measures and expenditure on augmentation of infrastructure can be temporarily deferred.

6.15 An inter-ministerial Task Group on Efficient Utilisation of Water Resources has, in its report, suggested several measures for saving water in irrigation and urban water supply (See Box 6.4). These recommendations need to be implemented. Desalination of drinking water is already being planned along the Coromandel coast, starting with Chennai. Viable schemes with appropriate tariff structure need to be implemented.

Incomplete Irrigation Projects

6.16 Out of the gross sown area of about 192 m.ha. only 43 per cent is irrigated and rest 57 per cent is still totally dependent on rainfall. Even at the ultimate stage, only 70 per cent of the gross cropped area will be irrigated and 30 per cent will still be un covered. In this context the large number of incomplete irrigation projects is a matter of grave concern. According to the Central Water Commission (CWC), 388 projects (169 major and 219 medium projects) have spilled over from the Ninth Plan, with a liability of Rs.92,085 crore as of 1st April 2004. Of these, 103 major and 118 medium projects are approved projects and the rest are unapproved.[1] About 12.5 m.ha additional potential (12 per cent of the existing irrigation potential) is locked up in these projects. The Accelerated Irrigation Benefit Programme (AIBP) launched in 1996-97 has not accomplished its intended objective of completion of irrigation projects. Out of 181

1 Unapproved projects are those which do not have the investment approval of the Planning Commission. Water being a State subject, state governments often do take up unapproved projects in anticipation of approval.

projects in the programme, only 32 have been completed. Also, only 2.66 m.ha. potential has been created under AIBP till March 2004 although there was scope to create 9 m.ha. potential. An amount of Rs.14,669 crore has been released under AIBP between 1996-97 and 2003-04.

6.17 The percentage funding for irrigation out of total State Plan was 23 per cent in the Fifth Plan and 20.85 per cent in the Sixth Plan. This declined to 15.9 per cent in the Eighth and Ninth Plans. Had the investments been at 20 per cent level, another Rs.22,450 cr. would have been made available to the irrigation sector in these two plans which would have considerably reduced the spill-over costs of on-going projects or even the numbers. As regards AIBP, the programme was not confined to only to truly last mile projects as the availability of funds permitted expansion in coverage to other on-going projects also. Hence the low numbers of projects completed.

6.18 The cost of creating one hectare of irrigation potential in the major and medium irrigation sector has been increasing steadily, from about Rs.1,500 in the First Plan to between Rs.1,75,000 and Rs.2,50,000 in the Tenth Plan for storage projects. Table 6.3 indicates the cost per hectare of creation of irrigation potential for 11 approved on-going major irrigation projects on the basis of latest estimated cost.

6.19 The present criterion to judge the economic acceptability of an irrigation project is only the benefit-cost ratio. Suggestions made by the Nitin Desai Committee for calculating this ratio as far back as 1980 like use of opportunity costs for valuing goods and services which are part of the project, realistic

Table 6.3
Cost per hectare of creating irrigation potential

	Project	State	Latest estimated cost (Rs crore)	Ultimate irrigation potential (in 000 ha)	Cost/hectare potential creation (Rs/ha)	Remarks
1	2	3	4	5	(col 4/ col 5)	
1	Indira Gandhi Nehar Project (Stage II)	Rajasthan	3522.00	964.00	36540	Only canal
2	Western Kosi	Bihar	904.01	234.80	38500	Diversion scheme
3	Teesta Stage I Phase I	West Bengal	2068.00	533.22	38780	Diversion scheme
4	Dhansiri	Assam	355.00	83.37	42580	Diversion scheme
5	Thoubal	Manipur	390.00	33.40	116770	
6	Rengali	Orissa	2621.00	214.30	122310	Only canal
7	Indira Sagar	Madhya Pradesh	1522.00	123.00	123740	
8	Upper Krishna Project Stage I & II	Karnataka	8568.41	685.58	124980	
9	Gosikhurd	Maharashtra	3544.00	250.80	141330	
10	Sardar Sarovar	Gujarat	30823.00	1792.00	172000	
11	Srisailam Right Bank Canal	Andhra Pradesh	1979.00	76.89	257380	

assumption of cropping pattern and yields, inclusion of non-agricultural benefits, use of discounted cash flow method etc. are still to be implemented. In view of scarcity of funds and to avoid spreading available resources thinly, project selection should be based on other economic indicators along with benefit-cost-ratio like financial return, cost per hectare of irrigation development, internal rate of return and the capacity of the state government to accommodate the new investment in the Plan without affecting progress on other projects.

6.20 State governments need to be persuaded to increase outlays on major and medium irrigation and not take up new projects till the ongoing ones are completed. Likely shortfalls in utilisation of Plan funds in the major and medium sector will compound the problem. The National Commission for Integrated Water Resources Development has suggested a format for prioritisation of ongoing projects for deciding allocations. This methodology needs to be adopted by all states. To utilise the AIBP effectively, states have been asked to identify projects which can be completed in 2005, then in 2006, 2007 and so on. AIBP provisions, project-wise, are to be re-scheduled thereafter to achieve the objective of time-bound completion of projects. States have also been asked to provide updated information on other approved/ongoing projects to work out a programme for crashing the completion schedule.

6.21 The Planning Commission is of the view that instead of emphasising only the completion of projects, attention must also be paid to maximising potential creation at given cost. The balance potential and balance cost should also be kept in mind while selecting projects for inclusion in the AIBP. Since state governments are delaying release of AIBP funds to line departments, it may be necessary to work out a system where funds are placed with banks from where line departments can directly draw. Hundred per cent Central funding under AIBP without state government share could also be considered. Modern tools like use of satellite imageries should be used to monitor the progress of AIBP assisted projects.

6.22 In the early 1990s, the Ministry of Water Resources mooted a proposal for taking up certain large projects as 'National Projects' with 100 per cent Central funding. This proposal could be given a second look, as work on many large projects like Sardar Sarovar, Indira Sagar, Omkareshwar, Teesta Canal, Indira Gandhi Nahar, Upper Krishna can be speeded up if they are taken up as National projects. This should be linked to reforms in water sector like setting up of Water Regulators, empowering WUA to collect tariff and retain a part of it and differential water pricing linked to ground water status.

Gap between Created and Utilised Irrigation Potential

6.23 The large gap of 14 m.ha. between potential created and potential utilised needs to be closed. The potential gap is due to many reasons like change in cropping pattern (shift to high water consuming crops), siltation of reservoirs and lack of field channels.

Box 6.5
Environmental clearance

Since irrigation projects are often held up because of delays in environment clearances, the following relaxations in such clearance for major irrigation projects can be considered:

- Increase in the cost limit of major projects needing environment clearance from Rs.100 crore to Rs.250 crore.
- Increase in the cultural command area limit for major projects needing environment clearance from 10,000 ha to 25,000 ha.
- Exemption of irrigation projects from the need to pay net present value of submerged forest area.

6.24 Project-wise review of both major and medium projects of potential created needs to be undertaken by states, as the figures assumed at the design stage may no longer be valid. The figure of potential created may thus come down from 94 m.ha. The CAD programme needs to be given a thrust, as state governments have not been providing adequate budget to this programme. The projects not included in the Centrally-sponsored CAD programme get lower priority in funding. Extension services with inputs from agriculture universities/state agricultural departments/Krishi Vigyan Kendras (KVKs)/Water & Land Management Institutes (WALMIs) need to be strengthened so that farmers take to cropping patterns that are ideally suited for each agro-climatic zone and appropriate pricing policies are followed.

6.25 There is also discrepancy between irrigation statistics on net area basis collected by the Department of Agriculture and on gross basis compiled by the Planning Commission and the Ministry of Water Resources. The Minor Irrigation Census undertaken by the Ministry of Water Resources has to report various categories of schemes separately viz. tanks, surface diversion, surface lift, State tubewells and private groundwater structures. The ultimate irrigation potential of 139.9 m.ha. will also need a review as some states have already reached their ultimate potential viz. Tamil Nadu for major and medium irrigation and Uttar Pradesh for minor irrigation.

6.26 Further, with a view to gainfully utilise the created potential, it is also necessary to revive and restore the traditional water bodies, particularly those which are linked to agriculture.

Water Tariff Rationalisation

6.27 Irrigation water charges in most states are not even adequate to meet the O&M costs. While Gujarat and Maharashtra have now been able to meet full O&M costs from the revenue earned through water tariff, the situation is unsatisfactory in most States. The establishment cost takes up a large part of the meagre O&M allocation, leaving very little for works. Similarly in urban water supply, the domestic tariff in most towns/ cities is very low, with the result that urban local bodies (ULBs)/ municipalities find it difficult to maintain the pipelines properly as the revenue earned is used up either in meeting the establishment cost or the power tariff. Delhi does not provide water round the clock even through per capita quantity of water is higher than the norm. The quality of a water supply system can be improved only when appropriate water charges are levied and collected. Intermittent supply results in water quality problems due to seepage from sewage lines and imposes additional costs on the user who has to augment availability from private sources.

6.28 The government of Maharashtra has decided to set up a water regulator for advising on water tariff for various uses. The government of Gujarat are also considering setting up a regulator. It may be easier for state governments to accept and implement the recommendations of such a regulator, which will base its suggestions on a detailed analysis of the O&M costs and the revenue earned. All state governments will be advised to set up regulators on the Maharashtra model. The collection of water charges has also been unsatisfactory in most states, as only a fraction of the water charges is recovered. The collection machinery has to be geared up to improve the situation.

Participatory Irrigation Management

6.29 Eight states - Andhra Pradesh, Karnataka, Goa, Rajasthan, Madhya Pradesh, Orissa, Tamil Nadu and Kerala - have enacted exclusive Acts for implementing participatory irrigation management (PIM). Gujarat, Haryana, Assam and Maharashtra have taken steps for enactment of such legislation. WUAs have been formed in many states and, so far, there are about 55,000 WUAs, covering 10 m.ha. This would have to increase eight to ten times in order to cover all the irrigated areas. WUAs were to take over the role of collection of water charges from the Revenue Department but this has not happened in most states and Revenue Departments are still collecting the charges and passing on a certain portion to WUAs for system maintenance. Thus, in most states, the WUA remain powerless, with neither management of irrigation systems nor the collection of water charges being entrusted to them. Gujarat could be cited as an exception where WUA in Sardar Sarovar Project are empowered to collect water tariff. While there are isolated instances of success, by and large, PIM has not achieved its intended objective.

6.30 A comprehensive review of PIM is, therefore, needed to identify the lacunae that prevent it from achieving its intended objectives. In order to enable WUAs to take over irrigation systems, they should be simultaneously rehabilitated, as they will not be in a position to invest in infrastructure repairs and improvement. WUAs should also be associated in the rehabilitation of tertiary level canals and be empowered to set tariff and retain a part of it.

Box 6.6
Gender issues in water management

Women are involved in various ways in the management of irrigation systems and rural water supply. Sub groups of women assist village water and sanitation committees. The pani panchayat in the Anuli irrigation project in Orissa is managed entirely by women. In Gujarat, the Self Employed Women's Association (SEWA) has trained women in the maintenance of hand pumps. The involvement of women self-help groups in water management needs to be promoted in a major way.

Minor Irrigation on Lands for Dalits and Adivasis

6.31 The database in the states relating to acreage of unirrigated land owned by scheduled caste/scheduled tribe (SC/ST) farmers is very weak. The NCMP envisages launching of a comprehensive national programme for minor irrigation of all lands owned by dalits and adivasis and also assures that the rights of tribal communities over water resources as laid down by law will be safeguarded.

6.32 Addressing the concern for creation of minor irrigation assets on lands of dalits and adivasis, the Inter-Ministry Task Group on Development of Scheduled Castes and Scheduled Tribes on selected agenda items in NCMP has made several important recommendations:

- State governments must realistically estimate the acreage of unirrigated land owned by SC/ST farmers.
- At least one minor irrigation work should be taken up in every SC/ST village.
- Central government should meet some portion of the cost of modernisation and computerisation of land revenue administration.
- Self help groups (SHGs) of SC/ST farmers should be constituted and these can be given subsidy for boring tubewells and loans for purchase of pumpsets in joint ownership.
- On-farm development works should be taken up in SC/ST villages where canal irrigation facilities are available.
- A block-wise programme for minor irrigation for SC held lands should be prepared by the state governments for 150 identified districts in the first phase.
- A national policy on assignment of water rights should be formulated by the Ministry of Water Resources through the Pani Panchayat mechanism.

These recommendations need to be operationalised in the form of schemes/projects.

Groundwater

6.33 The dynamic groundwater resource (recharged annually by rainfall) is 432 BCM. Out of the ultimate irrigation potential of 81.42 m.ha. in the minor irrigation sector, 64 m.ha. is from groundwater. A potential of 43.3 m.ha. has so far been created. As much as 80 per cent of India's rural population manage to get their own domestic water supply and three-fourths of the irrigated area in the country is through private sources – mostly groundwater. India is the largest user of ground water (200 BCM) followed by the United States (100 BCM) and China (90 BCM). However, groundwater resources are either over exploited or are in the critical zone in certain pockets - Tamil Nadu, Haryana, Punjab, Gujarat, Rajasthan. According to the Central Ground Water Board (CGWB), out of the 7,928 blocks/ talukas/watersheds, 673 are over exploited where the level of development is more than the quantum that can be replenished and 425 are dark/critical (where the level of development is between 85 per cent to 100 per cent of the quantum that can be replenished). The provision of free or subsidised power to agriculture sector in many states is one of the factors responsible for indiscriminate use of groundwater. The NCMP has stated that subsidies should be made explicit and provided through the budget. This implies that power supply to the agriculture sector should be metered instead of based on a fixed charge related to pumping capacity as at present. Only then can the actual consumption, and the subsidy provided, become explicit.

6.34 Under the Easement Act of 1882, groundwater is considered an easement connected to land. Ownership of groundwater thus falls to the landowner, who is free to extract and use it as she/he deems fit. Tenancy laws govern groundwater uses and groundwater rights cannot be transferred to others. When the Easement Act was promulgated, the popular and prevalent means of withdrawal of groundwater were dug-wells and only use of draught power was envisaged. With the advent of electrically powered pumps, the premise does not hold good anymore. Intensive economic activity, coupled with increase in population, has accentuated the demand for groundwater manifold. Between 1951 and 1992, dug-wells increased from 3.86 million to 10.12 million, shallow tube-wells from 3,000 to 5.38 million, public tubewells from zero to 68,000, electric pumps from zero to 9.34 million and diesel pumps from 66,000 to 4.59 million. In the Eighth Plan period, there was a further addition of 1.71 million dug-wells, 1.67 million shallow tube-wells, 1,14,000 deep tube-wells, 2.02 million electric pumps and 4,20,000 diesel pumps.

6.35 In 1970, the Ministry of Water Resources had prepared and circulated to the states a model Bill to regulate and control the development of groundwater. This was re-circulated in 1992, 1996 and 2005. So far only five states/Union Territories - Andhra Pradesh, Goa, Tamil Nadu, Lakshwadeep, Kerala - have enacted some form of legislation. The Bill has been passed but not notified in four states/ Union Territories - Gujarat, Maharashtra, West Bengal and Pondicherry). Thirteen states/Union Territories have initiated action, while four feel a Bill not necessary and nine have not responded. The model Bill seeks to regulate new developments in notified areas while the existing users are free to continue their (riparian) uses. An element of injustice thus creeps in - a small or marginal farmer, although he has a right over the groundwater below his farm, will be prohibited from using this resource if he is in a notified area because other prior users in the area have overexploited the groundwater. Policing of the legislation, even if enacted, will be difficult as existing users can deepen their wells or increase pump capacity without attracting attention. This is a major flaw in the Bill.

6.36 Even where legislation relating to groundwater has been enacted, it has remained largely a paper exercise. In Maharashtra and Andhra Pradesh, not a single conviction was reported for violation of the Act/Bill. There is no let-up in the expansion of groundwater structures. The subsidised free electricity for the agriculture sector has compounded the problem. In peninsular India, electricity has replaced diesel as the source of power for pumping groundwater due to steep fall in groundwater levels. The situation is somewhat better in the eastern parts of the country, where diesel is still being predominantly used. Large water markets exist already in the groundwater sector and this was also a reason for over exploitation. Regulation and pricing of power may be one of the effective tools to control unbridled groundwater exploitation.

6.37 The CGWB was constituted as Central Ground Water Authority (CGWA) in January 1987 under the Environment (Protection) Act, 1986 for regulating and control of groundwater development. The Authority has taken initiatives in notifying areas as protected areas from the point of view of groundwater overexploitation. The other functions of the Authority are monitoring of groundwater contamination, registration of agencies involved in construction of wells, registration of persons/ agencies engaged in sale and supply of mineral water, clearance to groundwater based projects, conducting mass awareness programmes and training in rainwater harvesting.

6.38 The CGWB has prepared a master plan for artificial recharge of ground water at a cost of Rs.24,500 crore to recharge 36 BCM of surplus non-committed run-off. Except for small pilot projects in the Eighth and Ninth Plan periods and the first two years of the Tenth Plan, no large-scale recharge scheme has been launched by the Central government. The NCMP has mandated that rain water harvesting be adopted.

6.39 The National Water Policy, 2002, has advocated that groundwater recharge projects should be developed and implemented for improving both the quality and availability of ground water resources. The policy also advocated exploitation of groundwater resources so as not to exceed recharge possibilities. The Ministry of Water Resources has already prepared and submitted, as a part of the second green revolution project of the Ministry of Agriculture, a scheme for groundwater development in 5.2 m.ha (loan-cum-subsidy cost of Rs.15,310 crore) and another for artificial recharge of 3.9 BCM of water (at a cost of Rs.3,000 crore). Compared to 4,000 BCM rainfall/snowfall in the country and 1,869 BCM run off, recharge of this small quantity of groundwater will not adversely affect the existing hydrology of rivers and streams. The Ministry of Water Resources had also submitted a new state sector scheme costing Rs.175 crore for artificial recharge in various parts of the country, which would serve as a demonstration exercise for various types of recharge structures.

6.40 Since legislation has not provided the answer to the groundwater problem in the country, the whole issue of ownership of groundwater needs a re-look as an alternative to legislation, since groundwater rights are presently linked to land rights. There is one view that a landowner may be permitted to use only that quantum required for his use but the balance resource available to him should be a community resource. There is another view that the shallow part of the aquifer could be attached to the land but the deep aquifer should be community resource. It is therefore necessary to first generate a public debate on ownership of groundwater.

6.41 Over-exploitation of groundwater and its attendant externalities such as resource depletion, quality deterioration, drying up of wetlands and lean season flows in streams and rivers is a critical issue in several countries including Mexico, China (especially the North China plains), the Untied States, Spain, Iran and Jordan. All these countries have tried a variety of strategies to control groundwater overdraft by farmers. Mexico's new water law made groundwater a national property. China, which does not have private ownership rights on farmland, has always treated groundwater as national property. In the United States, groundwater regulation is a state subject but began 50 years earlier in some states. Urban groundwater depletion has been dealt with effectively in many countries.

6.42 However, in no country has regulation of groundwater use for agriculture been very effective. In China, the new water law mandates that tubewell owners in villages have to get a water withdrawal permit and pay a fee. However, the actual enforcement of this law has proved to be a logistical nightmare. China has 4.5 million agricultural tubewells; so enforcing the permits is administratively difficult. But Mexico has only 90,000 agricultural tube wells; and even there the government has found it impossible so far to enforce a system of concessions on private tubewells.

6.43 From these experiences, it is clear that regulating groundwater draft through administrative and legislative means would be difficult in India, which has some 20 million agricultural wells. Internationally, pressure on groundwater resource has eased only when alternative water resources – usually surface water transported from a distance – are offered as a substitute for groundwater. During the past decade, many cities in North China have been able to ease pressure on urban aquifers by first developing a captive surface water reservoir to supply the cities. This is then followed by a campaign to decommission urban tubewells. In the United States, too, California, Arizona and many other states in the western part of the country have been able to ease pressure on groundwater only by organising long distance transport of new surface water and supplying it to farmers and towns. In Mexico, recognising the impossibility of enforcing groundwater quotas on farmers, the government has begun using pricing and supply of electricity as an indirect lever to regulate pumping of groundwater. Farmers have to pay a penal charge for power they use for pumping water beyond their stipulated quota of groundwater draft. This is seen to be working.

6.44 In India too, appropriate power supply policies can be a possible instrument for regulating agricultural groundwater draft. Another method could be targeted subsidies for micro irrigation (drip and sprinkler) schemes. Liberal subsidies can be given for developing micro irrigation in over exploited/ dark block. Back-ended subsidy schemes for ground water development should be promoted in potential areas.

6.45 Exploratory surveys need to be taken up for assessing the static ground water resources available in the Ganga basin at large depths as also in off-shore groundwater reservoir. Groundwater development in potential areas needs to be supported through back-ended subsidy schemes like the Million Tubewells programme of Bihar, the Samridha Krishak Yojana of Assam and the on-farm management project in eastern India. Groundwater recharge will have to be taken up on a mission mode at least from the Eleventh Plan period.

6.46 The Planning Commission proposes to set up an Expert Group comprising officials from concerned Ministries/Departments, NGOs, academicians and experts to review the whole issue of ground water ownership keeping in view international practices and suggest a line of action for implementation in the Eleventh Plan

Flood Management

6.47 The recent floods in Assam and Bihar have accentuated the need for a comprehensive flood policy covering both long-term and short-term solutions. The NCMP has adequately dealt with this problem, especially the need for evolving long-term solutions through construction of dams in neighbouring countries and short-term solutions to help the states to tackle erosion problems especially in the Ganga-Padma basin in West Bengal. The NCMP also envisages a Flood Prone Area Development Programme. Till long-term solutions are put in place, the country will have to cope with floods and take recourse to short-term structural and non-structural measures.

6.48 Flood Plain Zoning is an effective non-structural measure to reduce damage to life and property due to floods. The CWC had circulated a model Bill in 1975. However, Manipur is the only state to have enacted the legislation so far.

6.49 A Task Force for Flood Management and Erosion Control headed by the Chairman, CWC was constituted to examine the causes of recurring floods and erosion in Assam and other neighbouring states as well as in Bihar, West Bengal and eastern Uttar Pradesh, to review the measures undertaken so far to combat floods and erosion, to suggest short-term and long-term measures for management of floods and to examine related international dimensions. The Task Force has submitted its report and the recommendations it contains will have to be given due consideration (See Box 6.7). The north-eastern states face two problems - sharing the flood control component of proposed multipurpose reservoirs and maintaining the existing embankments. The latter is a problem in the case of Orissa, Bihar, West Bengal and Uttar Pradesh also. Since this Task Force has been set up and made some recommendations, the Tenth Plan's recommendation for setting up a Flood

Management Commission could be deferred for consideration in the Eleventh Plan.

Coastal erosion is affecting most of the coastal states. The present assistance to the states in the form of Centrally Sponsored Scheme or additional Central assistance is a very limited one. There is a need to prepare a National Project for seeking external assistance.

6.50 State governments should be persuaded to enact Flood Plain Zoning legislation and also effectively enforce its implementation.

6.51 As part of the Flood Prone Area Development Programme, flood-prone districts in the country will be identified and existing infrastructure and poverty alleviation programmes will be focused and strengthened in these districts. There does not appear to be any need to launch a new programme now.

6.52 In view of the NCMP, the ongoing Centrally sponsored schemes (CSS) for erosion control in the Ganga basin will have to be expanded to include more priority schemes.

Rural Drinking Water Supply

6.53 In 2002, 15,798 of the country's 14.22 lakh habitations still remained to be covered and 1,33,305 partially covered habitations needed to be upgraded to the fully covered category. In view of this, the Tenth Plan outlay for the rural water supply programme was stepped up from Rs.8,150 crore to Rs.13,245 crore.

6.54 The 95% reported coverage in rural drinking water supply notwithstanding, even today 5,368 habitations, mainly in Rajasthan, do not have water supply. A large number of habitations have slipped from being fully covered to partially covered status and from partially covered to not covered status. About 2.17 lakh habitations are affected by water quality problems like arsenic, fluoride, nitrate, iron and salinity. Of these, the arsenic problem in West Bengal is most acute and it is reportedly spreading to parts of Bihar and eastern Uttar Pradesh. While the annual maintenance requirement of assets created is Rs.6000 crore, the allocation is a few hundred crore only.

Box 6.7

Important recommendations of the Task Force on Floods

The Task Force has made several recommendations for long term and short term measures to mitigate the impact of floods. The important recommendations are as follows:

- Change in funding pattern of existing Centrally sponsored schemes for erosion control in Ganga from Centre:state ratio of 75:25 to 90:10.
- Setting up of the North Bengal River Management Board.
- Provision of funds to states as additional Central assistance for maintenance of embankments.
- Provision of a Rs.50 crore revolving fund to the Ministry of Water Resources annually for funding flood protection schemes.
- Full Central funding of the flood storage component in storage dams.
- Inter-state, intra-state and international storage projects affording flood control benefits should be vigorously pursued for implementation.
- State governments should be persuaded to implement flood plain zoning.
- Community participation in maintenance of embankments should be encouraged.
- Immediate measures costing Rs.316.14 crore are to be implemented before the 2005 monsoon in Bihar, Uttar Pradesh, West Bengal, Assam and other north-eastern states. Certain short term measures costing Rs.2030.15 crore have also been recommended for taking up in 2005-06 and 2006-07. These are beyond the resource capability of state governments and hence liberal Central assistance would be required.

6.55 The twin problems of sustainability and water quality need to be tackled. There has been over reliance so far on groundwater to meet rural drinking water supply needs. The focus needs to shift to surface water supply schemes, both from considerations of sustainability and water quality. 'Not covered' habitations need to be given priority in allocation. The community participation 'Swajaldhara' scheme needs to be evaluated before more funds are committed to it. To deal with the problem of arsenic in groundwater, testing methods need to be standardised and proper survey conducted of the people actually affected.

6.56 The Department of Drinking Water Supply has estimated a large gap in resources to the tune of Rs.6,800 crore to tackle the problems of sustainability and water quality. Between 10 per cent and 15 per cent step up in each annual allocation for rural drinking water supply should continue to narrow this gap. External assistance will be needed to meet the remaining gap. Water quality being an important issue, separate need-based allocation needs to be made for this under the Accelerated Rural Water Supply Programme (ARWSP) instead of clubbing it with the formula-based allocation as is being done now. Since 90 per cent of habitations facing problems of water quality are in nine states - Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal - focussed attention under the ARWSP programme is necessary.

6.57 At the current rate of expansion of ARWSP, it is estimated that the Tenth Plan outlay of Rs.13,245 crore may have to be increased by another Rs.3,500 crore to meet the needs of 2005-06 and 2006-07.

Some success stories in rural water supply are given in Box 6.8.

Rural Sanitation

6.58 Coverage in rural sanitation is very low, at 28 per cent. The Millennium Development Goal of the United Nations envisages halving the number of people not having access to potable water or sanitation by 2015. The Centrally-sponsored Total Sanitation Campaign is being implemented in 451 districts. The concerned ministry wants to expand this to all the districts. The Ninth Plan outlay of Rs.500 crore for rural sanitation was stepped up to Rs.955 crore in the Tenth Plan.

Box 6.8
Rural Drinking Water Supply - Success Stories

In rural water supply, success stories can be found in Uttar Pradesh & Gujarat.

Uttar Pradesh

- World Bank assisted Swajal Project implemented in about 1200 villages of Uttar Pradesh and Uttaranchal.
- This project is a pioneer in sector reforms.
- Community contributed 10% capital cost.
- Community took over operation and maintenance of completed schemes.

Gujarat

- 14000 villages (and 154 towns) to be covered under Surface Water Scheme-mainly from Sardar Sarovar Narmada Canal and under Sujalam Sufalam programme.
- Rs. 13800 cr, 2700 km. single grid of water supply line under implementation - largest in the world.
- Capacity building, people's participation, public private partnership and cost recovery by Pani Samithis/local bodies envisaged.

6.59 Mere provision of Plan funds will not solve the problem unless it is supported by a vigorous information, education, communication (IEC) campaign. A study conducted in the Vizianagaram district of Andhra Pradesh has shown that IEC is the missing link in rural sanitation. Some villagers flatly refused to construct individual sanitary toilets on the grounds that the house is meant for eating and it must be clean. Those who had constructed them were not using them due to foul smell, fear of mosquitoes or lack of cleaning facilities for the soak pits when it gets filled. The twin-pit-pour-flush, developed and promoted by Sulabh International, has had a good response. To promote rural sanitation, unemployed youth/non-government organisations (NGOs) should be trained and used for IEC. Focus should be on areas where irrigation facilities exist, as lack of sanitation will lead to pollution, and also where land is a constraint for open defecation.

6.60 To ensure coverage of all rural areas by sanitation, the gap in resources of Rs.5,486 crore would have to be met partly by increased Plan outlays and partly by external assistance. The outlay of Rs.955 crore in Tenth Plan will not be adequate to meet the needs of 2005-06 and 2006-07 and may have to be increased by another Rs.1,350 crore.

Urban Water Supply and Sanitation

6.61 Urban sanitation coverage has been reported at 63 per cent - 30 per cent with sewerage system and 33 per cent with low cost sanitation. The Census of India, 2001, indicates that out of 53.69 million urban households, 37.8 million have in-house sanitation facilities including 7.84 million pit-latrines, 24.76 million water closets and 6.8 million other latrines. The problem of manual scavenging is mainly an urban problem. Lack of urban sanitation directly affects the quality of river water and also contaminates urban water supply. The percentage of sewage treated is also very low - only 30 per cent. Untreated sewage again finds its way into rivers and natural water bodies. The Sulabh International has been doing commendable service in urban areas in maintaining pay and use community toilets.

6.62 Since the water requirement for flushing of waste is very high, it will be necessary to move away from centralised sewage treatment to low cost local solutions to save water and also for increasing the percentage of sewage that is treated. Residential colonies are ideally suited for introducing waste water recycling and localised sewage treatment. The National Action Plan prepared by the Planning Commission in 2002 for the eradication of manual scavenging by 2007 is making slow progress. States have not even taken up the task of identifying the scavengers due to lack of funds.

6.63 The Ministry of Urban Development's Urban Infrastructure Development Scheme for small and medium towns is meant to cover all urban areas with water supply and sanitation. The funding is proposed through a combination of loans from financial institutions, Central grants and state share. Public-private partnership is proposed to be encouraged in this new scheme with incentives for the adoption of innovative technology, promotion of institutional reform and efficient governance. The project envisages structural and administrative reforms, including levying of appropriate water charges.

Solid Waste Management

6.64 At a per capita solid waste generation rate of 0.4kg/day, an urban population of 278 million generates 42 million tonnes solid waste annually. The only solution now adopted in urban areas is dumping in open landfills. Medical wastes and even hazardous chemical wastes are dumped in landfills, leading to serious health hazards through groundwater pollution. The concept of sanitary landfills and segregation of bio-degradable and recyclable waste at the household level is totally absent.

6.65 E-waste, or refuse from discarded electronic devices which contain poisonous chemicals like lead, cadmium, mercury, are dumped in poorly managed landfills and pose major problems contamination problems. It is estimated that 1,050 tonnes of electronic scrap is being produced annually.

6.66 An Urban Sanitation Mission was to be launched in the Tenth Plan, with an outlay of Rs.2,000 crore, but this has not been done yet due to lack of funds. Central assistance is considered necessary, as most ULBs are not in a financially sound position to tackle this. The unbridled use of plastic bags, which make up 4 per cent of urban solid waste and are the main cause of choking of urban storm water drains, needs to be regulated. An effective IEC campaign, segregation of waste at the household level and expanded Centrally assisted schemes for waste-to-energy projects need focused attention.

6.67 A comprehensive E-waste management policy covering legislation to regulate import of electronic scrap, incentives for developing 'greener' computers, training in e-waste management and pilot projects to demonstrate e-waste management is the need of the hour.

Surface and Ground Water Pollution

6.68 Both surface and ground water sources are getting polluted due to low coverage of rural sanitation, low level of treatment of urban sewage, problems of urban solid waste management and indiscriminate use of fertilizers, pesticides, insecticides etc., in agricultural operations. Pollution levels of the Yamuna river at Okhla in Delhi, for instance, are reported as 569 mg/l (milligram per litre) total dissolved solids, biochemical oxygen demand (BOD) 52 mg/l and coliform count of 85000 MPN (maximum probable number) per 100 ml against the norm of BOD 3 mg/l and coliform count of 5000 MPN/100 ml. Out of the 2.17 lakh quality affected habitations in rural water supply, about 37,000 are affected by salinity and nitrate mainly due to anthropogenic factors.

6.69 The problem of quality of rural water is proposed to be tackled in a big way from 2005-06 by switching to surface water sources in 90 per cent of the quality-affected habitations. Cleaning of all major polluted rivers by 2007 and other notified stretches by 2012 is one of the monitorable targets of the Tenth Plan.

6.70 The National River Conservation Programme of the Ministry of Environment and Forests is already addressing the problem of untreated urban sewage. Improvement of rural sanitation coverage and urban solid waste management will significantly reduce pollution levels in groundwater. The proposed Urban Infrastructure Development Scheme for small and medium towns will improve urban sanitation coverage.

6.71 The pollution control norms need strict enforcement in industries to ensure that effluents are treated to required standards before they are let into water bodies. Use of fertilizers, pesticides, weedicides, insecticides need to be regulated to ensure that only minimum required doses are applied, as otherwise these find their way into surface and groundwater bodies. Their subsequent removal becomes a costly affair involving sophisticated technology.

Private Sector Participation

6.72 Promotion of private sector participation in the surface irrigation sector has been constrained both by the high capital cost of irrigation infrastructure (about Rs.1 lakh per ha. of irrigation) and the absence of a working model. The water charges of a few hundred rupees do not cover even the interest charges on the capital invested. Hence the private sector is not confident of getting adequate returns from users of water. Not many examples of private sector participation in irrigation can be found even in other developing countries. However, the decreasing investments in irrigation by states necessitates tapping private sector funds in select areas of irrigation development and management. Therefore, a proper package of incentives will have to be worked out to attract investors. A combination of innovative funding and water pricing policies covering promoter's equity and financial institutions participation thus needs to be worked out.

6.73 The National Water Policy has a provision relating to private sector participation:

> "13. Private sector participation should be encouraged in planning,

development and management of water resources projects for diverse uses, wherever feasible. Private sector participation may help in introducing innovative ideas, generating financial resources and introducing corporate management and improving service efficiency and accountability to users. Depending upon the specific situations, various combinations of private sector participation in building, owning, operating, leasing and transferring of water resources facilities, may be considered."

6.74 In July 1995, the Ministry of Water Resources constituted a High Level Committee under Shri P.V. Rangayya Naidu, Union Minister of State for Water Resources, to examine the feasibility of private sector participation in irrigation and multi-purpose projects. The Committee recommended introduction of the concept on a pilot basis for select projects.

6.75 The private sector is already participating in irrigation projects in some limited areas. These are:

- Development of hydropower on canals. A royalty for water is paid to the irrigation department.
- Pisciculture in reservoirs on a long and short-term lease basis.
- Promotion of tourism in recreation parks created in vicinity of dams, including boating.

6.76 In January 2004, the Ministry of Urban Development issued guidelines for successful public-private partnerships and sector reforms for the urban water supply and sanitation sectors. While public-private partnership in urban drinking water supply would be a welcome step from the point of view of investment, there is an apprehension in the public mind that this will ultimately lead to privatisation and commercialisation of water. There are also concerns that the private sector may not accept the national priorities fixed for various uses of water. The new policy needs to take care of this and allay such fears.

6.77 A beginning can be made in the irrigation sector by handing over parts of the system like a branch canal or a few water supply zones to the private sector. There is immediate scope for private sector participation in urban water supply activities like billing, operation of sewage treatment plants, leak detection and water supply through tankers. Apprehensions that the poorer sections will be denied water if water supply is privatised are misplaced. Many African cities like Abidjan and Dakar have successfully privatised water supply. In view of the low rate of collection of irrigation water charges by the Revenue Department, there is scope for privatising this activity with in-built incentives both for the collector and the farmer in order to improve revenue collection. With WUAs taking over irrigation systems for maintenance, the private sector has immense scope for taking over this function from the Irrigation Departments. Computerised maintenance of water-related data like water levels, inflows and canal withdrawals can also be entrusted to the private sector.

Inter Ministerial Coordination

6.78 The Tenth Plan brought out the fact of multiplicity of Ministries/Departments dealing with various aspects of water. An inter-ministerial coordination committee at the level of Secretaries was to be set up under Member, Planning Commission.

6.79 Although some measure of coordination does, in fact, exist, there is scope for improvement of coordination among Ministries/Departments. Examples are coordination between the ministries of Agriculture and Water Resources in areas like CAD and major irrigation; between the ministries of Water Resources and Power in hydropower; between Water Resources and Drinking Water Supply in rural water supply; between Water Resources and Urban Development in urban water supply; between Water Resources and Shipping in navigation; between Water Resources and Rural Development in watershed; between the Department of Science and Technology and the Ministry of Water Resources in research and development and between the Department.

of Space and Ministry of Water Resources in use of satellite data for water resources planning and management. An empowered Standing Committee for Inter-Ministerial Coordination needs to be set up.

THE WAY FORWARD

- Improve water use efficiency in order to bridge the gap between supply and demand of water. The recommendations of the inter-ministry Task Group on Efficient Utilisation of Water Resources need to be implemented.
- The AIBP needs to focus not only on completing projects but also maximising creation of potential at a given cost. The programme could be reviewed to provide 100 per cent Central funding without state share and placing of funds directly with project authorities through banks instead of routing them through states. Modern tools like use of satellite imageries should be adopted for monitoring.
- Fund the large irrigation projects as national projects to enable their speedy completion.
- Review the ultimate irrigation potential of all major and medium irrigation projects keeping in view actual cropping pattern, siltation, condition of canal systems, hydrology etc.
- States should set up water regulators on the lines of that being set up in Maharashtra to advise on water tariff for irrigation and water supply.
- Review Participatory Irrigation Management, as its intended objectives have not been achieved. PIM groups should be empowered to set tariff and retain a part of it.
- Implement the recommendations relating to irrigation of the Inter-Ministry Task Group on Development of SC & ST.
- Review the issue of ownership rights on groundwater, as legislation to control over-exploitation has not been successful. Free power to agriculture should be discouraged.
- Implement the recommendations of the Task Force for Flood Management and Erosion Control.
- Provide additional requirement of funds in the Tenth Plan for urban and rural water supply and sanitation in order to achieve the Millennium Development Goal relating to drinking water supply and sanitation.
- Encourage a gradual change in dependence from groundwater to surface water for rural water supply to tackle the problems of sustainability and water quality.
- Design and launch schemes to assist states in urban solid waste management.
- Improve inter-ministerial coordination on water. Irrigation, rural drinking water and land resources should ideally be dealt with in one ministry.
- Prepare guidelines for public-private partnership in irrigation and launch pilot projects.

Poverty Elimination and Rural Employment

7.1 India's anti-poverty strategy for urban and rural areas has three broad strands; promotion of economic growth; human development and targeted programmes to address the multi-dimensional nature of poverty. The monitorable targets for the Tenth Five Year Plan included quantitative targets for reduction in the incidence of poverty, according to which poverty was projected to be reduced by 5 percentage points by the end of the Tenth Plan period, by which time new estimates for poverty would be available. While there is a consensus that there has been a decline in the incidence of poverty during 1990s, it is difficult to assess the extent of this decline as there has been considerable debate regarding comparability of data due to changes in the methodology adopted by the National Sample Survey Organisation (NSSO) between 1993-94 and 1999-2000.

RURAL POVERTY ALLEVIATION PROGRAMMES

7.2 The targeted anti-poverty programmes have been rationalised, restructured and revamped in the Tenth Plan with a view to enhancing their efficacy and impact. In November 2004, National Food for Work Programme (NFFWP) was launched in 150 backward districts to enhance the wage employment opportunities for the poor. The government also tabled the National Rural Employment Guarantee Bill in Parliament in December 2004.

PERFORMANCE REVIEW

Swarnjayanti Gram Swarozgar Yojana

7.3 The Swarnajayanti Gram Swarozgar Yojana (SGSY) is an integrated programme for self-employment of the rural poor launched on 1st April 1999 following the restructuring of the erstwhile Integrated Rural Development Programme (IRDP) and allied schemes. The objective of the SGSY is to bring the assisted poor families (Swarozgaris) above the poverty line by organising them into self-help groups (SHGs), training them and helping them in capacity building and provision of income generating assets through bank credit and government subsidy. Other important components of the programme are: development of infrastructure, establishment of marketing linkages and providing technological support. The programme has in-built safeguards for the weaker sections with 50 per cent benefits reserved for scheduled castes/scheduled tribes (SC/ST). In addition, 50 per cent of the groups formed in each block are expected to be exclusively for women who will account for at least 40 per cent of the Swarozgaris.

7.4 The guidelines of the scheme were revised in May 2002 in line with the Tenth Plan strategy. These revised guidelines stipulate that up to Rs.10,000 (spread over the four stages of SHG evolution) can be given to non-governmental organisations (NGOs)/ community-based organisations (CBOs)/ animators etc (even banks with effect from 2003) for facilitating capacity building of SHGs. These organisations have also been engaged in the formation of new SHGs and their training in areas where SHG movement has been weak. The District Rural Development Agencies (DRDAs) have been given considerable flexibility in the disbursement of funds for training and capacity building, revolving fund, infrastructure and subsidy for SHGs. The Tenth Plan also recognised that marketing and training are integral elements for the success of the programme. Accordingly the revised guidelines have outlined procedures facilitating training, marketing, market research, organisation of fairs, exhibitions, etc at the ground level.

7.5 Though the performance of the scheme has improved since its inception, albeit gradually, a great deal remains to be done. The financial and physical performance of the scheme during the first two years of the Tenth Plan are given in Table 7.1. A total of 8.27 lakh swarozgaris were assisted in 2002-03 and 8.96 lakh in 2003-04. The coverage of weaker sections under the scheme during 2002-03 and 2003-04 has improved in comparison to the earlier years. The percentage of women assisted increased from 44.62 per cent in 1999-2000 to 46.31 per cent in 2002-03 and 52.41 per cent in 2003-04. The share of the SC/ST swarozgaris also rose from 44.32 per cent in 1999-2000 to 45.97 per cent in 2002-03 and 46.12 per cent in 2003-04. The percentage of SHG swarozgaris who were credit linked with the banks increased from 37.25 per cent in 1999-2000 to 65.33 per cent in 2003-04.

7.6 A concurrent evaluation of SGSY in 2002-03 showed that the programme is well targeted, as most of the swarozgaris belong to below poverty line (BPL) families. However, training and marketing facilities for the swarozgaris need to be enhanced. Box 7.1 presents the main findings of the concurrent evaluation.

7.7 Lending by the banks is an area of concern. While the percentage of credit mobilised as against the targets has improved from 32.96 per cent in 1999-2000 to 46.90 per cent in 2002-03 and 61.11 per cent in 2003-04, it is still low. Similarly the credit subsidy ratio was only 1.95:1 in 2002-03 and 1.83:1 in 2003-04 as against the norm of 3:1. The average per capita investment is also below the target of Rs.25,000 though it has increased over time, from Rs.21,666 in 2002-03 to Rs.22,469 in

Box 7.1
Concurrent evaluation of SGSY - 2002-03

A concurrent evaluation was conducted to evaluate the performance of SGSY and assess the impact of the programme during 2002-03. The main findings of the evaluation are:

- 92.68 per cent of the swarozgaris belong to BPL families. Women constitute 63.81 per cent of the total sample swarozgaris, which is considerably higher than the targeted 40 per cent. Swarozgaris from the SC/ST category constituted 47.55 per cent of the sample. Only 2.45 per cent of the total beneficiary samples were found to be physically challenged.
- The average cost of the various individual projects taken up under SGSY in different states varies from Rs.15,893 to Rs.39,836.
- The average annual incremental income earned by individuals is Rs. 8,800 and by groups is Rs. 34,930.
- 43.36 per cent of the groups reported an increase in savings.
- 37.24 per cent individual swarozgaris and 15.09 per cent of SHGs swarozgaris have crossed the poverty line because of SGSY support.
- Training for skill development by the District Rural Development Agencies (DRDA) is found to be inadequate. Almost all the groups need training on improving the quality of their products.
- 88.67 per cent of individual beneficiaries market their products or services on their own.
- Major complaints reported by the district authorities include delay in bank procedure and in disbursement of the assistance, lack of awareness among target group and inadequate infrastructure.

2003-04. The recovery of loans by scheduled commercial banks was 44.98 per cent in 2002-03 and 46.79 per cent in 2003-04.

7.8 Data obtained from National Bank for Agriculture and Rural Development (NABARD) on Regional Rural Banks (RRBs) and Cooperative Banks shows that recovery from SHGs is high (89.21 per cent in 2002-03 and 86.23 per cent in 2003-04) as compared to individuals (47.55 per cent in 2002-03 and 29.01 per cent in 2003-04). A study on SGSY financing by the Reserve Bank of India (RBI) reveals lack of coordination between banks and sponsoring agencies; non completion of formalities by borrowers due to illiteracy; bunching of applications and their submissions by the sponsoring agencies at the fag end of the year; lack of awareness of the guidelines of the scheme among the officials of both banks and government agencies, etc.

7.9 The commercial banking network in rural areas is handicapped by the fact that most

Table 7.I
Financial and Physical Performance under SGSY

	Financial (Rs. crore)						Physical
Year	Opening balance	Total allocation	Total release	Total available funds	Total Exp.	% Exp. to available funds	Total swarozgaris assisted (in lakh)
2002-03	412.85	756.36	664.19	1077.05	921.15	85.53	8.27
2003-04	287.37	1065.83	837.32	1214.13	1044.25	86.01	8.96

Financial and Physical Performance under SGRY
(Normal component)

	Financial (Rs. crore)							Physical
Year	Opening balance	Total allocation	Total release	Total available funds	Total Exp.	% Exp. to available funds	Mandays generated (crore)	Foodgrains released (lakh tones)
2002-03	1368.54	4735.10	4877.66	6246.20	4990.89	79.90	74.83	45.26
2003-04	1334.70	5491.80	5379.55	6952.81	5886.98	86.41	87.36	49.97

(Special Component)

Year	Mandays generated (crore)	Foodgrains released (lakh tonnes)	Cost of foodgrains (Rs. crore)
2002-03	86.81	63.41	6439.69
2003-04	69.74	65.84	6221.43

Financial and Physical Performance under IAY

	Financial (Rs. crore)							Physical
Year	Opening balance	Total allocation	Total release	Total available funds	Total Exp.	% Exp. to available funds	Target - houses constructed (in lakh)	Achievement - houses constructed (in lakh)
2002-03	823.22	2207.43	2170.98	2994.20	2767.92	92.44	13.14	15.37
2003-04	445.31	2492.75	2494.14	2939.46	2578.85	87.73	14.85	13.55

bank branches are one-man branches, which lack capacity to undertake development-banking functions, which are essential to the success of a programme like SGSY. The creation of a National Micro Finance Equity Fund, therefore, needs to be explored in order to cater to the needs of the poor. The commercial banks should contribute in building the Equity Fund and their contribution could be treated as priority sector credit.

7.10 The micro level planning process also needs to be strengthened. Key activities should be identified keeping in view with the aptitudes and skills of swarozgaris, availability of raw materials and the market potential. Activities could be selected keeping in view the diversification of the rural economy and growth potential of the non-farm sector. Banks, micro finance institutions, NGOs and district level officers of different departments should be involved in the planning process to identify 'need based' and 'resource based' activities. Rural clusters need to be developed around identified resources, be it physical resources or traditional skill base of the people. Federations operating at the level of a cluster of villages that promote specific activities also need to be formed.

7.11 Inadequate availability of micro-infrastructure has been a major constraint to promotion of self-employment. There is a need to identify the type of micro infrastructure required for a particular activity at the project stage itself and ensure its provision. Even though the programme provides for earmarking of 20 per cent (25 per cent for the north-eastern states) of total allocation for each district for infrastructure, the focus is still lacking.

7.12 Training and capacity building also needs to be strengthened. Upgrading and imparting new skills should be part of the capacity building process. While the SGSY lays emphasis on training, it should be in line with the local resource endowments and availability of markets. Training programmes should also be devised to effectively harness information technology (IT) for the rural poor. Skill upgradation in traditional activities through design inputs and new technologies and vocational and technical training, in both formal and non-formal sectors, need to be strengthened. Market linkages are critical for the success of self-employment ventures. There is a need for developing market intelligence, establishing /strengthening of village/district markets, providing storage and transport facilities etc. Strengthening marketing linkages for various products made by swarozgaris also requires quality certification, packaging and labelling/ branding of products.

7.13 The SGSY Programme should focus on women. Atleast 50 per cent of the SHG groups should be of women. A minimum of 25 per cent women in a village/ habilitation must be covered under the SHGs. Even though the programme guidelines provide for

Box 7.2
SGSY Success Story: Muthamizh Mahalir SHG

A metal quarry in the Coimbatore district of Tamil Nadu had a large number of women working as bonded labourers without any systematic wages or working hours. Eighteen women organised themselves to form the Muthamizh Mahalir Self Help Group (SHG). When they became eligible for the revolving fund, they approached the district collector through an NGO for acquiring the quarry on lease. Despite heavy pressure from private contractors, the SHG won a Rs.4.50 lakh contract for running the quarry on lease for three years and was granted a loan of Rs.2.50 lakh. The group has engaged more than 100 workers to work in the quarry in order to improve their total turnover. At present, the members are earning more than Rs.2000 per month as wages. The monthly sales average Rs.2 lakh while the expenses (including payment of wages to members) account for Rs.1.8 lakh, resulting in a monthly profit of Rs.20,000, which is more than sufficient for them to pay the quarterly instalment of Rs.37,500 to the government. The group members are keen to acquire more quarries in future under a proposed federation of SHGs in the area.

earmarking of benefits to vulnerable groups, there is a need to provide sharper focus to identified groups such as disabled persons, women-headed households, families of child labourers, bonded labourers and destitute persons, which are the most marginalised among the poor. The issue of educated unemployed has become a serious concern in many states. The SGSY funds should be leveraged to enable a group of unemployed youth to obtain training in technical institutions and equip themselves for taking up individual or group-based activities.

7.14 The SGSY, along with other programmes of micro finance and micro enterprise through the SHG approach, has now become an important component of the strategy for poverty alleviation. NABARD, the Small Industries Development Bank of India (SIDBI) and Department of Women and Child Development (through the Rashtriya Mahila Kosh or RMK, Swayamsidha and Swa-Shakti schemes) provide micro finance to the poor.

7.15 A total of 17.41 lakh SHGs have been formed under SGSY in the five years since its inception. In contrast, only 15.2 lakh SHGs have been formed during the last 12 years under the NABARD programme. Between 2000 and 2004, only 33,000 beneficiaries were assisted under the RMK, 52,000 SHGs were formed under Swayamsidha and 18,000 SHGs under Swa-Shakti. In order to scale up the process of empowerment of SHGs and ensure their sustainability, the concerned agencies must evolve a common approach and delineate areas of operation so as to avoid duplication and overlap.

7.16 All SGSY groups may not be able to set up successful micro enterprises and there is bound to be an uneven regional impact. Past experience shows that success of self-employment ventures was higher in areas where the institutional delivery structure was relatively strong and efficient; in activities where market linkages were strong and returns were relatively assured and where beneficiaries had prior experience and skills. It had also been observed that asset survival and returns tended to improve with the economic status of the beneficiary. In order to derive better returns from SGSY, the programme needs to be integrated with area/sectoral development programmes of the region and convergence at the district level should also be encouraged.

Sampoorna Grameen Rozgar Yojana

7.17 The Sampoorna Grameen Rozgar Yojana (SGRY) is a wage employment scheme launched in September 2001, and the Jawahar Gram Samridhi Yojana (JGSY) and Employment Assurance Scheme (EAS) were merged under this programme from 1st April 2002. The primary objective of the scheme is to provide additional wage employment in all rural areas and thereby provide food security and improve nutritional levels. The secondary objective is the creation of durable community, social and economic assets and infrastructure development in rural areas. A special component under SGRY provides foodgrains to calamity stricken states for undertaking relief activities.

7.18 The SGRY is open to all rural persons who are in need of wage employment and desire to do manual and unskilled work in and around the village/habitat. The programme is self-targeting in nature. Thirty per cent of employment opportunities under the programme are reserved for women. The programme is implemented through the panchayati raj institutions (PRIs).

7.19 Till 2003-04, the programme was implemented in two streams, the first implemented by the district panchayats and panchayat samitis and the second by the village panchayats. Since 2004-05, the programme is being implemented as an integrated scheme by all the three tiers of the PRIs and the funds are shared by the district, intermediate and village panchayats in the ratio 20:30:50. A minimum of Rs.50,000 per year is provided to each Gram Panchayat. Wages under the programme are paid partly in the form of foodgrains and partly in cash. Minimum wages fixed by the states are paid under the scheme. The minimum amount of foodgrains to be given as part of wages are 5 kg per manday and a minimum of 25 per cent of the wages are to be paid in cash. Contractors/middlemen or any other intermediate agency are not permitted to be engaged for the execution of any of the works under the programme.

7.20 The programme is implemented as a Centrally sponsored scheme on cost-sharing basis between the Centre and the states in the ratio of 75:25 of the cash component of the programme. Foodgrains under the programme are provided to the states/Union Territories free of cost.

7.21 Each zilla parishad/DRDA, intermediate level and village panchayat prepares an annual action plan to include the works to be undertaken under the scheme. Completion of incomplete works is given priority and emphasis is laid on labour-intensive works. Priority is to be given to soil and moisture conservation, minor irrigation, rejuvenation of drinking water sources, augmentation of ground water, traditional water harvesting structures, desiltation of village tanks/ponds, construction of rural link roads, drainage works, afforestation, schools, kitchen sheds for schools, dispensaries, community centres, panchayat ghars, development of haats (markets), etc. However, the nature of works should be such that they could be completed in one or two years. Up to a maximum of 15 per cent of the funds can be spent on maintenance of assets created under the programme by the zilla parishads/DRDAs/intermediate panchayats/village panchayats.

Box 7.3
Concurrent evaluation of SGRY (2003-04)

The concurrent evaluation of SGRY was carried out to assess its success in terms of employment generated and its impact on the poor. In addition, the distribution of foodgrains provided under the programme was also examined. The main findings are:

- 77.61 per cent of the works taken up have been completed during the year itself.
- The average number of days of wage employment generated through the scheme is 30.52 days.
- Only 12 per cent of beneficiaries are women, though the scheme envisages that at least 30 percent of wage employment opportunities should be reserved for women.
- The maximum quantity of rice per manday was distributed in Andhra Pradesh (6.32 kg) while beneficiaries in Rajasthan got the maximum quantity of wheat (8.96 kg).

Box 7.4
Issues for strengthening SGRY

- The foodgrains component of the programme needs to be streamlined by ensuring effective distribution of foodgrains. Alternatively wages could be paid in cash only as foodgrains flow to poor from various sources like the National Food For Work Programme (NFFWP), Antyodaya Anna Yojana, Targeted Public Distribution System (TPDS), etc.
- Spread of resources under the SGRY has been thin in view of the universalised nature of the scheme.
- A holistic integrated development plan needs to be prepared and supported by resources available from other sectoral programmes/departments. Works need to be identified, selected and undertaken systematically as a part of the long-term strategy for the creation of rural infrastructure, for watersheds and for drought proofing.
- Quality and maintenance of infrastructure needs to become a focus area.
- Training of officials/PRI representatives is crucial.

7.22 The financial and physical performance of the scheme during the first two years of the Tenth Plan is given in Table 7.1. The percentage expenditure against total available funds was 79.90 per cent in 2002-03 and 86.41 per cent in 2003-04, while 74.83 crore mandays were generated in 2002-03 and 87.36 crore mandays in 2003-04. The states which have reported more than 90 per cent utilisation during 2003-04 include Andhra Pradesh, Tamil Nadu, Rajasthan, Orissa, Maharashtra, Madhya Pradesh and Haryana.

7.23 Micro-level evaluation studies reveal that in many cases wage payments were less than the minimum wage. Foodgrains were not paid as part of wages. Non availability of foodgrains at godowns of the Food Corporation of India (FCI), inadequate number of godowns, high transport costs, cumbersome processes and black marketing were the factors behind foodgrains not being given in majority of the cases. For those who received foodgrains, on an average about two to seven kg of foodgrains was paid as part of wages against the norm of 5 kg. On an average between 9 and 30 days of employment per beneficiary was generated under the programme. In some cases contractors were involved and the use of machinery was also reported, though the guidelines prohibit this. The participation of the women under the programme is also lower than the norm of 30 per cent. The activities are taken up in an ad hoc manner and are not selected as part of a long-term plan for development of the region.

7.24 Notwithstanding these problems, the studies also highlight the positive aspects of the programme. The major strength of the programme is its self-targeting nature. Most of the beneficiaries belonged to the BPL group, who did not have any other opportunities for employment. Further, even though the income generated was not significant, it was valued highly by the beneficiaries and they were unanimous in their view that there was a need to increase the wage employment opportunities and undertake more works under the programme. In addition, the programme did succeed in creating community assets in rural areas (mainly construction), and the villagers were enthusiastic about the idea of building rural infrastructure. The created infrastructure includes link roads, side drains, school buildings, though watershed works have been accorded low priority. The programme led to empowerment of panchayats, as the funds were placed at their disposal along with the power to get the works executed through line departments.

National Food for Work Programme

7.25 In order to intensify the efforts for poverty reduction, resources need to be concentrated in backward areas where there is an urgent need for supplementary wage-employment in view of the limited impact of the SGRY in generating employment, due to a thin spread of resources.

7.26 In order to identify backward districts for wage employment programmes in the Tenth Plan, a Task Force was set up by the Ministry of Rural Development, which considered a number of parameters to identify backward districts. These were: incidence of poverty; unemployment rate; agricultural wage rate; per hectare agricultural productivity; productivity per agricultural worker; SC/ST population; susceptibility to drought and desertification; and rural connectivity. The Task Force ultimately selected three variables for computing the index of backwardness – agricultural productivity per worker, agricultural wage rate and SC/ST population.

7.27 The National Food for Work Programme (NFFWP) was launched on 14th November 2004 in 150 identified backward districts. There is not only a high demand for wage employment in these areas but they also need local level community assets and infrastructure to be created. It is expected that the programme will:

- ensure a minimum level of employment and incomes to the poor;
- give the poor an opportunity to develop their collective strength, improve their economic position, and reduce their vulnerability;
- discourage migration;

- provide access to health, education and welfare services in the village itself; and
- expedite the construction of environment-friendly infrastructure works which enhance productivity levels (both farm and off farm) and provide a basis for further promoting economic activities in the region.

7.28 The responsibility for planning, implementation, monitoring and supervision of the programme at the district level is vested with the collector/district magistrates. The programme also stipulates that a shelf of labour-intensive projects should be prepared, which could be undertaken over a five-year period.

National Rural Employment Guarantee Bill

7.29 The National Rural Employment Guarantee Bill was tabled in Parliament on 21st December 2004. The Bill provides that state governments shall provide 100 days of unskilled manual work in a financial year to every poor household in the rural areas whose adult members volunteer to do such work. In order to make the programme result-oriented, it has been proposed that the scheme should be implemented in phases. Accordingly, in the first phase, the proposed legislation would be implemented in the 150 districts where the NFFWP is being implemented. The legislation would be implemented in the other districts, based on the experience gained from the first phase.

Rural Housing

7.30 The Indira Awas Yojana (IAY), initiated in 1985-86, provides assistance for the construction/upgradation of dwelling units to rural BPL families belonging to the SC/ST groups and freed bonded labourers. In 1993-94, the scheme was extended to cover non-SC/ST

Box 7.5
Concurrent Evaluation of IAY

The Concurrent Evaluation of the IAY was undertaken in 2001 to assess its impact and to examine issues of targeting, functioning of the PRIs and quality of assets created. The main findings are:

- The programme has been able to provide shelter benefits to significant proportions of socially and economically vulnerable populations in most states.
- 57 per cent of the beneficiaries belong to the SC category and 22 per cent to the ST category.
- The average annual income of the beneficiaries at the time of selection was Rs.11,062.
- 78.16 per cent of the total beneficiaries were selected by the gram sabhas.
- 83 per cent of the houses were constructed on plots owned by the beneficiaries. However, only 47 per cent of the houses were constructed by beneficiaries themselves.
- About 50 per cent of the beneficiaries have received assistance in the form of cash and the rest in the form of material.
- 86 per cent of the beneficiaries have expressed their satisfaction with constructed houses and the occupancy rate of IAY houses is very high.
- Most of the IAY houses have used local materials for construction, thus resulting in useful linkages with local skills and resources.
- In general, the beneficiaries do not feel the assistance is adequate.
- The ownership titles of the houses are predominantly in the name of male family members.

families, subject to the condition that the benefits to these groups would not be more than 40 per cent of the total allocation. The benefits of the scheme have also been extended to the families of ex-servicemen of the armed and paramilitary forces killed in action. The IAY became an independent scheme from 1st January 1996.

7.31 Since 1999-2000, the allocation of IAY funds to the states/Union Territories is being made on the basis of the poverty ratio and rural housing shortage, as specified in the Census. Both parameters have been accorded equal weightage. Similarly, allocation to districts is made on the basis of housing shortage and proportion of SC/ST population of the district to the total SC/ST population of the state. On the basis of allocations made and targets fixed, DRDAs/zilla parishads decide the panchayat-wise number of houses to be constructed under IAY and indicate this to the concerned gram panchayat, which then selects the beneficiaries from the list of eligible households, restricting its number to the target allotted.

7.32 The programme stipulates that the dwelling units should invariably be allotted in the name of a female member of the beneficiary household. Alternatively, it can be allotted in the name of both husband and wife. Construction of the house is the sole responsibility of the beneficiary. Engagement of contractors is strictly prohibited. No specific design has been stipulated for IAY houses, the choice of design, technology and materials for construction being left to the discretion of the beneficiaries. The financial and physical performance of the programme during the first two years of the Tenth Plan is given in Table 7.1

7.33 Findings of the Concurrent Evaluation of IAY in 2001 shows that it has been well targeted (See Box 7.5).

7.34 The ceiling on construction assistance was revised on 1st April 2004 and currently is set at Rs.25,000 per unit for the plain areas and Rs.27,500 for the hilly/difficult areas. Since there was an acute need for upgradation of unserviceable kutcha houses in the rural areas, it has been stipulated from 1 April 2004 that up to 20 per cent the total funds can be utilised for conversion of unserviceable kutcha houses into pucca/semi pucca houses and for providing subsidy to the beneficiary availing loan under the credit-cum-subsidy scheme.

7.35 The credit-cum-subsidy scheme targets rural families with annual income up to Rs.32,000. While subsidy is restricted to Rs.12,500, the maximum loan amount that can be availed of is Rs.50,000. The other smaller schemes under Rural Housing i.e. Innovative Stream for Rural Housing and Habitat Development and Rural Building Centres have been discontinued with effect from Annual Plan 2004-05.

7.36 The 2001 Census had estimated a housing shortage of 149.6 lakh. Eight States account for 81 per cent of the housing shortage. According to estimates, the annual requirement is about 30 lakh houses to meet this backlog. In addition, it is estimated that about 10 lakh shelterless will be added every year. Thus total requirement would be for construction of about 40 lakh houses per year. The Indira Awaas Yojana provides free houses to the rural poor. Sixty percent of the houses are provided to the below poverty SC/ST families; the other BPL families account for the remaining 40 per cent of the houses. It is estimated that on an average about 23 lakhs houses are built every year for weaker sections in the rural areas. IAY account for 15 lakh houses; HUDCO, National Housing Bank, State Housing Boards and Commercial Banks together account for the remaining 8 lakh houses.

7.37 The National Common Minimum Programme (NCMP) has stated that housing for weaker sections in rural areas will be extended on a large scale. However, if the housing shortage is sought to be met primarily through the IAY in its present form, the allocation to the scheme would have to be increased substantially, which may not be possible in view of the budgetary constraints and competing claims on resources. The Tenth Plan, therefore, had suggested provision of free housing only to the landless SC/ST families and shift to a credit-cum subsidy scheme for the other BPL families. This suggestion continues to remain relevant if the objective is to bridge the housing gap as quickly as possible. Priority should be given to landless SC/STs including primitive tribes in provision of free houses. Other BPL families could be covered on the basis of relative deprivation index of shelter i.e households who do not have land/plot to construct IAY houses and also households who have received minimum score in the overall poverty ranking, once the BPL Census, 2002 results are ready.However there is a need to explore the possibility of credit linked housing programme through institutions like HUDCO, National Housing Bank and State Housing Boards etc. Also consider the possibilities of linking the housing credit with income generated under the SGSY and Wage Employment programme after the NREGA is enacted as is being done by NGOs like SEWA. In addition, there is need to give greater weight to the geographic distribution of housing shortage while determining the regional allocation of IAY funds if the disparities are not to widen even further in the coming years. It is proposed that we shift the criteria for allocation of funds to States from 50:50 for housing shortage and poverty ratio to weightage of 75:25.

NATIONAL SOCIAL ASSISTANCE PROGRAMME AND ANNAPURNA

National Social Assistance Programme

7.38 The National Social Assistance Programme (NSAP) was launched as a Centrally sponsored scheme (CSS) on 15 August 1995, with the aim of providing social assistance benefit to poor households in the case of old age, death of primary breadwinner and maternity. The programme supplements the efforts of the state governments with the objective of ensuring minimum national levels of well-being and the Central assistance is an addition to the benefit that the states are already providing on social protection schemes. With a view to ensuring better linkage with nutrition and national population control programmes, the maternity benefit component of the NSAP was transferred to the Department of Family Welfare in 2001-02. Since then NSAP has only the following two components:

- **National Old Age Pension Scheme (NOAPS)**: Old age pension of Rs.75 per beneficiary per month is provided to aged destitute persons with little or no regular means of subsistence from their own sources of income or through support from family members or other sources.
- **National Family Benefit Scheme (NFBS):** A lump sum benefit of Rs.10,000 is provided in the case death of primary breadwinner of a BPL family due to natural or accidental causes. The family benefit is paid to a surviving member of the household of deceased who is determined to be the head of the household.

Annapurna

7.39 The Annapurna scheme, launched on 1 April 2000 as a CSS, provides food security in the form of 10 kg of foodgrains per month free of cost to destitute senior citizens with little or no regular means of subsistence from his/her own source of income or through financial support from family members or other sources.

7.40 The NSAP and Annapurna have been transferred to the state Plan with effect from 2002-03 in order to provide states/Union Territories with the requisite flexibility in the choice and implementation of the schemes. The funds for the schemes are provided as Additional Central Assistance (ACA) to the states, and can be utilised on welfare schemes of old age pension, family benefit or free foodgrains to the aged. States/Union Territories are free to take up one or two or all of the three or in any other combination in accordance with their own priorities and needs. The PRIs at the panchayat and district level are involved in the implementation of the schemes. An ACA of Rs.680 crore in 2002-03 and 679.87 crore in 2003-04 was provided for the schemes. However, an additional sum of Rs.510 crore has been provided in 2004-05. Thus a total amount of Rs.1,189.87 crore has been provided for NSAP and Annapurna in Annual Plan 2004-05.

7.41 Trends in urban poverty in percentage and numerical terms show some encouraging signs, though at the urban poor still face certain persistent problems at the ground level. One encouraging fact is that along with a fall in the proportion of the urban poor, there is also a reduction in terms of absolute numbers (Table 7.2).

7.42 Though, at the national level, the percentage of the poor in rural areas is significantly higher than in urban areas, states such as Andhra Pradesh, Goa, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu, Delhi and the Union Territory of Pondicherry have higher levels of urban poverty.

7.43 While income levels are rising to meet the basic nutritional needs, the other equally basic needs of shelter, civic amenities, health care, educational and social needs, etc. are not being met adequately. Urban poverty, thus, emerges as a more complex phenomenon than rural poverty, as can be seen from these aspects:

- **Level of basic amenities:** There are serious deficiencies in urban infrastructure as a result of the rapid growth of urban population and low investment in urban development. The percentage of households having flush toilets exhibits a strong positive correlation with economic development, much more than any other indicator of amenities. The coverage of civic amenities, specifically electricity, drinking water and toilets, is uneven and the 'urban poor' generally receive low priority.
- **Town or city size and poverty:** The incidence of poverty in a town, as measured by head count ratio (HCR), declines steadily with increasing size. A larger incidence of secondary and high-value tertiary activities in large cities gives people residing there a higher level of income. In contrast, the income levels of people in small and medium towns tend to be low because of the poor economic base and lack of employment opportunities in the organised sector.
- **Household size:** The fact that household size affects the poverty status of a household is well known. Larger households tend to have a higher probability of being poor.

PERFORMANCE REVIEW

SWARNA JAYANTI SHAHARI ROZGAR YOJANA

7.44 The Swarna Jayanti Shahari Rozgar Yojana (SJSRY) is a CSS which is funded on 75:25 basis between the Centre and the states. This scheme, initiated in 1997-98, is the only scheme for urban employment which aims at providing gainful employment through setting up of self-employment ventures or provision of wage employment. This programme relies on the creation of suitable community

Table 7.2
Percentage of number of Poor

Year	Poverty ratio (Percentage)			No. of Poor (million)		
	Rural	Urban	Combined	Rural	Urban	Combined
1973-74	56.4	49.0	54.9	261.3	60.0	321.3
1977-78	53.1	45.2	51.3	264.3	64.6	328.9
1983	45.7	40.8	44.5	252.0	70.9	322.9
1987-88	39.1	38.2	38.9	231.9	75.2	307.9
1993-94	37.3	32.4	36.0	244.0	76.3	320.3
1999-00	27.1	23.6	26.1	193.2	67.1	260.3

structures (neighbourhood groups, neighbourhood committees and community development societies) to provide supporting and facilitating mechanism for local development.

7.45 During the first three years of the Tenth Plan, Rs.333 crore, which is 61.55 per cent of the Tenth Plan allocation of Rs.541 crore has been utilised. This is a demand-driven scheme but the Ministry of Urban Employment and Poverty Alleviation has fixed an annual target of covering 80000 persons under the Urban Self Employment Programme/ Development of Women and Child in Urban Areas (subsidy component) and 100,000 persons under the training component. During the first three years of the Tenth Plan, 297419 persons have been provided self-employment while 327399 persons have been trained. However, the outcome of the training in terms of employability or setting up of self-employment ventures has been an area of great concern.

Valmiki Ambedkar Awas Yojana

7.46 The Valmiki Ambedkar Awas Yojana (VAMBAY) was introduced in 2001-02 to provide shelters or upgrading existing shelters of the BPL population living in urban slums. The Government of India provides 50 per cent Central subsidy while the states have the option of mobilising their matching portion of 50 per cent from other sources, such as their own budget provision, resources of local bodies, loans from other agencies, contributions from beneficiaries or NGOs etc. Under this scheme, 20 per cent of the total allocation is provided for sanitation and community toilets.

7.47 During the first three years of the Tenth Plan, Rs.727.58 crore, accounting for 36 per cent of the Tenth Plan allocation of Rs.2,043 crore has been utilised. Against the target of 1 lakh, 1.06 lakh and 1.12 lakh dwelling units for the first three years of the Tenth Plan, 1,10,388 houses were constructed in the first year, 1,08,376 dwelling units were constructed in the second year and 1,13,004 dwelling units were covered in the third respectively.

Night Shelter For Urban Shelterless

7.48 The Night Shelter for Urban Shelterless scheme is a CSS which is funded on the basis of 50:50 between Centre and the states or implementing agencies or through the Housing and Urban Development Corporation (HUDCO) as loan. The scheme facilitates the construction of composite night shelters with community toilets and baths for urban shelterless. During the first three years of the Tenth Plan, Rs.8 crore, or 26 per cent (assuming full utilisation of 2004-05 allocations) of Tenth Plan allocation of Rs.30.97 crore, is expected to be utilised. The scheme is a demand-driven one and the Ministry of Urban Employment and Poverty Alleviation is not receiving adequate number of proposals from the states.

RECOMMENDED STRATEGY

7.49 There is need to set up Urban Poverty and Slum Development Task Forces/ Authorities at the state level. Similarly, city administrations should create Urban Poverty Alleviation (UPA) cells at the municipal level, which should have representation of slum-dwellers as well as of the community development societies set up under SJSRY and active NGOs in the field. The UPA cell should be put in overall charge of urban poverty and slum related programmes as envisaged in the Constitution (Seventy Fourth) Amendment Act, 1992.

7.50 There is, in general, a certain despondency among agencies responsible for programmes such as SJSRY with regard to availability of credit to the urban poor. The increased emphasis on commercial functioning is affecting the availability of credit for the urban self-employed. The credit and thrift societies run by women SHGs have done exceedingly well in financing housing and various self-employment activities in conjunction with micro-credit financing institutions/commercial banks. The micro-credit financing institutions must, therefore, be strengthened to provide finance to encourage self- employment among the urban poor.

7.51 There is an urgent need to work out the strategy to utilise the services of employment exchanges in the urban areas which can act as the focal point for the placement of unemployed youth who would be trained under SJSRY. Thus, the employment exchanges should work as the placement agencies with linkages with the prospective employers in both the organised and unorganised sectors and the training institutions. A positive correlation needs to be developed between the number of persons trained and the number of persons employed/ set up micro-enterprises.

7.52 The wage employment component of SJSRY need to be used only for building community assets and infrastructure relating to the urban poor, and not for general municipal works. This would ensure improvement in the civic amenities meant for urban poor. The works need to be selected by beneficiaries and executed by the community development societies themselves. Monitoring of the project at both the Central and state levels need to be strengthened.

PUBLIC DISTRIBUTION SYSTEM

7.53 The public distribution system (PDS), as it was introduced originally was not an anti-poverty scheme but a mechanism for the management of a buffer stock in foodgrain in order to ensure price stablisation. However, providing food to the poor at prices they can afford must be an integral part of the strategy of poverty reduction. The PDS attracted the following major criticisms:

- It did not really target states with a large number of poor.
- It was biased in favour of certain states as well as urban areas, although the latter was much less clear if only households purchasing foodgrains were considered.
- It is not particularly effective in providing subsidised foodgrains to the poorer groups in low income/high poverty regions.
- The fiscal burden due to food subsidy needed to be controlled which could be done by targeting the food subsidy to poor consumers.

7.54 In June 1997, the Government of India introduced the Targeted Public Distribution System (TPDS) with appropriate focus on the poor. Under TPDS, above the poverty line (APL) families are provided foodgrains at nearly the full economic cost and BPL families at about half this rate. The scale of issue under TPDS began with 10 kg per family per month for BPL families, but has been progressively increased over the years and is now 35 kg per family per month with effect from 1st April 2002. The scale of issue for the APL families has also been determined at 35 kg per family per month from the same date.

7.55 The Antyodaya Anna Yojana (AAY) was launched in December 2000 and involved the identification of 1 crore poorest of the poor families who would be provided 25 kg foodgrains a month at a highly subsidised price of Rs.2 per kg for wheat and Rs.3 per kg for rice. The scale of issue has since been increased from 25 kg per family per month to 35 kg per family per month with effect from 1 April 2002. The scheme has been expanded to cover 2.5 crore families.

7.56 The main objective of the TPDS was to improve the PDS consumption of the poor by offering them cereals at highly subsidised prices (and simultaneously wean away the non-poor from the PDS). Since 2000, the introduction of the AAY was further expected to improve the PDS offtake and consumption by the poorest. One would, therefore, expect PDS offtake to become more aligned with the total number of poor in each state. Among the medium/high income states, Kerala's share in offtake has been declining along with that of Gujarat and West Bengal. Among the poor states, Madhya Pradesh and Uttar Pradesh show an increasing share in total offtake. Overall, the correlation between the total offtake of cereals and number of poor in each state, has been improving and was statistically significant in 2003-04. Thus, at least at the level of offtake, the TPDS has now been better able to target the states with higher number of poor than in the past.

7.57 Some of the problems encountered in the implementation of PDS are:

- Diversion of foodgrains and other commodities, due to bogus ration cards.
- Reduced scale of issue of foodgrains to consumers against the scale of issue stipulated by the Central government for each household, thus compromising both food and nutritional security.
- Inability of the PDS to reach the poor effectively. Not only are there various cases of wrong inclusion of APL households but there are also cases where the real poor who are included in the poverty lists of the villages are excluded.
- The PDS Control Order 2001 provides for constant review and updating of families eligible for issue of ration card and deletion of ineligible units/ households. However, such a review of BPL families is not being done regularly.
- States/fair price shop dealers generally lift foodgrains late because of resource crunch. The consumers are generally not given the arrears of the previous month/fortnight thereby leaving scope for diversion and thus defeating the very purpose of the scheme

Box 7.6
Performance evaluation of TPDS

The Targeted Public Distribution System (TPDS), introduced in 1997, envisages identifying the poor households and giving them a fixed entitlement of foodgrains at subsidised prices. The Programme Evaluation Organisation (PEO) of the Planning Commission, which has done an evaluation study of the programme, found considerable differences in the implementation of the TPDS across some of the states.

- Only 22.7 per cent fair price shops are viable in terms of earning a return of 12 per cent on capital.
- The offtake by APL cardholders was negligible except in Himachal Pradesh, Tamil Nadu and West Bengal.
- The offtake per BPL card was high in West Bengal, Kerala, Himachal Pradesh and Tamil Nadu.
- The offtake by the poor under TPDS was substantially higher than under universal PDS.
- There are large errors of exclusion, inclusion and 'ghost cards' are common.
- High exclusion errors mean a low coverage of BPL households. The survey has estimated that TPDS covers only 57 per cent BPL families.
- Error of inclusion is high in Andhra Pradesh, Karnataka and Tamil Nadu. This implies that the APL households receive an unacceptably large proportion of subsidised grains.
- Leakages vary enormously between states. In Bihar and Punjab the total leakage exceeds 75 per cent while in Haryana and Uttar Pradesh it is between 50 and -75 per cent.
- Leakage and diversion imply a low share of the genuine BPL households of the distribution of the subsidised grains. During 2003-04, it is estimated that of 14.1 million tonnes of BPL quota from the Central Pool, 6.1 million tonnes reached the BPL families while 8 million tonnes did not.
- Leakage and diversion raised the cost of delivery. For every 1 kg. that was delivered to the poor, Government of India had to issue 2.32 kg from the Central Pool.
- During 2003-04, out of an estimated subsidy of Rs. 7,258 crore under TPDS, Rs. 4123 crore did not reach BPL families. Moreover, Rs. 2579 crore did not reach any consumer but was shared by agencies involved in the supply chain.

- The fair price shops are not always open daily. In many cases, the beneficiaries have to cover long distances to reach these shops. As a result of the Supreme Court intervention in the implementation of the PDS, the Commissioners to the Court have reported that the opening of the ration shops has become more regular and predictable.
- Beneficiaries are unaware of their rights, as the Citizen's Charter is seldom available in the regional languages.
- Proper and regular inspection of the fair price shops by the state government is not done.
- Inadequate publicity and lack of information relating to scale of issue, prices, availability of commodities to the consumers.

7.58 The Programme Evaluation Organisation of the Planning Commission has reviewed TPDS. The findings of the evaluation are summarised in the box below:

7.59 In order to ensure the effectiveness of the PDS, the fair price shop owner should find the operations relating to PDS financially viable. An earlier restriction that the retail issue price of foodgrains for the BPL under the PDS should not exceed the Central Issue Price by more than 50 paise per kg has been removed with effect from 20th August 2001. Any substantial increase in the dealer's margin to improve the viability of fair price shops may increase the retail price and pass on the burden to the PDS consumers, thereby adversely affecting the offtake. However, a correct balance between the interests of the consumers and of the fair price shop owners needs to be arrived at and ensured by the state governments. The shops should be permitted to sell all commodities (other than rice and wheat) at full market prices so as to ensure their economic viability. Co-operatives of women and ex-servicemen should also be involved in the management of these shops.

7.60 The High Level Committee on Long Term Grain Policy has recommended the return to a universal PDS where there will be no distinction between APL and BPL population. As against this the Tenth Plan Working Group on PDS and Food Security had recommended a PDS that will cater exclusively to the BPL population. The relative merits of the two recommendations are as follows

- The universal PDS is expected to bring back into PDS the poor and near-poor sections, who are presently excluded from the BPL fold. Moreover, it is expected to make the fair price shops more viable by enhancing the scale of operations.
- As only a small fraction of the APL population choose to buy foodgrains from the fair price shops, the universal PDS scheme will work on a principle of self targeting. However this could also lead to greater diversion of foodgrains from the PDS system. A large part of the APL allocation that is not lifted by the consumers may end up being diverted.
- Under universal PDS, the level of food subsidy will be substantially higher if food allocation is sought to be made at the present BPL issue price for both APL and BPL. Instead, if the issue price is fixed at somewhere between the current BPL and APL issue prices, the benefits derived by the BPL population will more likely be reduced. Their benefits, given a fixed level of food subsidy, is likely to be more under a targeted PDS restricted to the BPL population than under a universal PDS. A universal PDS may thus prove to be detrimental to the interests of the poor.

  A third alternative, recommended by the Task Group on Comprehensive Medium Term Strategy for Food and Nutrition Security, would be to exclude the APL population from PDS and restrict it to BPL and AAY only, while, at the same time, the criterion for identifying BPL families could be made more liberal. The states could be given a grace margin of about 10 percentage points over their poverty ratios while identifying their BPL population. This would take care of the exclusion problem. The poverty estimates for 1993-94 with grace margin of 10 percentage points could be used to determine the BPL population of states for another five years, that is, until 2010.

7.61 Clearly, there is a need to re-examine the rationale and structure of the PDS, especially in view of recent developments. Several food-based schemes have been introduced and/or expanded recently. The SGRY provides over 5 million metric tonnes of foodgrains to the rural poor every year. Foodgrains have also been provided under the NFFWP, the Mid Day Meal scheme and provision of nutritional supplements to pre-school children through the ICDS system. These food-based schemes, as also the increased offtake under TPDS and AAY, have resulted in a massive increase in PDS sales. The per unit subsidy has also gone up because a large proportion of the PDS supply is at BPL prices, while it is at even lower prices under AAY. The food distribution system has, thus, been converted from its original price stabilisation role to one facilitating a transfer to the poor. Therefore, the issue of providing food to the poor through various welfare schemes and through the PDS needs to be reassessed and rationalised. Further, their impact on both rural and urban poor needs to be worked out separately.

7.62 Given the resources flowing into programmes for food and nutritional security, it is suggested that a 'Food and Nutrition Security Watch' be created in the Planning Commission, consisting of nutritionists, social scientists, development practitioners, bureaucrats and NGOs. It would monitor the outcomes of specific interventions as also review overall food availability both at the national and state levels. It could also identify pockets of extreme hunger and food insecurity and ensure flow of adequate supplies of foodgrains to these areas.

LAND REFORMS

7.63 Land reforms have been an important plank of the poverty alleviation strategy. The agrarian relations prevailing in the pre-Independence era laid the ground for the land reform policy in the post-Independence period. The extractive rent-seeking tenurial system created a political consensus around the need to eliminate intermediaries. Abolition of zamindari was an important strand of the land reforms agenda. The other components of the land reform package viz. regularisation of tenancy, conferment of ownership on tenants and regulation of rent were also influenced by the same mindset which sought to protect the actual tiller from exploitation by the land-owning classes.

7.64 The Tenth Plan had indicated that demographic factors, changes in the agricultural technology and the increasing importance of market forces had considerably weakened the case for a land reform programme that concentrated on the abolition of intermediaries and reduction in land ceilings to generate ceiling surplus land for redistribution. The Plan suggested that there was need to implement the ceiling laws with greater vigour, re-examine the issues of tenancy, address the question of tribal land alienation and incorporate more gender friendly laws in the context of feminisation of agricultural operations.

Land Ceiling

7.65 The prevailing agricultural structure is in sharp contrast to the conditions that obtained immediately after Independence. The number of large holdings has declined and the average size of land holding of 80 per cent of the cultivators is less than 2 hectares. Therefore, the case for reduction in land ceilings is weak. Measures need to be taken to detect concealed lands and acquire them for distribution to the rural poor. Up to 31st March 2003, only 2.12 million hectares of ceiling surplus land had been redistributed. This accounts for just 1.5 per cent of the total cultivable land in the country. Given the poor record in detection and distribution of ceiling surplus land, it is unlikely that large tracts of land would become available for distribution to the poor. A new initiative could be to restrict the land owned by non-resident Indians (NRIs). The land ceiling for households which do not depend on land as their primary source of livelihood also need to be reduced. This would release some land for distribution. Further, where irrigation facilitates two to three crops a year, existing ceilings on land ownership could be reviewed.

Tenancy Reforms

7.66 The country's tenancy laws are highly restrictive. They were enacted in the context of exploitation of the peasantry. The current situation, however, is very different. The economic and political hold of large land-owning classes has been considerably weakened. The deepening of democracy through successive elections and setting up of PRIs has strengthened the bargaining power of the rural poor. Research studies indicate that restrictive tenancy laws have prevented optimum allocation of land resources and denied the rural poor access to land. They have also led to concealed tenancy, which is widespread. In such cases, the tenant has no protection. The fear of reverse tenancy is also unfounded as small and marginal farmers account for over 80 per cent of the total leased land in the country. In any case, the existing ceiling laws can be leveraged to prevent reverse tenancy by stipulating that operational holdings could not exceed those prescribed under the ceiling laws.

7.67 There is, therefore, a need to re-examine the tenancy laws in the country in the light of the fact that tenancy is widespread. Prohibition of tenancy by law in many states, especially the poorer states of Uttar Pradesh, Bihar and Orissa, has only driven the practice underground. This has adversely affected the interests of the rural poor. It is necessary to recognise tenancy and register the tenants and provide them security of tenure. The tenurial right need not be heritable but may be given for a fixed period. The success of 'Operation Barga' in West Bengal, under which heritable and cultivable land rights were provided to shareholders, should encourage other states to bring about tenancy reform, which would generate greater employment and enhanced output, and thus reduce poverty.

Land Rights for Women

7.68 The Tenth Plan had highlighted the need for an active policy to provide land rights to women. In many states, agricultural land does not devolve on women if male heirs are present. In almost all states, tenancy is not inheritable by women. Some progress has been made in states like Rajasthan and Madhya Pradesh, which have decided that issues relating to property, including landed property, would be dealt with in accordance with the appropriate personal laws. Many other states have yet to take action in this regard. Women are playing an increasing role in agricultural operations due to migration of male members in search of employment and various other factors. In the absence of secure land rights in their names, they are excluded from institutional support that is provided only to the owners of land. It is, therefore, necessary to make inheritance rights in land more gender equal.

Alienation of Tribal Lands

7.69 The Tenth Plan highlighted the important issue of tribal land alienation and the need to allow the tribal communities to manage the resources, including land within the framework of Panchayat (Extension to Scheduled Areas) Act (PESA), 1996. The tribal population is concentrated in the north-eastern and central parts of the country. Alienation of tribal land is, however, much more pronounced in central India. The migration of non-tribal people to tribal areas and displacement of tribals on account of development project has created strong militant movements in many regions. Several states have enacted laws that prohibit transfer of land belonging to tribal communities to non-tribals and restoration of the alienated lands. However, the implementation of these laws has not been very effective. Up to 31st March 2003, 3.75 lakh cases of tribal land alienation covering 8.5 lakh acres of land were registered in the courts. Of these, 1.62 lakh cases have been disposed off in favour of tribals so far. At present 4.47 lakh acres have been restored to the tribal population. Courts have rejected cases pertaining to 3.63 lakh acres on various grounds. Prevention of alienation of tribal lands needs to enforced by strictly enforcing legal provisions. State governments need to operationalise the processes outlined by the Expert Group on Prevention of Alienation of Tribal Land and its Restoration to give effect to the laws that protect the land rights of the tribal communities.

7.70 Centrality of land in poverty removal, promotion of equity and efficiency cannot be overemphasised. Provision of even small parcels of land to the poor has proved to be poverty alleviating. Unfortunately, this important issue has not got the attention it deserves in the national discourse. The nature of the land reforms programme would have to change in view of the changes in the agrarian structure. Even within the changed context, there is a strong case for redistribution of ceiling surplus land and government wastelands to the rural poor. This has to be backed by institutional changes that provide access to credit, extension facilities and marketing linkages so that the poor could make productive use of the lands transferred to them. State policy should be more pro-active in the creation of a land market through liberalisation of tenancy. Restoration of tribal lands to prevent tribal unrest has to be given greater attention.

Computerisation of Land Records

7.71 Updating of land records is vital for land management. To bring land records up-to-date and facilitate quick retrieval of land records, the government has been implementing two schemes – Computerisation of Land Records and Strengthening of Revenue Administration. The progress in some states has been commendable while the process of computerisation needs to be accelerated in others. Even in states which have taken steps for computerisation of land records, online availability of land records continues to be an area of concern. This has been accomplished only in Karnataka and partly in Tamil Nadu and Gujarat. Updating of land records is also necessary to eliminate unnecessary litigation.

Development of Drought-prone, Deserts and Waste Lands

7.72 India accounts for 17 per cent of the world's population but has 2.7 per cent of the land area and 4 per cent of sweet water resource. The land/man ratio and per capita availability of water is low compared to other countries. The situation has deteriorated considerably in the last 50 years, during which time the population has grown by almost three times. The increase in the livestock population, which competes with human beings for space and water, has almost doubled. The combined availability of land per person and a livestock unit has declined from 0.44 hectares in 1991 to 0.20 hectares in 2001. The pressure on agricultural land has been more intense as there has been virtually no increase in the net sown area. Large parts of land have been degraded due to biotic and abiotic pressures.

7.73 Land degradation has been accompanied by over extraction of ground water. Cultivation of paddy and sugarcane in drought-prone and arid regions has been a cause of this over exploitation. The groundwater use, which was in the range of 10-20 km^3 before 1950, now stands at 240-260 km^3. These developments have created an alarming situation. Over 25 per cent of the blocks are categorised as either grey or dark zones where the rate of water extraction is higher than the rate of water recharge. Balanced development of land and water resources is, therefore, an imperative for sustainable development in the country.

7.74 Estimates of land degradation vary. As per the projections made by the Working Group on Watershed Development, Rainfed Farming and Natural Resource Management for the Tenth Plan, 89 million hectares of degraded lands need to be treated. Soil erosion is the major cause of land degradation, removing as it does roughly 14 million tonnes of major nutrients such as nitrogen, phosphorous and potassium from the country's soil. The loss of soil organic matter affects crop productivity. The Tata Energy Research Institute (TERI) in its report on *Green India 2047* had estimated that economic losses due to land degradation are in the range of Rs.89 to 332 billion and 11 to 26 per cent of total agricultural output.

7.75 Scientific watershed management was the cornerstone of the Tenth Plan strategy for development of degraded lands. As against a total Ninth Plan expenditure of Rs.2,179 crore, the Tenth Plan outlay for watershed development programmes was raised to Rs.5,400 crore for the programmes implemented by Department of Land Resources. The Plan also indicated that a national policy on land resource management would be formulated for optimum management of land resources. Convergence of watershed programmes under one ministry, revival of traditional water harvesting structures, land and forest regeneration, capacity building and training were some of the other areas which were identified for attention during the Plan.

7.76 The Department of Land Resources, Ministry of Rural Development, Department of Agriculture and Cooperation, Ministry of Environment and Forests and the Planning Commission currently implement programmes that seek to harvest rainwater and use it for increasing production of biomass. These programmes have evolved over the years in response to specific needs. The objectives that they were expected to fulfill have also been different.

7.77 The Drought Prone Area Programme (DPAP), initiated in 1973-74, was taken up to minimise the adverse effects of drought on production of crop and livestock, productivity of land, water and human resources. Overall economic development and improvement in the economic condition of the poor and disadvantaged was one of the objectives of the programme. The scheme is implemented in 972 blocks of 182 districts in 16 states.

7.78 The Desert Development Programme (DDP) seeks to contain the adverse effects of desertification on crops and on human and livestock population. DDP covers 235 blocks of 40 districts in seven states.

7.79 The Integrated Wasteland Development Project (IWDP), implemented in 374 districts, seeks to check land degradation and increase biomass availability especially fuel wood and fodder by putting wastelands under sustained use.

7.80 The National Watershed Development Project in Rainfed Areas (NWDPRA) focuses on conservation, development and sustainable management of natural resources including their use. Its main objectives are enhancement of agricultural production and productivity in a sustainable manner and restoration of ecological balance in the degraded and rainfed eco systems by greening these areas through appropriate mix of trees and shrubs.

7.81 The soil conservation schemes in the catchment areas of river valley projects and flood-prone rivers, which form part of the macro management since November 2000, attempt to prevent land degradation through a multi-disciplinary integrated approach of soil conservation and water management in catchment areas. The programmes also promote land use in consonance with the land capability. In the north-eastern states, IWDP and Watershed Development Projects in shifting Cultivation Areas (WDPSCA) seek to redevelop degraded lands due to jhooming.

7.82 The Western Ghat Development Projects (WGDP) and Hill Area Development Projects (HADP), in existence since the Fifth Plan, aim at restoration and preservation of the ecology of these areas, which have experienced extremely high rates of soil erosion. Prevention of soil erosion, sustainable use of resources and preservation of bio-diversity are the main objectives of both these projects. All these schemes attempt to arrest degradation of land and water resources and improve the productivity of land in order to enhance incomes and livelihood opportunities for the people.

7.83 Till the Ninth Plan, only 29 million hectares had been treated under the watershed approach. The Tenth Plan target for coverage is 10.9 million hectares, which is nearly 4 million hectares less than the projections of the Working Group. On an average, only 4 million hectares of degraded land were covered under watershed projects in the first two years of the Tenth Plan. Considering the fact that close to 90 million hectares of degraded and rainfed land needs to be covered under watershed programmes, the pace of development is extremely slow and needs to be stepped up considerably to improve the productivity of land through better land and water management.

7.84 Evaluation reports of watershed projects show that they have had a positive impact. Agricultural productivity has increased substantially as has the availability of water, fuel wood and fodder. However, there are many infirmities in the programme implementation process (See Box 7.7).

Box 7.7
Evaluation of Watershed projects

Evaluation studies of watershed projects under the Ministry of Rural Development in 16 studies highlighted the following strengths and weaknesses.

Positives:

- An overall improvement in land use.
- Increase in net-sown area and gross cropped area.
- Increased irrigation options, increase in water table, number of dug-wells and bore-wells.
- Increased fuel-wood and fodder availability, especially in Integrated Wasteland Development Project areas.
- Increase in number of livestock with a marked preference for improved breeds in the post-project phase.
- Changes in household incomes. In some states, increase in incomes was as high as 50 per cent

Drawbacks:

- No significant impact on drinking water availability, even though overall water availability has increased.
- The benefits flow largely to land owners and large and medium farmers.
- The large and medium farmers have been able to extract re-charged ground water as they are in a better position to make investments in dug-wells and bore-wells.
- The improved availability of water results in the cropping pattern leaning towards more water intensive crops, which again leads to water stress.
- Major expenditure on the projects was on construction activities with little focus on institution and capacity building.
- People's participation was extremely unsatisfactory in most states. Government departments with very little interaction with the people implemented projects.
- Scheduled castes/scheduled tribes and other landless benefited only marginally through increased employment opportunities. There was no direct flow of benefits to them through the project design.
- Women's participation was extremely poor.
- Involvement of NGOs was also limited.

Source: TERI: Impact Assessment of Watershed Development - A Compendium - July, 2004

7.85 The National Centre for Agricultural Economics and Policy Research has attempted to quantify the benefits of watershed projects. These are reported in Box 7.8.

7.86 The analysis shows that successful watershed projects yield high returns on investment and provide increasing avenues of employment and income generation. However, the watershed gains get eroded if an area experiences continuous droughts. In a study of watershed programmes in eight districts of Gujarat, the Development Support Centre, Ahmedabad, evaluated the capacity of the people in areas that were affected by droughts continuously over a period of four years. The study reported that the watershed villages were in a better position to cope with adverse effects of droughts in the first year in comparison to villages where watershed projects were not taken up. However, by the third year of drought, the gains of watershed were substantially eroded. Water had to be supplied by tankers. People migrated to urban centres in search of employment even in villages where watershed projects were successfully implemented.

ISSUES IN WATERSHED DEVELOPMENT

7.87 The programmes for development of wasteland and degraded lands implemented by different ministries follow the watershed approach, but there are many issues, listed below, that need to be resolved so that the programmes could be implemented more effectively.

CONVERGENCE OF WATERSHED SCHEMES

7.88 The fact that programmes for the treatment of wastelands and degraded lands are being implemented by several departments, with similar objectives but different operational guidelines and, especially, different cost norms, adversely affect the programmes at the ground level. In 2000, the Ministries of Agriculture and Rural Development attempted to evolve a common approach for watershed projects. However, once again differences have emerged. It is preferable if all watershed projects are implemented by a single department/agency within a common framework. At the very least, it is imperative that the guidelines and the cost norms are similar so that convergence is possible at the district level.

7.89 The watershed programmes may be divided into three distinct areas for specific responsibilities and time-bound coverage and convergence.

- The Himalayan and other hilly areas as well as high rainfall regions may be entrusted to the Department of Agriculture and Cooperation. Watershed-based treatment of catchments areas of major irrigation projects should continue to be the responsibility of the Department of Agriculture and Co-operation.
- The arid, semi-arid and sub-humid regions should be the responsibility of the Department of Land Resources in the Ministry of Rural Development.
- Conservation and protection of national bio-diversity resources has assumed great importance. The Ministry of Environment and Forests has been assigned the responsibility of protection of bio-diversity in the country and has prepared a national bio-diversity strategy and action plan in consultation with the state governments. A National Bio-Diversity Authority has also been created to oversee the implementation of the National Bio Diversity Act, 2002. It is, therefore, necessary that implementation of Hill Area Development Programme and Western Ghat Development Programme is transferred to the Ministry of Environment and Forests so that they could implement programmes for protection and conservation of bio-diversity resources in these areas.

PEOPLES' CONTRIBUTION

7.90 Evidence suggests that peoples' involvement in watershed projects provides for capacity building and greater commitment

Box 7.8
Economic benefits of watershed projects

Benefit-cost ratio and the internal rate of return (IRR) were used as proxy for gains from watershed programmes in order to document the benefits arising from them. Additional employment generation in agriculture as a consequence of watershed activities was assessed for equity benefit. To demonstrate the sustainability benefits, the indicators used were: (i) increased water storage capacity, which augmented the irrigated area; (ii) increased cropping intensity; (iii) reduced run-off, which enhanced ground water recharge; and (iv) subsidised soil loss. The results are summarised in the following table.

Summary of benefits from the sample watershed studies

Indicator	Particulars	Unit	No. of Studies	Mean
Efficiency	Benefit-cost ratio	Ratio	128	2.14
	IRR	Percent	40	22.04
Equity	Employment	Man-days/ha/yr	39	181.50
Sustainability	Irrigated area	Per Cent	97	33.56
	Cropping intensity	Per Cent	115	63.51
	Rate of runoff soil loss	Per Cent Tonnes/ha/yr	36 51	-13.00 (-)0.82

At 2.14, the benefit-cost ratio of the programme is good. Fifteen per cent of the watersheds had a benefit-cost ratio of more than 3, while the ratio was less than one in less than 3 per cent of watersheds. The mean IRR was 22 per cent and the maximum 94 per cent. As much as 35 per cent watersheds yielded more than 30 per cent IRR, while only 5 per cent had IRR of less than 10 per cent. This would indicate that generally the investments made in watershed programmes are justified to a certain extent.

The main additional annual employment generation in the watershed areas through various activities and operations was about 181 mandays per hectare and was as high as 900 mandays per hectare in watersheds with multiple activities. Watershed programmes are mainly aimed at soil and water conservation in raising farm productivities. Based on the their analysis, the authors have concluded that these objectives were largely accomplished in the watershed areas. On an average, the irrigated area increased by 34 per cent and cropping intensity by 64 per cent. Accordingly, the authors of the study have concluded that the watershed programmes have successfully fulfilled the three principal objectives viz. raising income levels, generating employment; and conserving soil and water resources.

People's Participation:

The available evidence on peoples' participation and the benefits from watersheds have clearly confirmed that there is a positive relationship between the two. The benefit-cost ratio was much more (2.4) in watersheds where people's participation was high in comparison to those which have low participation (1.24). It was also found that the benefits from these programmes were higher in low-income regions than in high-income regions. The benefit-cost ratio was 2.46 in low-income regions and 1.98 in high-income regions. The corresponding figures for annual employment generation were 175 and 132 man-days per hectare.

Source: "Impact of Watershed Program and People's Participation" *by P.K. Joshi, Lakshmi Tewari, A.K. Jha and R.L. Shiyani, published in* Institutional Change in Agriculture *(eds Suresh Pal, Murthyunjaya, P.K. Joshi and Raka Saxena) by National Centre for Agricultural Economics and Policy Research (NCAP), 2003.*

on the part of the community to construct and maintain structures created in the course of the project. The Pani Panchayat in Maharashtra is a successful example of peoples' contribution in a watershed project. There are other NGO-led projects like MYRADA and the Indo-German Project in Maharashtra where beneficiaries have to contribute either in cash or in kind before the village is selected for funding.

TECHNICAL INPUTS IN WATERSHED DEVELOPMENT

7.91 Watershed development is a complex discipline. It requires knowledge of soil, sub-soil structures, geo-hydrological data, and agricultural sciences. It also requires strong organisational support in order for it to be successful. The technological inputs in watershed projects are required both at the preparatory phase of the project, during project implementation and in the post-project phase.

7.92 The first phase of any watershed project is delineation of the watershed. The programme guidelines indicate that macro-watersheds of about 25,000 to 30,000 hectares should first be mapped with major drainage courses consisting of rivers, rivulets and other drainages. With the help of maps prepared by the Survey of India, each of these macro watersheds should then be sub-divided into sub watersheds of 5000-6000 hectares. The sub-watershed is considered to be the unit of operation for a Project Implementing Agency (PIA) and it should be further divided into micro watersheds of about 500 hectares where new projects are to be undertaken. The prioritisation of micro watersheds should be on the basis of degree of land degradation, the potential water run-off and scarcity of drinking water. Technical organisations with requisite capacity to provide these technical details exist at the state level. The Ministry of Agriculture has offices of the All-India Soil and Land Use Survey Offices at the state level. The National Remote Sensing Agency is also active in mapping lands resources in the country. Organisations under the Ministry of Water Resources have offices all over the country.

7.93 The guidelines provide for detailed scientific investigation before the projects are formulated. Unfortunately, these activities are rarely undertaken by the district authorities. Very few watershed projects are prepared on the basis of detailed investigations as envisaged in the guidelines. The preparation of watershed projects without adequate scientific and technical analysis has its own problems. For example, the construction of water impounding structures without properly studying the geo-hydrological data could lead to water harvesting structures being built at places which have impermeable rocks underneath, which would prevent re-charging of ground water, one of the main objectives of the watershed programmes. Similarly, the construction of dams and bunds on small rivulets and nullahs without detailed investigation could lead to drying up of wells downstream of the dams, as the flood waters which earlier re-charged them get impounded in the bunds. This calls for analysis of water balance in the area. Hydrologists contend that at least 35 per cent run-off should be allowed to go downstream to maintain the hydrological balance.

7.94 The Central Ground Water Board (CGWB) has the capability to undertake these studies as it has over 15,000 centres spread over the country. CGWB's expertise, however, is not internalised in the watershed programmes being implemented at present. They have taken up separate projects for recharging ground water aquifers. The CGWB could play a more pro-active role by providing technical assistance at the district level in the formulation of watershed projects.

7.95 The technical support in terms of agronomic practices, creation of marketing linkages for inputs and outputs is equally critical to the success of a watershed project. The agricultural extension system in the country has suffered serious setback and is considered to be extremely weak. The Mid-Term Appraisal of the Ninth Plan highlighted the lack of extension support as one of the major reasons for low agricultural productivity in large parts of the country. The national research systems have also tended to neglect the research needs of the rainfed farming system. This needs to be corrected. The future food security of the country largely depends on the ability of rainfed agriculture to move to a higher growth path. The technical guidelines should also clearly delineate the processes for infusion of agricultural support in a specified time-bound manner during both the project execution and the post-project phases. In addition separate guidelines on social processes and accounting & auditing manuals need to be brought out.

ROLE OF WOMEN IN NATURAL RESOURCE MANAGEMENT

7.96 The participation of women in the conservation of natural resources has proved to be more effective and sustainable in the long run. The burden of land degradation and water scarcity falls disproportionately on women as arrangements for fuel, fodder and drinking water are largely their responsibilities. Women take greater interest in preservation of these resources as their dependence on them is significantly higher. The guidelines for watershed development recognise this reality and have specifically provided for representation of women on Watershed Committees and Watershed Development Teams. Since 33 per cent seats in panchayats - which have also been given a greater role in Watershed Development Programmes - are reserved for women, platforms for their participation in watershed projects exist. However, the availability of these platforms has not translated into transfer of decision-making powers to the women in most projects. The capacity building exercises in the coming years need to be specifically targeted at women in watershed projects.

LIVELIHOODS

7.97 Evaluation reports point out that in spite of detailed guidelines for holistic watershed development, projects are implemented as a single line activity with greater focus on construction activities. In areas with a concentration of tribal population, the issues of livelihood and their integration with watershed approach has not really been thought through. For example, in states like Jharkhand, Chhattisgarh and the tribal belts of Orissa, tribals grow paddy under extremely primitive conditions. All efforts by the government and NGOs for crop diversification and infusion of technology have failed due to lack of input and output marketing linkages. The question of livelihoods and the role of land and water in the provision of that livelihood should be brought to the centre stage in watershed development. The strategy should be one of pro-active resource management, i.e. land and water, to improve and stabilise production opportunities in the area.

EFFICIENT WATER USE

7.98 Efforts to properly utilise harvested water also need to be taken up. Promotion of sprinkler and drip irrigation in water-scarce areas has not been taken up on the scale that is required. Water storage structures recharge ground water aquifers. Landholders construct bore-wells to extract ground water. This violates the equity principle. There is a need to develop a comprehensive frame work for conjunctive use of surface and ground water. Many state governments have resorted to regulatory mechanisms to control extraction of ground water. Given the large number of bore wells in the country, control through administrative or legal measures may not be effective. A better alternative would be to integrate water policies in the land revenue code and empower the community to exercise control over the water resources in the same manner as revenue departments managed land in the past.

TRAINING

7.99 There is need to invest in training to build capacity at the ground level to implement watershed projects. The capacity to undertake watershed projects is extremely limited at the ground level. The Ministry of Agriculture spends 7.5 per cent of the total project cost on training. The Ministry of Rural Development provides 5 per cent of the total project cost for training activities and community mobilisation. Thus, a training provision of Rs.1.5 to Rs.1.75 lakh is available for a project costing Rs.25-30 lakh. As a PIA is normally allotted 8-10 projects for implementation at a point of time, a training budget of Rs.15 to 18 lakh is available to one PIA. However, the training component of watershed projects is extremely weak. The various agencies that have been active in this field, themselves lack capacity to train people.

7.100 The capacity that is required in a watershed is of two kinds. The first relates to the ability to sensitise and motivate the community to take up watershed projects. This capacity is largely available only with the NGOs. The second relates to the technical domain. The Agricultural Universities and Agricultural Research institutes have to be brought into the picture to provide the technical support at the ground level.

THE WAY FORWARD

RURAL ANTI POVERTY PROGRAMMES

Self-employment

- There are a plethora of organisations that support SHGs and the processes of social mobilisation, financing norms and other related activities differ from organisation to organisation. A comprehensive review is needed to evolve a commonality in the approach of different SHG programmes.
- The SHGs movement must focus on women. At least 50 per cent of the SHGs groups should be of women and a minimum of 25 per cent of the women in a village/habitation must be covered under SHGs programmes.
- The success of SHGs depends on bank lending for economic activities, but credit support has been a major constraint. A 'micro finance equity fund' should be created with contributions from commercial banks, which could be treated as a part of their priority sector lending programme.

Wage employment

- Merge the SGRY with the NFFWP. These programmes may be subsumed in the National Rural Employment Guarantee Act as and when it becomes operational.
- Consider the question of paying wages under SGRY and NFFWP only in cash. At present wages under these programmes are paid partly in cash and partly in the form of food grains valued at BPL rates. It is felt that there is an excess flow of foodgrains for the poor through the wage employment schemes as also TPDS, Antyodaya Anna Yojana and other food based programmes.

Rural Housing

- Change the allocation criteria for IAY and base it on 75% weightage for housing shortage and 25% weightage for poverty ratio instead of the present 50:50 weightage.
- Priority should be given to landless SC/STs including primitive tribes in provision of free houses. Other BPL families could be covered on the basis of relative deprivation index of shelter i.e households who do not have land/ plot to construct IAY houses and also households who have received minimum score in the overall poverty ranking, once the BPL Census, 2002 results are ready.
- Explore the possibility of credit linked housing programme through institutions like HUDCO, National Housing Bank and State Housing Boards etc. Also consider the possibilities of linking the housing credit with income generated under the SGSY and Wage Employment programme after the NREGA is enacted as is being done by NGOs like SEWA.

URBAN ANTI POVERTY PROGRAMMES

- Strengthen the micro-credit financing institutions to provide finance to encourage self-employment among the urban poor.

- Link training for skill upgradation under SJSRY to employability to establish a positive correlation between the number of persons trained and the number of persons employed or who set up micro-enterprises.
- Evolve a strategy to utilise the services of employment exchanges in the urban areas which can act as the focal point for the placement of unemployed youth trained under SJSRY in organised or unorganised sectors.

PUBLIC DISTRIBUTION SYSTEM

- Examine the rationale and structure of PDS, especially in the context of the several food-based schemes which have been introduced/expanded recently.
- Set up a Food and Nutrition Security Watch for monitoring outcomes of specific interventions and overall food availability in the country and to ensure that pockets of food insecurity and hunger receive adequate supplies of foodgrains.

LAND REFORMS AND WATERSHED DEVELOPMENT

- Revisit the issue of tenancy, as access to land is still a major source of livelihood for the poor.
- Work towards convergence of watershed programmes implemented by Ministry of Rural Development, Ministry of Agriculture and Planning Commission under the Department of Land Resources.
- Develop a framework for conjunctive use of surface and ground water in watershed development projects.
- Prepare guidelines on technical inputs, social process and accounting and auditing manuals for watershed programmes.

Labour & Employment

8.1 Providing "gainful and high quality employment at least to addition to the labour force" is one of the monitorable targets of the Tenth Five-Year Plan. However, in the first three years of the Plan period (2002-2005), the pace of creation of employment opportunities may not exceed the addition to the labour force.

8.2 The Plan had suggested the formulation of a policy on vocational training with a view to achieving a quantum jump in the capacity of vocational training institutes through public-private partnership. Two schemes have been initiated during the Plan period which are designed to encourage participation by industry in the delivery of vocational training services.

8.3 A simplified labour law regime was envisaged in order to promote growth of organised employment. Changes in some of the labour laws are being pursued, but a system that fosters substantial expansion in organised employment is yet to take shape.

8.4 The Tenth Plan advocated a legislative and administrative framework to provide a social security cover for a significant part of unorganised sector workers, and suggested initiatives by state governments in this regard. Madhya Pradesh has enacted a legislation for the welfare of unorganised workers, in which measures to raise resources for the welfare of workers through special levies and taxes have also been included.

CREATION OF EMPLOYMENT OPPORTUNITIES

8.5 The Tenth Plan envisaged the creation of 50 million employment opportunities over the Plan period, against a total addition to the labour force of 35 million persons. A clear distinction was made between employment growth that would come about through the normal process of growth (approximately 30 million during Tenth Plan period or 6 million per year, on an average) and additional employment that could be generated if the pattern of growth could be altered by implementing special initiatives in identified labour-intensive sectors (approximately 20 million during Tenth Plan period or 4 million per year on an average). The Plan suggested promoting such activities within a sector which both reflects the availability of natural physical resources of the country (including labour) and also does not affect the overall growth target of the Plan. This was sought to be achieved by ensuring that sectoral growth came from the more labour-intensive sub-sectors and activities.

8.6 Agriculture and allied activities, agro forestry, energy, plantation for bio-mass power generation, small and medium enterprises including village industries, information and communication technology and provision of education, health, family and child welfare services were identified for special attention during the Tenth Plan and specific programmes were suggested to promote growth and employment in these activities.

PROGRESS DURING TENTH PLAN

8.7 No fresh quinquennial survey-based data has become available since the formulation of the Tenth Plan. The results of the next round of the quinquennial survey of the National Sample Survey Organisation (NSSO) on employment and unemployment, covering the period 2004-05, will only become available in 2006. The assessment of performance on the employment front, therefore, has to be based on indirect indicators, which have a bearing on employment growth.

8.8 The gross domestic product (GDP) growth performance is obviously relevant for employment generation. GDP growth in the first three years of the Tenth Plan has averaged 6.5 per cent per annum, which is below the Plan target of 8 per cent per annum. At the sectoral level, growth in services - especially transport, communications and financial services - in the first three years has been satisfactory. However, in the agriculture sector, which engages more than 55 per cent of the work force, the average growth in the first three years has been only 1.2 per cent per annum, compared to the Plan target of more than 4.2 per cent per annum. Table 8.1 gives the estimates of employment generation based on observed employment elasticities and actual GDP growth. It can be seen that if the parametric relations prevailing during the period 1994-2000 continue to hold, then unemployment levels have not changed significantly in the first three years of Plan, and may even have increased somewhat.

8.9 Pending the availability of estimates on current daily status (CDS) basis, from the quinquennial 61st round of National Sample Survey (NSS) on employment and unemployment, being undertaken in 2004-05 - the third year of the Tenth Plan - the above assessment is based on growth in output, and the observed elasticities in the recent past. NSS Annual Rounds do not provide CDS estimates of employment. However, annual estimates of employment are available in NSS Annual Rounds on Usual Status basis; the latest annual round being the 59th Round, covering the January-December 2003 period.

8.10 If employment generation on Usual Status basis is considered, there has been an increase in the rate of growth of employment between 2000 and 2003. However, the magnitude of change in employment should be interpreted with reference to changes in the labour force. Between 1994 and 2000, the labour force increased at 1.08 per cent per annum on Usual Status basis and employment increased at 1.02 per cent per annum, that is, at a pace less than that of the increase in the labour force. In the subsequent period 2000-2003, the labour force increased at 2.85 per cent per annum and employment increased at 2.93 per cent per annum. Thus, the incidence of unemployment appears to have come down in the 2000-2003 period, for which NSSO small sample annual survey provisional data is available.

8.11 Employment in the organised sector, however, has decreased in the last three years (Table 8.2).

8.12 At a more disaggregated level, it can be seen that the process of liberalisation of the economy has thrown up newer opportunities for employment in emerging and dynamic economic activities, and at locations that provide an environment conducive for the growth of such activities. The employment

Table 8.1
Estimates of labour force, work opportunities and unemployment in the first three years of the Tenth Plan

(Current Daily Status basis)

	Unit	2001-02	2002-03	2003-04	2004-05
Labour force	Million	378.21	385.02	391.95	399.00
Employment	Million	344.68	349.89	356.16	362.64
Unemployment rate	%	8.87	9.12	9.13	9.11
No. of unemployed	Million	33.53	35.13	35.79	36.36

Notes:
1. Employment projections are based on observed sectoral output Elasticity of employment (1994-2000) (CDS Measure)
2. Labour force growth was assumed at 1.8 per cent per annum in the Tenth Plan.

Table 8.2
Estimates of employment in organised sector
(Lakh persons as on March 31)

Years	Public Sector	Private Sector	Total
2001	191.38	86.52	277.89
2002	187.73	84.32	272.06
2003	185.80	84.21	270.00

Source: Ministry of Labour, DGE&T.

Table 8.3
Growth in number of workers in the organised sector at locations covered by the Employment Market Information (EMI) System - selected locations
(per cent per annum)

EMI Area	1998-2000			2000-2003		
	Public	Private	Total	Public	Private	Total
Gurgaon	0.40	4.60	2.78	0.26	26.41	16.88
Hyderabad	2.39	5.51	2.98	-3.44	7.77	-1.01
Bangalore	0.80	1.19	0.98	-2.72	3.72	0.46
Bhavnagar	-	-	-	0.08	23.84	5.23
Gandhinagar (*)				-0.67	8.91	4.20

(*) Annual Growth rates are for the period 2001-2004.

growth in the private sector, at such locations, has been high in the recent years. (Table 8.3)

8.13 The Office of Development Commissioner of Small Scale Industries (SSI) under the Ministry of SSI has recently completed the Third SSI Census (reference year 2001-02). Employment per SSI unit has reduced from 6.29 persons to 4.6 persons between 1988 (the reference year for the previous Census) and 2001-02.

8.14 Certain programmes and policy initiatives taken up in the Tenth Plan will directly contribute to employment generation. For example, during 2004-05, the Project Approval Board of the Sarva Shiksha Abhiyan (SSA) approved the opening of 44,719 schools and appointment of 2,10,431 additional teachers. Similarly, the upgradation of infrastructure at the clusters of small industries will generate work opportunities. Industrial clusters at 19 locations have been given approval for upgradation of infrastructure.

8.15 The second component of employment strategy set out in the Tenth Plan is special programmes in selected labour-intensive sectors to raise the employment content of growth. Not much progress was achieved either in launching new initiatives/programmes or scaling up some of the existing programmes in a major way in the first three years of the Plan. Sector-specific special Plan programmes for employment generation were suggested in the Tenth Plan for, among others, agriculture and allied sectors (increased area under pulses and oilseeds, energy-biomass plantations, bamboo plantation and utilisation mission, agro-forestry, etc.), small and medium enterprises (SMEs) food processing industries and services sectors. The achievements, if any, under this set of initiatives is not expected to be significant. Moreover, assessment of increase in employment, compartmentalised by growth-induced employment and employment additionally generated through special programmes, is not available.

8.16 New initiatives suggested under the category of special programmes for employment generation should be based on the competitive advantage of a sector. Only then can such employment be sustainable. An activity or technology cannot be sustained in the long run only on the basis of its requirement of more labour or more capital per unit of output. On the other hand, if a sector or sub-sector is labour-intensive and also has a large untapped growth potential, all possible efforts should be made to tap that potential. This would not only create employment, but also raise the overall growth performance of the economy. Pursuit of employment and growth objectives are not independent of each other.

8.17 The National Food for Work Programme (NFFWP) was launched on 14 November 2004 in 150 districts identified as most backward. There is not only a high demand for wage employment in these areas but they also need certain minimum infrastructure for supporting livelihoods for the poor. Such a programme would:

- ensure a minimum level of employment and incomes to the poor;
- give the poor an opportunity to develop their collective strength, improve their economic position, and reduce their vulnerability;
- discourage migration;
- provide access to health, education and welfare services in the village itself;
- expedite the construction of environment friendly infrastructure works which enhance productivity levels (both farm and off farm) and provide a basis for further promoting economic activities in the region.

Note: Details on the NFFWP are given in the chapter on Poverty Alleviation and Rural Employment.

8.18 In the first three years of the Plan, the projection of increase in employment opportunities is 6 million per year compared to the average annual increase of 6.9 million in labour force. A new strategy for the growth of labour-intensive sectors and sub-sectors has to be evolved to attain an annual increase of 10 million in employment opportunities.

8.19 To provide gainful and high quality employment, special efforts for the more vulnerable segments of the labour force have to be made. The incidence of unemployment and under-employment is higher among the lower income groups. It is more severe in the districts where agricultural productivity is low and rural infrastructure is inadequate to attract investment. Employment guarantee is required to provide a certain minimum level of assured income, against work done at such locations. In the existing special employment programmes, the outcomes cannot be measured at the level of the household. A beginning has been made in restructuring of the special employment programmes for the poor, in the form of the NFFWP. A National Rural Employment Guarantee Bill has also been tabled in Parliament in December 2004.

Labour Force Skills & Training

8.20 Productivity and income of a new entrant to labour force, and hence the quality of employment, is determined by level of skill possessed. The Tenth Plan noted the large gap between the number of new entrants to the labour force (8-10 million) and the availability of seats in all forms of vocational/ professional training institutes (2.0-2.3 million). Reforms in the vocational training system were suggested to attract investments into the sector. To improve the quality of training, the Tenth Plan suggested steps to improve the linkages between training and prospective avenues of employment. Special measures for skill building in the informal sector were suggested.

Strengthening the Existing ITIs

8.21 The Tenth Plan called for establishing Institute Management Committees (IMCs), to be presided over by the representatives of industry, in all the 1,883 state government-run Industrial Training Institutes (ITIs). At present IMCs have been set up in 350 state government ITIs. The IMCs were required to have sufficient autonomy in the administrative and financial management of the institutes.

8.22 The government has approved a Centrally sponsored scheme to upgrade 100 ITIs to Centres of Excellence (CoE) which will be implemented in the public-private partnership mode. Each CoE will have an IMC with autonomy to generate revenue, select trainees, appoint contract-faculty/guest-faculty, develop curriculum, arrange on-the-job training, test and certify the trainees and facilitate their placement in jobs. This scheme requires the state governments to enter into a memorandum of understanding (MoU) with the Central government to commit adequate resources for maintenance of equipment and for raw materials/consumables required for training, and delegate adequate administrative and financial powers to the IMCs.

8.23 The National Council of Vocational Training (NCVT), in the Ministry of Labour, is the central authority for according recognition to vocational training courses. The NCVT approves vocational training institutes, designs courses and conducts examinations for trainees from such institutes before they are given their certificates. Though new occupations, requiring new skills, are emerging at a rapid pace, approval of new trades under the present NCVT system, takes a long time. At 98, the number of NCVT recognised trades is very low. The NCVT system should allow the industry associations to design courses and award certificates to successful trainees. Further, the NCVT course content should include a module on "shop floor training" in industry.

8.24 Once private and government ITIs are recognised, the quality of training imparted in them is not monitored regularly. It is difficult for the government to undertake this task in a professional manner. Agencies for recognising/accrediting vocational training institutes should be established. Such agencies should also assign a grading to the existing ITIs.

8.25 Assistance to state governments for ITIs should be given subject to the condition that they be organised as autonomous bodies in which industry representatives can be formally inducted on the governing boards, and that the institutions be given sufficient autonomy to become effectively board managed.

Strengthening The Apprenticeship System

8.26 Under the Apprenticeship Act, so far, 2.33 lakh seats have been located in public and private sector establishments, of which 1.62 lakh seats are utilised (the number of apprentices getting training). Considering that the number of non-agriculture establishments in the country having 20 or more workers is more than 2 lakh, the number of seats located is very small. State governments should undertake a massive campaign to locate seats in all the medium and large establishments.

Training For Informal Sector

8.27 A majority of the workers in the labour force are in the unorganised sector. The facilities for formal training are miniscule compared to the number of new entrants to the labour force. The Ministry of Labour has introduced a pilot scheme in the Tenth Plan for testing and certification of skills of workers in the informal sector.

National Qualification Pathway

8.28 The Tenth Plan noted the existence of a social divide between those who opt for vocational training after completing school and those who enter the higher technical/professional/medical education stream. One of the reasons for the limited demand for vocational training is the excessive preference for degree-level professional/technical education after school. This problem could be mitigated if those passing out from ITIs and other vocational training institutions are eligible for entry into polytechnics and +2 level medical and engineering courses, and other graduate-level professional degrees awarded by the universities. Entry criteria and the course curriculum would need to be redesigned for this purpose. This would also help inculcate a culture of shifting between training and work in the formative stages of career of a professional. At present, this practice is confined to post-degree level in management education (MBA etc.) and specialisation in medicine (MD and super specialisation training).

8.29 To facilitate inter-stream movement of students and vocational trainees, a framework of a National Qualification Pathway to interlink vocational education, vocational training and academic education should be developed jointly by the Ministry of Labour & Employment and the Ministry of Human Resources Development. A framework of the proposed National Qualification Pathway is given in Annexure 8.1.

Occupational Safety & Health Of Workers

8.30 The principal instrument for safeguarding occupational safety and health of workers is the institution of factory inspectors, under the Factories Act. It is not feasible for the administrative set up to deliver services to the 9 million non-agricultural establishments *(Economic Census 1998)*. A band of professionals who are proficient in assessing the health and occupational safety at workplace needs to be developed. Such professionals can be given recognition by a board. The Tenth Plan envisaged the setting up of a National Board for Occupational Safety and Health. Establishment of such a Board is being examined.

Social Security And Labour Welfare

8.31 Of the total workforce of 39.7 crore (Usual Status basis) (NSSO 55th Round; 1999-2000), only 2.8 crore (7 per cent) were in the organised sector and the rest 36.9 crore are in the unorganised sector. The sector-wise distribution is given in Table 8.4.

8.32 The Tenth Plan envisaged the preparation of a comprehensive perspective plan to provide social security cover to all workers in agriculture, small establishments and in the informal sector. At present, a number of institutional structures for providing some form of social security to certain categories of the unorganised workers exist. These fall under the insurance industry, welfare funds set up under the Acts of the Central or the state governments, and the welfare schemes of state governments. A common feature is that all these measures are financed from resources outside the Central Plan budget. The salient features of these programmes are given in Annexure 8.2.

8.33 Certain problems in the working of a few of the State Welfare Boards have been noticed. These include barriers to entry of new workers; rent seeking from new/prospective entrants, the practice of proxy workers, high expenditure on administrative overheads and consequently very low expenditure on providing actual benefits to the workers.

Table 8.4
Distribution of unorganised workers by sectors

Sector	**Unorganised workers(1) (1999-2000)** *(Nos. in crore)*	**Distribution (1)** *(per cent)*
Agriculture & Mining	23.7	64
Manufacturing & electricity etc	4.1	11
Construction	1.7	5
Trade	3.7	10
Service(Other than Trade)	3.7	10
Total	**36.9**	**100**

Note: (1) Derived indirectly by comparing the data from household surveys for entire labour force, done by NSSO, and the data on workers in establishments collected through 'Employment Market Information System' of Ministry of Labour.

8.34 The Government of Madhya Pradesh has enacted a legislation for the welfare of unorganised workers in the state. Two welfare boards, one for the rural areas and the other for urban areas, will be set up. Resources are to be raised by levying a tax on forest produce, minor minerals, mandi transactions, vehicle registrations, sanctions of building plans, etc. Rules are being framed to give effect to this legislation.

8.35 The Central government is considering a legislation for the welfare of unorganised workers. It should be a model legislation, which the state governments can adopt. It should also include safeguards against the problems observed in working of the State Welfare Boards.

8.36 The Government has also constituted a National Commission for the Enterprises in the Unorganized / Informal Sector to examine the problems being faced, and make recommendations to provide technical, marketing and credit support to such enterprises. This Commission is to take a holistic view of measures to be taken for a viable growth of such enterprises. Such measures should also include the provision of social security for workers in the Unorganised / Informal Sector Enterprises.

8.37 The Life Insurance Corporation (LIC) implements group social security schemes for the workers in unorganised occupations, where the number of beneficiaries is around 5 million. Besides life cover, some other benefits are also provided. Some support comes as income from the corpus of a social security fund to which the Central government contributes from time to time. As compared to the government's welfare administration machinery, the insurance industry is better equipped, professionally, to develop products for sharing risk among the groups of unorganised workers, providing annuity-based incomes for pension, and giving an identity to the beneficiaries.

8.38 The insurance industry should pursue the development of social security schemes for agricultural labour. The need is more acute in the states where the population of landless agricultural labour is high. The Central government may consider some initial support to the state governments that utilise their own resources such as the state taxes and cess (mandi cess, etc) for providing social security to the unorganised workers. Such support should be routed through the public sector insurance companies so as to develop a measure of professionalism in rendering services to the beneficiaries.

8.39 At present, the Central government provides about Rs. 1,000 crore every year under the National Family Benefit Scheme (NFBS), which includes old age pension for the poor, and some payment on death of the family breadwinner. If the insurance industry can develop suitable schemes for the poor, the benefits under NFBS could be routed through the LIC or any other public-owned insurance company.

8.40 Welfare services to the unorganised workers such as compensation for accident at work, death, and old age pension will be provided in the 'risk cover mode' as distinct from 'direct ex-gratia payments' by the government after the event as happened. The insurance industry may prepare schemes for old age pension and coverage against accident and death for unorganised workers in rural areas. To reward performance, subsidy from the Central government to the insurance industry will be linked with the number of cases finally settled, and not for paying the premia for the insurance policy.

Labour Laws

8.41 A simplified regime of labour laws was envisaged in order to promote the growth of organised employment. Changes have been proposed in the Acts relating to Payment of Wages Act, 1936, the Labour Laws (Exemptions from Furnishing Returns and Maintaining Registers by Certain Establishments) Act, 1988 and the Factories Act, 1948.

8.42 The hiring of contract labour in the newly-emerging sectors was to be made more liberal by amending the Contract Labour (Regulation & Abolition) Act, 1970.

Box 8.1
Key Recommendations of the National Commission on Labour

Labour Laws

- Provisions of all the laws governing labour relations such as the Industrial Disputes Act, 1947, the Trade Unions Act, 1926, other specific Acts governing industrial relations in particular trades, state level legislations on the subject should be consolidated into a single law called the Labour Management Relations Law or the Law on Labour Management Relations.
- Amendments to Industrial Disputes Act: repeal of Chapter V (B); higher compensation to retrenched workers; and automatic time bound (60 days) permission for closure of units employing 300 or more workers; etc.
- Changes in the Contract Labour Act, 1970:social security and remuneration to contract workers at par with the lowest paid worker in comparable grade skilled, semi- or unskilled; flexibility to adjust the number of workers based on economic efficiency; freedom to hire contract workers for non core activities; etc.
- Enactment of special law for small-scale units. The threshold limit for an establishment to be regarded as small will be 19 workers.
- A policy framework for workers in the unorganised sector that ensures generation and protection of jobs, protection against exploitation of their poverty and lack of organisation, protection against arbitrary dismissals, denial of minimum wages and delay in payment of wages. The system of welfare should include access to compensation for injuries sustained while engaged in work, provident fund, medical care, pensionary benefits, maternity benefits and child care.

Social Security

- There is a need to consider social security as fundamental right. State should bear the responsibility to provide a basic level of social security, leaving room for partly or wholly contributory schemes.
- The benefit structure of the Employees State Insurance (ESI) scheme should be unpacked. Immediate steps should be taken to extend the scope of the Act for the purposes of employment injury benefit and maternity benefit throughout the country.
- A law to place all the provident funds under a common regime.
- An integrated insurance scheme providing for gratuity, unemployment benefits, lay off and retrenchment compensation may be evolved, and entrusted to the Employees Provident Fund Organisation (EPFO).

Skill Development

- Competency based continuing certification system , applicable to the labour force in both organised and unorganised sectors and establishment of competencies for various occupations for this.
- Setting up of block level vocational training institutions in order to undertake development of rural areas.
- In the industry-institute interactions in ITIs, the role of industry is merely advisory. It should be supplemented with managerial inputs.
- Setting up of a labour market intelligence system for better matching of demand and supply of marketable skills.
- Fiscal incentive to industry and other providers of training.
- Establishment of a Skill Development Fund in order to provide for retraining of workers rendered surplus/retrenchment/ VRS etc. and for training of labour in unorganised sector.

Amendments to the Industrial Disputes Act, 1947, were envisaged to ensure a higher compensation for retrenched workers as well as raising the threshold on number of employees for closure of establishments without state government permission. The Second National Commission on Labour (NCL) submitted its report in June 2002. The principal recommendations relating to labour laws, social security and skill development are given in Box 8.1.

8.43 To evolve a workable consensus, on recommendations of 2nd NCL, amongst the employers, the trade unions, and the State Governments, the Union Ministry of Labour has organised consultations in the Indian Labour Conference, and at other fora. However, such consultations have not yielded any significant results so far.

8.44 The lack of employment growth in the organised sector raises the question of whether inflexible labour laws are discouraging employers from expanding employment opportunities and also hampering the growth of the more labour-intensive sectors compared to those that use less labour. The National Common Minimum Programme (NCMP) of the United Progressive Alliance government has expressed its stand on this matter:

> "The UPA rejects the idea of automatic hire and fire. It recognises that some changes in labour laws may be required but such changes must fully protect the interests of workers and families and must take place after full consultation with trade unions. The UPA will pursue a dialogue with industry and trade unions on this issue before coming up with specific proposals. However, labour laws other than the Industrial Disputes Act that create an inspector raj will be re-examined and procedures harmonised and streamlined."

8.45 The issue of labour laws is clearly a sensitive issue and it is, indeed, necessary to address it in a spirit of accommodation and dialogue. A consensus needs to be evolved that will strike a balance between protecting the interests of labour and the need for providing operational flexibility to companies, which might contribute to a faster growth in organised sector employment. The recommendations of the Second NCL should be deliberated upon in the Indian Labour Conference and a decision taken by the government in the light of the NCMP.

Employment Information Services through the Employment Exchanges

8.46 At present, the employment exchanges function as offices of the state governments, as is prescribed under the Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959. These exchanges also collect data on the number of workers employed in the establishments in their respective areas, which is used by the government for statistics relating to employment in the organised sector. The coverage of the establishments is very poor, and the data fails to capture the changes in employment.

8.47 A role for employment exchanges can be considered for providing employment-related information services for new initiatives like the NFFWP and the proposed employee guarantee scheme, in both of which work on projects in rural areas is to be assured at the level of the household. However, their functions will have to be restructured and they will have to be relocated to the rural areas. Currently, they are located at the District Headquarters in most parts of the country. So far very few states have set up web-based information systems on employment services. E-governance initiatives should be used for generating and maintaining information for providing employment services for the rural areas.

8.48 The delivery of employment related information services by private employment exchanges should be encouraged in the urban areas. The Employment Exchanges Act should be amended to allow private employment exchanges to provide 'job placement services' to both private sector and public sector/government establishments and to collect the data on creation of employment opportunities at the level of the establishments.

THE WAY FORWARD

Creation of Employment Opportunities

- The bulk of the employment creation is bound to result from the growth of the economy and the effort to accelerate growth, especially in the labour-intensive sectors, is, therefore, crucial. In addition, the NFFWP and the National Rural Employment Guarantee Act can be expected to generate demand for labour in the rural areas.

Vocational Training

- Modify the course contents of the NCVT to include a module on shop floor training.
- The NCVT system should allow the industry associations to design courses and award certificates to successful trainees.
- Establish recognising/accrediting agencies for vocational training institutes. Such agencies should also assign a grading to the existing ITIs.
- Assistance to state governments for ITIs should be subject to the condition that they are organised as autonomous bodies.
- Develop a framework of National Qualification Pathway to interlink vocational education, vocational training and academic education in order to facilitate inter-stream movement of students and vocational trainees.

Employment Information Services

- Amend the Employment Exchanges Act to encourage a role for private employment information services in the collection and dissemination of information.
- Relocate employment exchanges to rural areas. The employment information services need to be provided in the e-governance mode to support the new initiatives at providing employment guarantee in the backward districts.

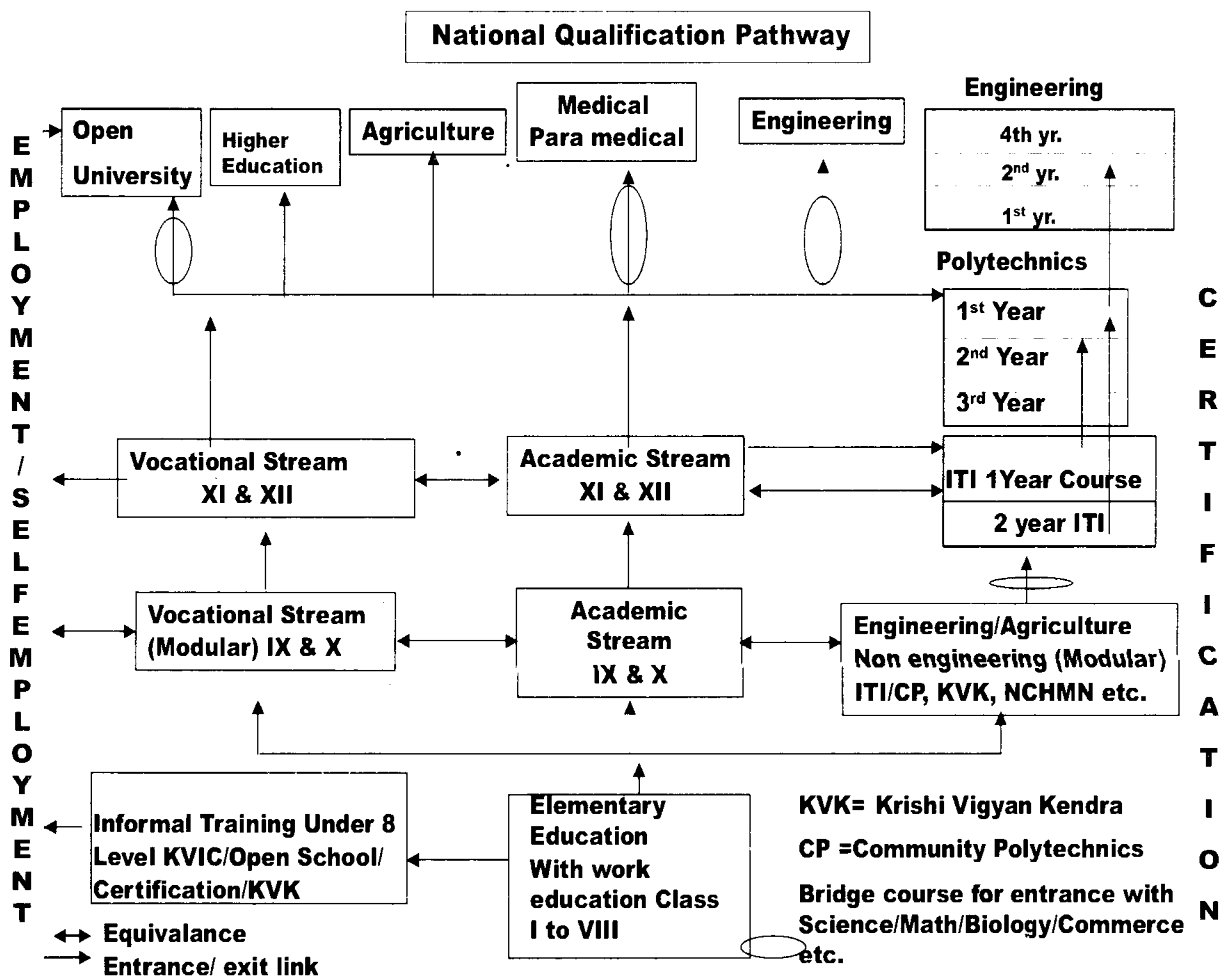
Labour Laws

- The Indian Labour Conference should deliberate upon the recommendations of the Second National Commission on Labour and a decision taken by the government in the light of the NCMP.

Social Security

- State governments should enact legislation for the welfare of unorganised workers, which should clearly identify the resources to be raised, benefits to be given as well as the institutional mechanism.
- The government should provide welfare services to the unorganised workers such as compensation for accident at work, death, and old age pension in the 'risk cover mode' as distinct from the 'direct ex-gratia payments'.

Annexure 8.1


National Qualification Pathway
EMPLOYMENT / SELF EMPLOYMENT
CERTIFICATION
Open University
Higher Education
Agriculture
Medical
Para medical
Engineering
Engineering
4th yr.
2nd yr.
1st yr.
Polytechnics
1st Year
2nd Year
3rd Year
Vocational Stream XI & XII
Academic Stream XI & XII
ITI 1Year Course
2 year ITI
Vocational Stream (Modular) IX & X
Academic Stream IX & X
Engineering/Agriculture Non engineering (Modular) ITI/CP, KVK, NCHMN etc.
Informal Training Under 8 Level KVIC/Open School/ Certification/KVK
Elementary Education With work education Class I to VIII
KVK= Krishi Vigyan Kendra
CP =Community Polytechnics
Bridge course for entrance with Science/Math/Biology/Commerce etc.
Equivalance
Entrance/ exit link

Annexure 8.2

Existing Measures for Social Security & Welfare of Workers by Insurance Industry, Central and state governments, implemented without any support from Central Plan Budget.

Central Government

1. To provide housing, medical care, educational and recreational facilities to workers employed in the beedi industries, certain non-coal mines and cine workers, five Welfare Funds have been enacted by Parliament. Under the Welfare Funds, welfare schemes like health care, education, housing, recreation, water supply are being implemented. These funds are financed out of the proceeds of cess levied under respective Cess/Fund Acts on manufactured beedis, feature films, export of mica, consumption of limestone & dolomite and consumption and export of iron ore, manganese ore & chrome ore. The annual expenditure under these funds is around Rs. 100 crore covering more than 40 lakh workers and their families.

2. As a welfare measure, a Centrally sponsored Thrift Fund scheme is in operation for the benefit of handloom workers. The member contributes 8 paise per rupee of wage earned and the Central and the State governments contribute 4 paise each to the fund. The benefits include temporary advance, partial and final withdrawals. The scheme is implemented through the Weavers' Cooperative Societies/Corporations, etc. The health package of the scheme intends to ameliorate some of the health problems related to the profession of handloom weaving providing assistance for reimbursement of cost of medicine and treatment of diseases like T.B., asthma, cost of testing of eyes and spectacles, supply of drinking water, maternity benefits and infrastructure for primary health care is in operation.

State Governments

3. Legislation for regulation of employment and condition of services for the construction workers had been enacted. However, so far, only the Governments of Kerala, Delhi, Madhya Pradesh and Pondicherry have started implementing the Act. The Government of Tamil Nadu is implementing its own Act. Most of the states are still in the process of adoption and implementation of this Act.

4. A Special Group has been constituted in the Central Government to review the monitoring and implementation of the Building and other Construction Workers Act, 1996. In order to have close monitoring and implementation of this Act, the States / UTs have been clubbed in the 5 regions, viz., Eastern, Western, Northern, Southern and North-Eastern region. The State Governments have been advised to make concerted efforts to finalise the State Rules and implement this Act on priority basis.

5. The Government of Kerala has set up about 35 Welfare Funds for different categories of occupations and sectors. These welfare funds cater to the needs of agricultural workers, auto rickshaw workers, cashew workers, coir workers, construction workers, fishermen and women, khadi workers, handloom workers, etc. The Government of Assam has set up a statutory fund under Assam Plantation Employees Welfare Fund Act, 1959 for the benefit of the plantation workers. Similar funds have also been set up in Gujarat and Maharashtra under Bombay Labour Welfare Fund Act, 1953 and in Punjab under the Labour Welfare Act, 1965. The state governments of Andhra Pradesh and Uttar Pradesh have also set up Welfare Funds for various categories of workers. All these Welfare Funds, however, cater to a very small segment of the total workers.

6. The state government of Madhya Pradesh has enacted an Act for the constitution of Welfare Board and Welfare Fund for the unorganised workers for rural and urban areas of the state. Under this Act, means for raising resources have been specified. To cater to the needs of 66 identified occupational groups, the

Government of Karnataka is in the process of setting up of a Social Security Authority and create a Welfare Board by levying a cess from transport vehicles, employer's and workers contribution, etc. The fund will be utilised to implement schemes and programmes covering pension, health, housing, insurance in case of death and disability aspects for the benefit of the workers.

7. The Government of Tamil Nadu is implementing Tamil Nadu Social Security & Welfare Scheme, 2001, which covers manual workers, auto rickshaw, taxi drivers, washermen, hair dressers, tailoring workers, handicraft workers, palm tree workers, etc. The Government of West Bengal has introduced a state-assisted scheme for provident fund for unorganised workers. The scheme covers all wage employed and self employed workers between the age of 18 to 55 years in the unorganised sector having an average family income of not more than Rs. 3,500 per month. The Department of Agriculture (Mandi Branch), Government of Punjab is implementing a scheme financed from the funds available with marketing Committees/Boards to provide financial assistance to the farmers and labourers in case of death or injury by operating the agricultural machinery/ implements and undertaking other operations both at the level of farm or mandi since 1984. However, number of beneficiaries covered under these schemes is not available.

Insurance Industry

8. LIC operates group social security schemes for specific occupations which cover about 55 lakh beneficiaries.

9. The Janashree Bima Yojana is a life cover scheme of LIC which has subsidised rate of premium.

10. GIC operates a subsidised premium health insurance scheme for the family.

Annexure 8.3

[illegible] EXPENDITURE OF THE MINISTRY OF LABOUR FOR THE YEARS (2002-05)

(Rs. in Lakh, at 2001-02 prices)

Divisions/ Schemes	Tenth Plan 2002-07 Outlay	Annual Plan 2002-03 Actual Exp.	Annual Plan 2003-04 Actual Exp.	Annual Plan 2004-05 Anticipated Expenditure
1	2	3	4	5
(A) Central Sector (Ministry Of Labour)				
I. DGE&T				
I(a). Employment	3666.00	214.86	99.19	549.71
I(b). Training	36334.00	3004.38	2929.74	3249.81
II. Industrial Relations	3720.00	493.30	285.03	577.59
III. Workers Education (CBWE)	3500.00	582.45	733.78	793.65
IV. Child Labour	66750.00	6281.36	6294.27	8734.57
V. Women Labour	250.00	19.22	13.36	22.93
VI. Labour Bureau	11200.00	570.61	539.29	578.40
VII. Mines Safety (DGMS)	5500.00	175.28	236.66	432.10
VIII. Industrial Safety (DGFASLI)	5240.00	56.94	34.53	474.43
IX. Labour Research (NLI)	1200.00	255.54	210.32	251.32
X. Information Technology	800.00	112.63	74.68	89.95
XI. Krishi Shramik Samajik Suraksha Yojana	300.00	0.00	0.00	0.00
XII. New Initiative on Social Security of Workers	5240.00	0.00	0.00	0.00
XIII. Awareness Generation on Lab. Welfare and Development	1000.00	0.00	0.00	0.00
XIV. Rehabilitation of bonded labour	4400.00	332.51	252.30	88.18
XV. Housing Scheme for Hamals	0.00	0.00	0.00	0.00
XVI. Grants in-aid to NGOs/ VOs	300.00	10.20	9.62	15.87
XVII. Training to the personnel of Ministry	200.00	0.00	0.00	4.41
XVIII. Modernisation of sections	400.00	0.00	0.00	0.00
XIX. Exp. In North East (other than DGE&T)	*0.00	77.65	0.00	0.00
TOTAL (A)	150000.00	12186.93	11712.77	15862.91
(B) States and UTs Sector	225656.76	36691.10	68123.01	40171.04
Total (A+B)	375656.76	48878.03	79835.78	56033.95

* [illegible] respective Divisions

Transport and Communications

Transport and Communications are vital elements of infrastructure and key elements not only for global competitiveness, but also for creating an integrated national market. High transactions costs arising from an inefficient transport sector and poor communications can prevent the economy from realizing its full growth potential regardless of progress on other fronts. Telecommunications and Information & Communication Technology are also vital for connectivity. The Tenth Plan had emphasized the importance of all these sectors. The strategy for developing each of these sectors will necessarily have to be differentiated on the basis of sector specific circumstances. In general in view of fiscal constraints the strategy for each sector was expected to leverage private participation as much as possible.

TRANSPORT

9.1.1 Improvement in the quality of transport infrastructure is an essential pre-requisite for high economic growth. The Tenth Five-Year Plan, therefore, seeks to ensure the growth of the transport sector in a manner that all regions of the country can participate in the process of economic development, paying special attention to integrating remote regions into the economic mainstream. Other focus areas are: augmenting the capacity, quality and productivity of the transport infrastructure and services through technology upgradation and modernisation; overcoming the problem of resource constraints through higher generation of internal resources and increased participation by the private sector; improving overall economic efficiency by bringing in competition into the sector; higher emphasis on safety, energy efficiency, environmental conservation and social impact; and developing an optimal inter-modal mix, where each mode of transport not only leverages its comparative advantage and operates efficiently but also complements the services provided by the other modes.

9.1.2 The transport sector presents a mixed bag of achievements in the first three years of the Tenth Plan. The growth of rail and port traffic in the first three years, for example, indicate that the Plan targets are likely to be achieved or even exceeded in some cases. The Railways has recorded some improvement in financial performance, but the generation of internal and extra budgetary resources (IEBR) is not in line with the Plan targets. In the case of the roads sector, the four-laning and six-laning of the Golden Quadrilateral (GQ) has been behind schedule, but work relating to strengthening of weak pavements and improving the riding quality of roads has been ahead of target.

9.1.3 Annexure 9.1.1 provides details of the Tenth Plan outlay and expenditure on various sub-sectors in the first three years of the Plan period and the budget estimates in the Union Budget for 2005-06.

RAILWAYS

9.1.4 The Tenth Plan identified certain thrust areas in the railways sector. These are: capacity expansion through modernisation and technological upgradation, improvement in the quality of service, rationalisation of tariff in order to improve the share of rail freight in the total traffic and to improve the safety and reliability of rail services. While the Railways have been able to achieve the targets for freight movement in the first three years, there are questions about the pace at which the modernisation programme is proceeding and the progress regarding tariff rationalisation has also been very limited. A comparison with Chinese Railways indicate some interesting differences (Box 9.1.1)

Progress in the Tenth Plan

Physical Targets

9.1.5 The Tenth Plan had targeted a relative low growth rate of 5 per cent in freight. The average annual growth rate of freight (originating tonnage) in the first three years of the Tenth Plan is likely to be 6.8 per cent. This is commendable and it is necessary to continue to maintain this growth rate in future and ideally also step it up in view of the need for increasing the share of Railways in freight traffic and ensuring a cost-efficient mode of transport, which will benefit the economy in the long run. This will require augmenting capacity, particularly on the main routes which are currently over-stretched. The rate of growth of passenger traffic (in terms of number of passengers) is only around 2.02 per cent, against 4.93 per cent in case of passenger kms, indicating an increase in the average lead of passenger traffic, is a welcome development on the whole. It is expected that the Railways will be able to achieve its targets for passenger traffic of Tenth Plan.

9.1.6 The physical targets for various capacity indicators during the Tenth Plan and achievements in the first two years and projections for the third year are detailed in Annexure 9.1.2. The Railways is behind schedule in achieving targets, set for the first three years of the Plan, in respect of new lines, doubling and acquisition of Electrical Multiple Unit (EMU) coaches. Problems relating to land acquisition, environmental/ forest clearances, among several others, are the major reasons for the slow progress in case of new lines and doubling. The shortfalls in wagon procurement are mainly the result of lower production by the wagon Industry.

Financial Performance

9 .1.7 The approved outlay for the Railways in the Tenth Plan is Rs.60,600 crore. Of this,

Box 9.1.1

Comparative assessment of Indian Railways and Chinese Railways

- In the early 1990s, the Indian Railways was bigger in terms of total route km, as well as route km/sq.km.
- In the period 1992 - 2002, the Chinese Railways extended its route km by 13,797 km (24 per cent), double track by 9,400 km and electrified track by 8,975 km.
- During the same period, the Indian Railways network grew by only 682 route km. (1 per cent), double track by 1519 km and electrified track by 5,192 km.
- Investment outlays for the Indian Railways over the 1992-2002 decade totalled $17.3 billion, in contrast to $85 billion in the case of the Chinese Railways.
- While the two networks are roughly comparable in size, the Chinese Railways' output in traffic units (TU = pkm+tkm) is 2.5 times that of Indian Railways.
- Between 1992 and 2002, the two railways carried almost exactly the same volume of passenger-km, but the Chinese Railways carried four and half times the freight tkm carried by Indian Railways.
- Average employee output on Chinese Railways is 2.1 times that of Indian Railways. Staff costs (excluding pensions) for Indian Railways is about 40 per cent while it is just 25 per cent of ordinary working expenses in the case of Chinese Railways.
- The average passenger tariff in India is 55 per cent lower than in China.
- The average freight tariff in India is almost 66 per cent higher than in China.

gross budgetary support (GBS) accounts for Rs.27,600 crore (46 per cent) and IEBR for Rs.33,000 crore (54 per cent). There has been a trend of increasing reliance on GBS and a declining contribution of IEBR since the Ninth Plan and this appears to have continued in the Tenth Plan. The Railways was provided with about 70 per cent of total Tenth Plan GBS in the first three years of the Plan period, the contribution of IEBR was only 55 per cent of total Tenth Plan IEBR.

9.1.8 The requirement of funds during the remaining two years of the Tenth Plan has been estimated at Rs.39,765 crore. Since the current level of GBS of about Rs.7,231 crore can be raised only marginally because of fiscal constraints, mobilisation of additional resources through various other measures is unavoidable.

National Rail Vikas Yojana

9.1.9 The Government announced the National Rail Vikas Yojana (NRVY) in August, 2002 in order to remove capacity bottlenecks in the critical sections of the Indian Railway Network. It comprises of three components:

- Strengthening of the Golden Quadrilateral (GQ) and its diagonals.
- Strengthening of rail connectivity to ports and development of multi - modal corridors to the hinterland.
- Construction of four mega bridges - Bogibeel Rail-cum-Road bridge across river Brahmaputra , Munger Rail cum Road bridge across river Ganga, Patna Ganga bridge and a bridge over river Kosi.

9.1.10 The NRVY projects, except for the mega bridges, are targeted to be completed in five years (2002-07). The Rail Vikas Nigam Limited (RVNL) was set up as a special purpose vehicle (SPV) to execute the first two components of NRVY. The RVNL is to undertake project development and mobilisation of resources along with execution of projects on a commercial format, using largely non-budgetary funds. The Ministry of Railways has assigned 53 capacity enhancement projects to RVNL. Of these, 32 projects lie on the GQ and 21 projects relate to connecting ports and strengthening hinterland connectivity. The RVNL projects involve doubling of 1911 km, gauge conversion of 1640 km, new lines of 522 km, railway electrification of 1916 km. and strengthening of about 10,000 km. of GQ and its diagonals for running of freight trains at 100 km. per hour (kmph) . The total route kms. under various types of developmental works is about 16,019 kms.

9.1.11 The Union government has envisaged a budgetary support of Rs.3,000 crore for RVNL, including Rs.1,500 crore as external aid from the Asian Development Bank (ADB), which shall be available to RVNL as Government of India's equity. The rest of the funding requirements will have to be arranged by RVNL by devising various financing models.

9.1.12 The initiative of implementing financially viable projects through RVNL needs to be reinforced. Three such SPVs have already been formed and more are being developed specially in the port connectivity projects. RVNL also intends to execute identified projects through BOT and market borrowings. Project-specific SPVs may raise resources from the market or from external resources against identified incremental revenues from the project. Some of the SPVs could be in the form of joint ventures with stake holders. Others could be based on BOT/Build-Operate-Lease-Transfer (BOLT) mode.

Public-Private Partnership in Running of Trains

9.1.13 Indian Railways have already set up Indian Railways Catering and Tourism Corporation for taking all steps to boost up rail based tourism, including running of tourist trains. In fact 'Village on wheels' and 'Hill trains are being run. In addition, Railways are tying up with different state governments for running tourist trains on the pattern of 'Palace on wheels' and 'Deccan Odyssy'. Railway may explore the possibility of Public Private Partnerships in running tourist trains. The operational part relating to traffic management and use of railway tracks may continue to vest in the Railways.

9.1.14 Railways have taken steps recently for private participation in goods traffic, such as allowing competition in movement of container traffic and wagon investment schemes. However, Railways may explore the possibility of public-private partnership in running goods trains between specified destinations as suggested for tourist trains. This would help in adding modern rolling stock that would add to the traffic and revenues of the Railways.

Major Policy Issues

9.1.15 **Increased share in freight traffic:** Railways have taken a number of steps during Tenth Plan period to improve Railway's share in freight Traffic. These include rationalisation of freight tariff structure, user benefit measures such as trainload benefit for all block rakes and commodities, flexible rating policy for specific pairs of stations, incentive to premier customers generating high freight earnings for traffic originating from sidings, computerisation of freight movements, provision of in-house facilities etc. Other measures taken by the Railways include provision of linkages to ports, introduction of more high speed wagons and refrigerated parcel vans. The Railway Budget for 2005-06 has also announced a number of initiatives aimed at increasing the freight traffic.

9.1.16 While the above measures have resulted in higher freight loadings, there is still considerable scope for regaining the traffic lost by the Railways. Therefore, the Railways need to continue their efforts to win back more bulk traffic from the road sector. Apart from this Railways would need to attract non-bulk high rated traffic also. There is a need for dedicated freight corridors on selected high-density corridors. This would help in meeting long term requirements of movement of freight traffic more efficiently. An accelerated programme of containerization could also contribute towards increasing the share of Railways in non - bulk traffic.

9.1.17 **Investment Strategy:** Despite the Railways having a large portfolio of ongoing projects most of which have been sanctioned on socio-economic considerations, the aspirations of the people for rail connectivity do not recede. The Investment strategy of Indian Railways needs a reorientation in the wake of surging growth of the economy. In the current year Railways have embarked upon a corridor-wise approach for augmentation of the capacity in their investment planning for 2005-06. This needs to be carried forward with vigour and timely completion of the works monitored. Railways have put in position a prioritisation exercise of the ongoing projects with Cabinet approval, as per the following priority :

(i) Ongoing new lines and gauge conversion projects where progress is more than 60 per cent and throw forwards is less than Rs. 100 crore.

(ii) Viable/ operationally required projects

(iii) National projects, projects in the Northeast, defence funded projects, and those with public-private partnership; and

(iv) Other ongoing projects of new lines and gauge conversion not covered in above categories (i, ii & iii)

The Railways, however, need to observe caution, while sanctioning new projects, keeping in view financial viability and operational essentiality in order to avoid further stress on scarce resources.

9.1.18 **Rebalancing of tariffs:** There is an urgent need to rebalance tariffs. Passenger traffic contributes 58 per cent of total traffic, but accounts for only 33 per cent of total revenue. On the other hand, freight traffic accounts for 42 per cent of total traffic but contributes as much as 67 per cent to the total revenue. The present fare-freight ratio needs to be reworked through rebalancing tariffs. The system of automatically indexing railways tariffs to increases in fuel cost and the wage cost adjusted for an actual productivity increases on both counts needs to be adopted in order to do this.

9.1.19 **Technological upgradation and modernisation:** Technological upgradation and modernisation is one of the thrust areas in the Tenth Plan. Upgrading technology becomes more important given the magnitude of the task and also to improve reliability, reduce maintenance cost and increased customer satisfaction. Although modernisation is required in all areas of railway operations, technological improvement of tracks and acquisition of rolling stock for heavy haul and high speed operations supported by modern signalling and improved maintenance system may command higher priority. Railways have already introduced State of Art diesel and electric locomotives, coaches as well as high speed wagons in recent past. The modernisation programme for 2005-10 formulated by the Railways provides investment towards technological upgradation as well as investment plans for capacity enhancement as well increase in speed of trains on corridor based approach. Such an approach needs to be adopted in modernisation process with a clear indication of individual component and how they are expected to improve average speed and throughput.

9.1.20 **Safety:** Recognising the significance of improving railway safety, a Special Railway Safety Fund (SRSF) was set up in 2001 which envisages an investment of Rs.17,000 crore. The objective of the Fund is to help in clearing the arrears of track renewal and replacement of over-aged railway assets between 2001 to 2007. The work to be covered includes renewal and replacement of over-aged tracks, bridges, rolling stock and signalling gear, including communication and safety enhancement works. Out of a total target of 16,538 km. of track renewal work up to 31st March, 2007, 12,138 km. of tracks are likely to be renewed up to 31st March 2005. The work of replacing over-aged signalling systems is in progress at 881 stations. Track circuiting works have been completed in about 2585 locations and the work of rehabilitation/rebuilding has been completed in respect of 1,717 bridges out of a total of 2,700 bridges to be rehabilitated. The achievements of Railways with respect to various works under SRSF have been satisfactory so far and it is expected that the financial and physical targets will be achieved.

9.1.21 A Corporate Safety Plan for ten years i.e. from 2003 to 2013 has been drawn up and is being implemented by Ministry of Railways. The main objectives of the Corporate Safety Plan are to achieve reduction in rate of accidents per million train kilometers, implement measures to reduce chances of passenger fatality substantially in consequential train accidents, focus on development of manpower through major improvements in working environment, training to reduce the accidents attributable to human failure, achieve safety culture on all fronts including maintenance depots, worksites, stations, controls etc.

9.1.22 **Container Movement :** Container traffic in India has grown at over 15 per cent per year in the 1990s and is likely to grow at a much higher rate in the coming years in view of the projected growth rate of the economy and trends in foreign trade. Despite the higher growth in container traffic, the share of total container traffic in traffic that can be containerised continues to be low in India as compared to international trends. One of the reasons for this is the problem of evacuation of containers from Indian ports, currently an activity that is the monopoly of the Container Corporation of India (CONCOR). Therefore, along with increasing the capacity of CONCOR, it is also necessary to allow competition in the movement of container traffic. The Railway Minister has indicated in the Rail Budget for 2005-06 that this will be considered. This is a welcome move and steps should be taken to implement the new approach. Allowing a competing alternative will both augment total capacity and increase efficiency. There is also a case for dedicated freight corridors for container movement, particularly for the movement of bulk commodities. Minister of Railways have recently announced the Railways intention of connecting the four metro cities viz. Delhi, Mumbai, Chennai and Kolkata with dedicated freight corridors which will include running of both freight and double stack container trains with 25 to 30 tonnes axle loads.

9.1.23 **Organisational restructuring:** The present structure of Indian Railways has evolved on the basis of the Acworth Committee's recommendations, calling for consolidation and nationalisation in 1924. The Indian Railways formulates policy and provides services and also acts as a regulator. These three functions need to be separated. The objective of putting a regulatory mechanism in place is to rationalise the fares and freight rates structure. Heavy cross subsidisation introduces distortions in the inter-modal mix of transport as a whole as well as in the operation of Railways. Railways would, prepare a paper in consultation with Planning Commission on tariff setting mechanism including the need for a Rail Tariff Authority.

9.1.24 The Tenth Plan emphasised that the non-core sector and peripheral activities such as manufacturing may be spun off to individual corporations, which should operate like other public sector units using commercial accounting principles with internationally accepted accounting practices. The Railways have already initiated preliminary steps towards accounting reforms, outsourcing of non-core activities, concessioning of branch lines, making production units into cost and profit centres etc. This process needs to be accelerated.

9.1.25 **Resource generation through non-conventional sources:** The Railways have set up PSUs like Railtel, IRCTC which undertake marketing of non-core activities to generate additional revenues. These efforts need to be supplemented by the commercial exploitation of large tracks of land and other assets owned by Railways especially in the cities. With the setting up of the proposed Rail Land Development Authority (RLDA), it is expected that the Railways will be able to develop surplus land adjoining railway stations, develop metro stations into world class model stations and extend passenger amenities through construction of food plazas, shopping malls etc. on vacant land. This Authority may also develop goods sheds for constructing warehouses and other logistic parks.

ROADS

9.1.26 The Tenth Plan envisages balanced development of the total road network in the country. This includes phased removal of deficiencies in the existing network, widening, improvement, strengthening, rehabilitation and reconstruction of weak/dilapidated bridges, adequate maintenance of roads, road safety measures and providing wayside amenities to cater to the growing demands for road services. Apart from this, the Plan also lays emphasis on improving the riding quality of existing National Highways. Yet another priority objective is improvement in rural connectivity with all-weather roads and development of roads in the North-Eastern region. Inter-modal issues like road connectivity with airports, railways, ports etc. is another issue that it has highlighted.

9.1.27 The Tenth Plan has stressed the need for improving mobility and accessibility. While the National Highway Development Programme (NHDP) is expected to improve mobility, the Pradhan Mantri Gram Sadak Yojana (PMGSY) is aimed at providing accessibility, especially to villages.

Progress in the Tenth Plan

Physical Performance (other than NHDP)

9.1.28 Annexure 9.1.3 is a statement showing the physical targets/achievements for the Tenth Plan and Annual Plans. The statement shows that achievement in the case of widening to four-lane/two-lane and construction of bypasses during the first two years of the Plan has been below target. Achievements relating to strengthening of weak pavements and improvement of riding quality have surpassed targets.

Financial Performance

9.1.29 **Central sector**: An outlay of Rs.59,490 crore (GBS Rs.34790 crore) has been provided for the development of roads in the Tenth Plan. The bulk of this outlay is meant for the development of National Highways and related programmes. An expenditure of Rs.20505 crore is likely to be incurred in the first three years of the Plan period. At constant prices, the expenditure works out to 34.5 per cent . Details of the outlay/ expenditure (GBS at current

Box 9.1.2
Prime Minister's Committee on Infrastructure: National Highways

For a country of India's size and magnitude, an efficient road network is necessary both for national integration as well as socio- economic development. The National Highways (NH), with a total length of 65,569 km, serves as the arterial network connecting metropolitan centres and major cities. The development of NH has, therefore, been accorded high priority in the planning process and an ambitious road building plan has been drawn up. Resources, however, remain the main constraint and this necessitates prioritisation of projects and participation of the private sector through public-private partnership (PPP).

The National Highway Development Programme (NHDP) has been taken up with the objective of improving the NH network in a phased manner. The 5846 km Golden Quadrilateral (GQ) connecting Delhi, Mumbai, Chennai and Kolkata was the first project to be taken up and is expected to be completed by December 2006. The 7300 km North-South East-West (NSEW) Corridor is next on the schedule and is to be completed by December 2007.

Keeping in view the need for nationwide connectivity and mobility, the Committee on Infrastructure chaired by the Prime Minister proposed an expanded programme for highway development on the 13 January 2005. The proposed programme for the next seven years (2005-12) includes completion of:

- GQ and NSEW corridors
- Four-laning of 10,000 km under NHDP Phase III
- Two-laning of 20,000 km of national highways under NHDP IV
- Augmenting highways in the North East
- Six-laning of selected stretches, and
- Development of 1,000 km of expressways.

Targets are to be achieved through restructuring and strengthening of National Highway Authority of India (NHAI), the main implementing agency for the expanded programme; developing Modal Concession Agreements for BOT projects and for operation, maintenance and tolling of completed NHDP stretches; addressing bottlenecks in ongoing projects arising from State level constraints, delays in environmental clearance, problems in land acquisition; focus on traffic management and safety related issues etc.

The four-laning of 10,000 km of National Highways by March 2010 under NHDP III would be done entirely through the BOT route. A Special Accelerated Road Development Programme for the North Eastern Region (also called NHDP-NE) is envisaged for improving connectivity in the north-eastern sta tes. This would include a road length of 7639 km comprising 3251 km of NH and 4388 km of other roads. The network is expected to act as catalyst for the development of the region.

prices) for the Tenth Plan and Annual Plans 2002-03, 2003-04 and 2004-05 are given in Annexure 9.1.4

9.1.30 **State sector:** Against the Tenth Plan outlay of Rs.50,320.82 crore under the State sector, an expenditure of Rs.27,316.11 crore is likely to be incurred up to the end of 2004-05. This works out to 54.28 per cent of the Tenth Plan outlay. During the first three years of the Tenth Plan, expenditure has been lower than the outlay provided.

National Highway Development Project

9.1.31 **Golden Quadrilateral - (NHDP Phase I)**: The target for completing the GQ was originally set for December 2003 but was later revised to December 2004. All works on the GQ have now been awarded but the project is behind schedule. Out of the total length of 5,846 km of GQ, only 4,611 km (78.9 per cent of the total length) had been completed by February, 2005. While 92 per cent of the GQ will be completed by December 2005, full completion is likely only by December 2006 because of some problem projects.

9.1.32 The shortfall in the achievement of original targets are due to:

- Delay in land acquisition.
- Delay in obtaining environment and forest clearances.
- Delay in obtaining clearances from Railways regarding design of road over bridges/road under bridges.
- Law and order problems in certain States.
- Poor performance of some contractors.

9.1.33 **North South and East West Corridors- (NHDP Phase II):** Till 28th February, 2005, only 9.5 per cent of the NS-EW corridor project had been completed. Implementation of the project has been taken up under two phases. The status of the project as on 28th February, 2005 is as follows:

- 692 km. has been completed (NS 544 km. + EW 148 km.)
- 886 km. is under implementation (NS 240 km. + EW 646 km.)
- By September, 2005, most of the contracts are expected to be awarded.

9.1.34 The project is targeted to be completed by December 2007.

Road Transport

9.1.35 Road transport programmes are implemented both under Central and State sectors. In the Central sector, major schemes relate to road safety programmes, training of drivers and instructors, introduction of new technology and pollution control. Against the Tenth Plan outlay of Rs.210 crore for the Central sector, an expenditure of Rs.100.65 crore is likely to be incurred during the first three years of the Plan, which amounts to 47.9 per cent of outlay at constant prices. In the State sector, the expenditure during the corresponding period is 49.9 per cent at constant prices.

Port Connectivity

9.1.36 The port connectivity project envisages four laning of 356 km of National Highways connecting ten major ports. The works on connecting Kandla Port and Mormugao Port have already been completed. Works are in progress for connecting five major ports while contracts have been finalised for the remaining three ports and these are targeted to be completed by December 2007. All the port connectivity projects are being funded through the SPV route and are on BOT basis.

New Initiatives

9.1.37 **NHDP Phase-III:** This programme, being implemented by the National Highways Authority of India (NHAI) envisages four-laning of about 10,000 km of existing National Highways (other than NHDP) Phase-I&II i.e. GQ and the NS-EW Corridor sections) and is proposed to be undertaken on BOT basis. NHDP phase-III will provide connectivity to important places not covered under NHDP Phase-I&II. This includes connectivity of number of State Capitals with NHDP Phase-I&II, high-density corridors, places of tourist and economic importance, etc. The Government has approved implementation of 4/6 laning of 4000 km of National Highways on BOT basis as a first phase and preparation of the Detailed Project Report (DPRs) of the balance 6000 km as a second phase. The first phase of NHDP-III is proposed to be completed by December 2009. BOT bids for 6 projects covering 507 km have been awarded. BOT bids for another 10 projects covering 554 kms length have been invited.

9.1.38 **(NHDP Phase - IV)** Upgradation of 41,000 km of existing National Highways: Against the 65,569 km length of National Highways, 24,000 km. have been scheduled for four-laning under NHDP (Phases I and II) and the proposed NHDP (Phase III). The balance

Box 9.1.3
Financing the national highway network

Funds have been the main constraint in implementing the Extended Highway Development Programme that envisages four/six-laning of the National Highway network. To overcome this hurdle, work on National Highways is being prioritised and private investment encouraged through public-private partnerships.

Cess on petrol and diesel has been the most important means of generating public resources for highway development. The cess could be leveraged several times to increase the availability of resources in the near future. For example, cess receipts can be used to service debt liabilities incurred when borrowing from the market.

Tolls are another method of raising finances, with road maintenance work making the first claim on toll money. The surplus money however could be used for upgrading network. The funds could also be leveraged through borrowing against future receivables.

The main instruments of PPP are BOT based on toll earnings plus a competitively bid capital subsidy if needed and BOT based on a competitively bid annuity payment. In case of annuity based projects, the concessionaire builds the road and maintains it during the concession period. The government pays for the project through an annuity stream. Tolling is not an integral part of BOT (annuity) projects and it is, therefore, essentially a road construction and maintenance arrangement that involves deferred payment by the government.

The stake of private sector is greater in pure BOT schemes. The concessionaire builds the road and maintains it during the concession period and also charges toll to recover the costs of construction and maintenance. Therefore, such projects involve private sector taking a market risk, unlike BOT (annuity) projects. Since there is uncertainty about future traffic flows and, consequently toll receipts, and in every case toll earnings may not cover capital costs fully, the government allows viability gap funding up to 40 per cent of the project cost based on a competitive bid for the lowest subsidy.

There are other ways to ensure minimum traffic receipts and encourage private initiative. This involves Government reimbursing the concessionaire to the extent of the traffic falling below a stipulated minimum. Similarly, if the traffic is above a maximum level, the concessionaire would pay the Government. This financial engineering arrangement, called "collar", could have various alternatives. One advantage of the instrument is that the concessionaire is assured a minimum traffic flow, which enables it to plan investment. Borrowing from banks is also easier against a predictable revenue stream.

41,000 km is proposed to be developed in two phases.

9.1.39 **Special Accelerated Road Development Programme for the North Eastern Region**: A total of 7639 km of road length, including National Highways, has been proposed for development under the 'Special Accelerated Development Road Programme for North Eastern Region'. The programme involves: widening of 3251 km of National Highways connecting state capitals of the North-East and improvement of 4388 km of state roads.

Pradhan Mantri Gram Sadak Yojana

9.1.40 PMGSY aims at providing all-weather connectivity to all 500+ unconnected habitations. For Hill and North Eastern States, Desert and Tribal Areas, the population criteria is 250+. Annexure 9.1.5 shows that 41,765 habitations with population of 1,000 and above are yet to be connected. The main problem is

Box 9.1.4
Improving Mobility of National Highways

The four/six-laning of National Highways would considerably improve mobility and, consequently, boost trade and development by connecting remote areas to major commercial centres. However, a major constraint to this is the absence of appropriate access facilities to the highways, which often nullifies the gains of having a high mobility network.

To overcome the bottlenecks, the Expanded Road Development Programme envisages providing ring roads, bypasses, grade separators and service roads to facilitate congestion-free travel. The proposals include providing access-controlled ring roads to all state capitals and major cities; constructing service roads along the National Highways to cater to slow-moving traffic and enhance road safety; constructing bypasses on National Highways to avoid congestion of cities/towns and building grade separators to allow uninterrupted traffic flows.

in the states of West Bengal, Uttar Pradesh, Orissa, Bihar, Madhya Pradesh, Jharkhand, Assam and Chhattisgarh. The connectivity of habitations with population of 500 and above is also not satisfactory.

9.1.41 The projected requirement of the PMGSY has been now estimated at Rs.1,33,000 crore. Annual inflows from the diesel cess are likely to be of the order of Rs.3,800 crore.

9.1.42 Unlike the NHDP, the PMGSY, despite being in its fourth year of operation, has not taken off as per expectations. The mismatch between the target date of completion and the availability of funds remains unsolved, which is undermining the viability of the scheme.

9.1.43 For successful implementation of PMGSY, it is necessary to address the issues relating to capacity development at the state level, maintenance funding, management and integration of rural roads with higher category, particularly major district roads. There is also need to develop an appropriate role for district panchayats in the management of rural roads.

9.1.44 In order to generate additional resources for the programme, negotiations with multilateral agencies like the World Bank and ADB would be held. Despite the availability of proposed external assistance from these agencies, there would still be a gap between available resources and the requirement. A viable alternative that could address these problems would be to create a SPV specifically for the PMGSY.

Policy Issues

9.1.45 There is need for improved highway connectivity to industrial and economic growth centres, ports, airports and places of tourist importance and heritage sites. While the NHDP is the over-riding priority, non-NHDP National Highway projects need to be prioritised so that resources are not spread thinly among competing projects, which leads to delay in project completion.

9.1.46 The substantial addition made to the National Highways network during the Ninth Plan and in the Tenth Plan increased the gap between availability of resources and requirements and thus contributed to the poor maintenance and riding quality of the non-NHDP National Highway network.

9.1.47 Working out PPP arrangements to the maximum extent possible is inevitable for augmenting resources and for improving efficiency in implementation of projects. In the past, uncertainty about revenue from tolls has discouraged investors from coming forward with BOT proposals. Undue emphasis was also placed on BOT (annuity), which is distinct from BOT projects. In BOT (annuity), the expenditure incurred by the concessionaire during construction and maintenance phase are repaid through annuity instalments. The modal, therefore, is not BOT in real sense of the term. Other constraints were: inadequate/ unreliable availability of information; high price elasticity of demand; and absence of a satisfactory dispute resolution mechanism. A number of steps need to be taken to make the environment conducive to PPP. These include proper project planning, formulation, prioritisation by the government/road development agencies, identifying and removing deficiencies in fiscal incentives, improvement in the availability of information, establishment of a highway regulatory authority, designing a satisfactory dispute resolution mechanism, and affordable toll rates. The sharing of downside risk by the government would also encourage private sector participation. The Model Concession Agreement approved earlier has to be revised in light of experience so far.

9.1.48 A number of National Highway stretches are now being tolled. Past experience suggests that the development and maintenance of toll roads through BOT are carried out more efficiently and effectively. The involvement of the private sector in the operation, maintenance and tolling of the completed high density stretches may lead to substantial efficiency gains. So far, about 1730 km. out of 4611 kms. of completed NHDP stretches are being tolled and by September 2006, most of the completed stretches of GQ is expected to be tolled.

9.1.49 Four-laning of National Highways may not be the ultimate answer on high traffic density stretches in the long run. There is, therefore, need to take up six lanes and expressways projects, where necessary. These projects would have to be implemented on the basis of PPP.

9.1.50 The NHDP has experienced problems relating to land acquisition and environmental clearance. Formats prescribed for land acquisition need to be standardised and procedures streamlined. A suitable mechanism needs to be evolved for speedy environment clearance.

9.1.51 Indian highways are highly accident-prone and the accident rate may well go up, with the augmentation of capacity and consequent increase in speed of vehicles. Overloading is another serious problem, which is not only hazardous but also damages roads. It may, therefore, be desirable to set up a dedicated organisation for road safety and traffic management.

9.1.52 Another obstacle to the free flow of traffic is inadequate provision of under-passes and over-passes and, in some cases, service-lanes. The provision of these facilities needs to be given priority in future development of high-density corridors.

9.1.53 Adequate provision for wayside amenities would have to be made in all future development of National Highways.

PORTS

9.1.54 In the ports sector, the main thrust in the Tenth Plan is on the creation of general and bulk cargo handling facilities with focus on container traffic. Efficiency and productivity are to be improved through corporatisation, private sector participation and rationalisation of manning scales.

Progress in the Tenth Plan

Financial Performance

9.1.55 In the first three years of the Tenth Plan, a total Rs.1,936 crore is likely to be spent, which is 35.7 per cent of the approved Tenth Plan outlays. There are various reasons for this: the review and consequent pruning of outlays in view of the decision to hand over some projects to the private sector; reduction in outlays for on-going schemes as well as new schemes based on more realistic estimates; delay in sanctioning of projects and award of contracts and deferment of schemes. Details of port-wise outlay and expenditure are given in Annexure 9.1.6.

Physical Performance

9.1.56 The Tenth Plan has projected a traffic of 415 million tonnes in the 12 major ports by the terminal year of the Plan. The first two years of the Plan witnessed impressive traffic growth of 7 per cent at the major ports. There will be no problem in achieving the Tenth Plan targets if the existing rate of growth continues. Details of traffic handled at major ports, commodity-wise and port-wise, are given in Annexure 9.1.7 and 9.1.8.

9.1.57 The aggregate capacity of the ports sector, as on 31st March, 2004 was 390.00 million tonne per annum (MTPA), an impressive addition of 46.05 MTPA in the first two years of the Plan. Going by present indications, the capacity at the end of the Tenth Plan is expected to exceed the projected target of 470.60 MTPA.

Productivity at major ports

9.1.58 Average pre-berthing waiting time decreased from 11.5 hours in 2001-02 to 5.1 hours in 2003-04 and average turnaround time decreased from 4.2 days to 3.6 days during the same period. The improvement has been across the spectrum of port operations in handling various commodities. Privately operated container terminals have substantially contributed to this improvement. This can be seen from the example of the Jawaharlal Nehru Port. While the turnaround time achieved by the port authorities at the Jawaharlal Nehru Port Trust (JNPT) terminal is 1.16 days, it is 0.79 days in case of a container terminal operated by a private operator.

Private sector participation

9.1.59 The Tenth Plan envisages the private sector/captive users playing a crucial role in augmenting capacity at various ports. Against the projected private sector investment of Rs.11,257 crore during the Tenth Plan, projects involving investment of Rs.3,118 crore have been approved. Project-wise details are given in Annexure 9.1.9.

9.1.60 The progress in private sector participation in ports projects has been rather slow and a number of steps need to be taken to promote such involvement. As a first step, it is necessary to review the existing guidelines and instructions with a view to removing any restrictive clauses. Certain port projects involve heavy capital investment and long gestation period. In such cases, it may be necessary to make the concession period flexible. The government should not see the concessions as an opportunity for maximising revenue. They should be formulated in such a way that they result in lower port charges. The main objective should be to promote both inter-port and intra-port competition. Intra-port competition should be encouraged by multiple concessions at single port and inter-port competition can be promoted by improving surface transport linkages. The modalities for private sector participation should be laid down in a clear and comprehensive manner.

Perspective Plan for Development of Major Ports

9.1.61 Keeping in view the need for meeting the requirement of traffic efficiently and at minimum cost to the users, there is a need to formulate a Perspective Plan for long-term development of each major port. The augmentation of berth capacity may be

Box 9.1.5
Private sector participation in ports

A container terminal, the International Container Transhipment Terminal (ICTT), is being set up at Vellarpadam near Kochi Port, which is to be developed on BOT basis. The government would only provide common-user facilities like rail-road connectivity, adequate depth for navigation etc. The terminal would facilitate shipment of container cargo directly to the destination and is expected to give further boost to international trade.

The Nhava Sheva International Container Terminal (NSICT), a privately owned berth at the Jawaharlal Nehru Port Trust (JNPT), has been doing exceedingly well in terms of turn over and productivity.

preferably through private investment or public-private partnership.

Important Projects

9.1.62 To augment physical infrastructure, some port projects like the Sethusamudram Ship Canal Project and International Container Transhipment Terminal, Vellarpadam, Kochi will be taken up on priority basis.

Policy Issues

9.1.63 **Hub ports:** A hub port needs to be close to the main shipping lines and adequately serviced by feeder ports. These ports need to have deep drafted berths to attract large sized main line vessels, container handling facilities and storage space etc. JNPT on the west coast and Chennai Port on the east coast are being developed as hub ports. While these two are expected to cater mainly to cargo originating from or bound for India, the ICTT being developed at Kochi Port is expected to facilitate shipment of container cargo.

9.1.64 **Corporatisation of major ports**: In order to expedite the process of corporatisation of existing ports, the Major Port Trusts (MPT) (Amendment), Bill, 2005 will be introduced in Parliament after Cabinet approval. The Department of Shipping is in the process of finalising the Cabinet note.

9.1.65 **Rationalisation of manning scales**: In order to rationalise productivity norms, the manpower in the major ports will be reorganised in line with the recommendations of the Labour Tribunal.

9.1.66 **Introduction of Electronic Data Interchange**: In order to improve efficiency/ productivity of port operations, in the first phase, the electronic data interchange (EDI) has been operationalised between container handling ports, customs, banks and port users. It is presently functioning at the Chennai, JNPT, Mumbai and Kochi Ports. In the second phase, EDI will be implemented in all the remaining ports and for all the remaining cargos i.e. liquid and dry bulk.

9.1.67 **Role of Tariff Authority for Major Ports**: The functioning/role of the Tariff Authority for Major Ports (TAMP) needs to be revised so that uniform and transparent norms prevail in matters relating to fixing tariffs as well as prescribing the quality of service for port authorities/terminal operators. This is necessary to ensure that the needs of the users of the facility are met and the facility providers are able to earn profits.

9.1.68 **Central government funding of capital dredging**: Indian ports lack adequate depth in their entrance/approach channels and berths and are, therefore, not in a position to receive and berth mainline/large size vessels. Indian industry is, therefore, denied the benefits of economies of scale and reduction in transportation cost. Capital dredging in the various ports is, therefore, an inherent part of their development. Since such projects require large investment, and may serve more than one operator, they should be funded through budgetary support from the Central Government.

9.1.69 **Rail/road connectivity/improvement at ports**: Adequate rail/road connectivity with ports with the hinterlands is of crucial importance and needs to be improved on a priority basis.

SHIPPING

9.1.70 Against the Tenth Plan outlay of Rs.6273.84 crore for shipping, an expenditure of Rs.1692 crore has been incurred during the first two years of the Plan. The Tenth Plan target for tonnage acquisition programme is 3.26 million gross tonnage (GT) with the acquisition of 156 vessels. However, there has been slow progress on this front during the last two years, mainly due to lack of fiscal incentives, difficulty in raising external commercial borrowings and prevailing depressed market conditions. During 2002-03 and 2003-04, the Shipping Corporation of India (SCI) could not achieve the acquisition targets due to the Union Government's decision to disinvest its equity in the Corporation.

9.1.71 The Government has introduced Tonnage Tax for the Indian Shipping Industry with an option for the shipping companies to opt for either Tonnage Tax or Corporate Tax from the year 2004-05. The introduction of Tonnage Tax will provide a level playing field to the Indian Shipping Industry with its international counterparts. This will help to add more tonnage to the Indian Shipping Industry. The Indian Shipping Industry has already shown a path of recovery with increase in tonnage from 7.05 million GT on 1st June, 2004 to 8.01 million GT on 1st April, 2005.

9.1.72 In order to meet the internationally prevalent norms in Europe and elsewhere i.e. inspection of 25 per cent under Port State Control flag ships and at least 50 per cent state flag ships, the Director-General (Shipping) Office needs to be strengthened so that it performs its functions properly.

Inland Water Transport

9.1.73 The Tenth Plan has laid emphasis on the development of infrastructure facilities with a focus on the North-East region and private sector participation so that the movement of domestic cargo is gradually shifted from the rail and road modes to inland water transport (IWT). In addition, priority has to be given to the development of existing national waterways and new national waterways will be declared on a selective basis.

9.1.74 An outlay of Rs.864.73 crore (Rs.636.73 crore as GBS and Rs.228 crore as IEBR) has been approved for the Inland Waterway Authority of India (IWAI). The expenditure during the first three years of the Plan is estimated at Rs.239.76 crore.

9.1.75 During the first two years of the Plan, Least Assured Depth (LAD) of 2 meters has been provided between Haldia and Patna, Dhubri and Neamati in Assam and Kochi and Alapuzha. Night navigational facilities have been provided between Kolkata and Farakka and between Dhubri and Jogighopa in Assam. In order to generate traffic, a fortnightly fixed schedule service has been started between Haldia and Patna and between Dhubri and Pandu (Guwahati). Terminals have been set up on three national waterways and hardware for maintenance of navigational channels as well as transport of cargo has been acquired.

Centrally sponsored scheme for IWT

9.1.76 Under this scheme, states get Central assistance for providing infrastructure facilities for the development of waterways. The projects taken up under this scheme include construction of terminal facilities, capital dredging, hydrographic survey etc. The funding pattern of this scheme has been changed from 5th November, 2002 and now 100 per cent grant is given to the north-eastern states, including Sikkim, and 90 per cent grant is provided to other states. In the two years (2003-04 and 2004-05) 22 projects of 9 States at the cost of Rs.73 crore has been sanctioned and Rs.25.83 crore has been released to various States (Assam, Bihar, Himachal Pradesh, Kerala, Karnataka, Maharashtra, Madhya Pradesh, Orissa and West Bengal). The idea behind changing the funding pattern was to engage States in a big way for development of inland waterways other than National Waterways.

CIVIL AVIATION

9.1.77 The Tenth Plan has laid stress on the provision of world-class infrastructure facilities for efficient, safe and reliable air services. Making provisions for air services to remote and inaccessible areas has also been identified as a priority. Recognising that air transport is a field for competitive development, the Tenth Plan lays emphasis on private sector participation in the development of air transport.

Progress in the Tenth Plan

9.1.78 The bulk of expenditure in both Air India and Indian Airlines is due to repayment of loans taken for acquiring aircraft. However, both airlines have not acquired aircrafts for some time and both are planning to do so. Indian Airlines now plans to acquire capacity equivalent to 43 Airbus aircrafts. The Government has decided to provide Rs.325 crores as additional equity infusion in Indian Airlines during 2005-06 as a margin money for purchase of aircraft.

9.1.79 There are considerable time and cost overruns in several projects taken up by the Airports Authority of India (AAI). This is partly due to the unsatisfactory formulation of projects and partly due to projects being taken up without completing pre-construction activities such as land acquisition. Certain major projects and associated works at Delhi and Mumbai airports were deferred because of plans to restructure airports by involving the private sector and this also resulted in shortfall in expenditure. There is a need for strengthening of the monitoring system in order to reduce time and cost overruns.

Outlay And Expenditure

9.1.80 An outlay of Rs.12,928 crore - Rs.400 crore as GBS and Rs.12,528 crore as IEBR - was provided in the Tenth Plan. However, only 31.6 per cent of this (Rs.3955 crore) is estimated to have been spent so far. Annexure 9.1.10 indicates the organisation-wise details of outlay and expenditure (at current prices) for the first three years of the Tenth Plan.

Greenfield Airports

9.1.81 Two greenfield international airports, one each at Bangalore and Hyderabad, are proposed to be developed at a cost of Rs.1,328 crore and Rs.1,394 crore respectively. While the concerned state governments and the AAI would contribute 13 per cent each towards the equity capital, the private sector will contribute 74 per cent.

9.1.82 It is proposed to explore the possibility of development of other airports, particularly those with tourist potential, through the public-private partnership route.

Policy Issues

9.1.83 **Restructuring of metro airports:** Restructuring of the metro airports is one of the major initiatives to be taken in the Tenth Plan. A Bill for comprehensive amendments of the Airports Authority of India Act, 1994, has already been passed. With this, it would be possible to involve the private sector in the development of metro airports. The

Box 9.1.6
Committee on Infrastructure: Reinvigorating Civil Aviation Sector

The Committee on Infrastructure chaired by the Prime Minister is taking measures to address the various infrastructure constraints that the country faces. The Committee had a detailed discussion on various aspects of civil aviation sector on 10 December 2004 and it was agreed that the Government should initiate policies that ensure time-bound creation of world-class airports and evolve a policy and regulatory framework for PPPs in order to maximise capital inflows and efficiencies.

Keeping these requirements in view, the following major decisions were taken at the meeting:

- Draw up a civil aviation policy, keeping in mind the inter-modal role of the sector and the long-term requirements of trade and tourism.
- Speed up modernisation of Delhi and Mumbai airports to enable them to handle growing passenger and cargo traffic.
- Restructure Chennai and Kolkata airports on the lines of proposed restructuring of Delhi and Mumbai airports. Other airports need to be developed using the PPP approach.
- Prepare Model Concession Agreements to promote PPP in the development of airports.
- Revamp the Airport Authority of India with multi-disciplinary staff to meet the long-term goals of the civil aviation sector.
- Set up a statutory regulatory body for economic regulation and dispute resolution.

The Committee on Infrastructure has set targets for meeting various objectives, which are being closely monitored.

modernisation of Delhi and Mumbai airports is proposed to be taken up first.

9.1.84 **Performance of regulatory agencies:** The performance of India's international airports compares poorly with world standards. With the restructuring of Delhi and Mumbai airports, which handle the bulk of international traffic, the infrastructure at these airports would improve, leading to better performance. The procedures and unsatisfactory performance of various regulatory agencies such as immigration and customs is another reason for the poor performance of Indian airports. Steps need to be taken to streamline the procedures and improve the efficiency of these regulatory agencies through mechanisation/ computerisation, particularly at the immigration counters, and training of staff in order to improve the overall performance of airport users.

9.1.85 **Civil Aviation Policy:** The past policy has stifled the growth of the civil aviation sector. The new policy needs to be formulated keeping in mind the role of the sector in promoting tourism and trade as well as inter-modal considerations. Past policy of landing rights leaned heavily on Air India. However, since the airline lacked resources, this constricted the growth in capacity of traffic. The policy relating to provision of air services in the North-Eastern region, Jammu and Kashmir, Andaman and Nicobar Islands and Lakshadweep Islands through route dispersal guidelines also needs to be reviewed. A more appropriate way to ensure reliable air services in these areas would be to provide direct subsidy through minimum subsidy bidding process.

9.1.86 The Ministry of Civil Aviation had constituted a Committee under the Chairmanship of Shri Naresh Chandra, former Cabinet Secretary, to prepare a roadmap for Civil Aviation Sector that will provide the basis for a new National Civil Aviation Policy. The Committee had submitted its report in two parts. The recommendations made in these reports are being examined so as to formulate a comprehensive "National Civil Aviation Policy" which is likely to be finalised shortly.

9.1.87 **Foreign direct investment**: Foreign direct investment (FDI) in airlines has been raised to 49 per cent. However, foreign airlines are still debarred from equity participation in domestic air transport operations. There is a case for reviewing this policy as operation of airlines requires expertise as much as it does capital.

9.1.88 **Regulatory framework:** The restructuring of the Delhi and Mumbai airports and establishment of two greenfield airports in the private sector necessitates the setting up of a regulatory authority, as airports are a natural monopoly. There is a need to establish a statutory regulator for economic regulation and dispute resolution.

9.1.89 **Privatisation/disinvestments in Air India and Indian Airlines:** In order to improve the operational efficiency and financial performance of Indian Airlines and Air India, a decision was taken to disinvest government equity in both these organisations. However, the process of disinvestment could not be completed since the qualified bidders withdrew at the final stage due to a number of factors. The process of disinvestments could not be resumed in view of the unfavourable circumstances prevailing in the global aviation industry. A fresh exercise for restructuring Indian Airlines and Air India to make them competitive could be considered.

THE WAY FORWARD

Railways

- Implement an integrated modernisation plan by following a corridor approach. The Railways is saddled with old technology and this is a major reason for freight traffic throughput being four times lower than the Chinese railway system. There is a need to modernise the rolling stock, tracks, signalling system apart from introduction of information technology for increasing customer satisfaction. The modernisation, particularly of the Golden Quadrilateral and its diagonals, would lead to 100 per cent increase in the average speed of freight trains which, at present, is as low as 28 km. per hour.

- Rationalise the investment strategy. Future investment must be linked up with augmentation of capacity and improvement in the quality of services. An exercise for prioritisation of railway projects, particularly ongoing new railway lines, should be taken up on yearly basis. The Railways, however, need to observe caution, while sanctioning new projects, keeping in view financial viability and operational essentiality in order to avoid further stress on scarce resources.
- Ministry of Railways may prepare a paper in consultation with the Planning Commission on tariff setting mechanism including the need for a Rail Tariff Authority. Meanwhile, Railways would move towards evolving a fare structure, even if gradually, linked to a rational indexing of the line-haul cost to the tariff.
- Carry out organisational reforms. The elements could be:
  - setting up a fully computerised accounting system to ensure conformity with internationally accepted accounting practices;
  - making production units as profit centres;
  - giving uneconomic lines to the private sector on concession basis; and
  - outsourcing non-core activities
- Encourage public-private partnership in the development of high density corridors, introduction of tourist trains, additional goods trains between major commercial and industrial centres and between collieries and power stations.
- Allow competition in container movement. Allowing more players other than CONCOR is necessary for smooth movement of container traffic. As the Ministry of Railways has already announced that organisations other than CONCOR will be considered for the movement of container traffic, it is important that the Ministry evolves the policy framework expeditiously.
- Formulate a plan indicating a specific time frame for augmenting capacity in specific saturated routes to meet the growing requirements keeping in view the expected traffic growth . Some of these projects may be implemented by RVNL independently or through joint ventures/PPP.

Roads

- The Ministry of Shipping, Road Transport & Highways (MoSRTH) should prepare a detailed programme for the next two years keeping in view the level of budgetary support available and the need for leveraging this to the maximum extent by adopting a proper mix of engineering, procurement and construction (EPC) and BOT projects.
- MoSRT&H should prepare monitorable milestones and targets for the proposed programme that includes Special Accelerated Road Development Programme for North-East (NHDP-NE), NHDP- III (10,000 km on BOT basis), NHDP-IV (for 20,000 km), NHDP-V (6-laning of 5,000 km), NHDP-VI (1,000 km expressways) and NHDP-VII (for ROBs, bypasses etc.).
- Evolve a Model Concession Agreement for BOT project.
- Enhance the institutional capacity of the NHAI by making it a multi-disciplinary professional body with high quality financial management and contract management expertise.
- A Committee of Secretaries (CoS) must address inter-ministerial issues including bottlenecks in ongoing projects.

- Develop a system to collect and analyse information on traffic and inventory assets condition etc.
- Draw up a Model Concession Agreement on the operation, maintenance and tolling of the completed stretches of the NHDP.
- Set up a dedicated organisation for road safety and traffic management.
- Enact a law for economic regulation and dispute resolution for public-private partnerships.
- Leverage the cess amount from Central Road Fund available for the PMGSY for raising resources.

PORTS

- Increase the scope of private sector participation in the development of ports. This would require revision of guidelines and delegation of more powers to the ports to increase operational efficiency. The government/public sector would need to step in to provide common user facilities like capital dredging, where necessary.
- Implement organisational changes like corporatisation in order to achieve efficient management, get institutional funding and attract private investment.
- Review the role of TAMP. This is necessary since more private operators are coming up in ports.
- Improve productivity of major ports through upgrading technology.
- Rationalise manning scales to improve the productivity.
- Preparing Perspective Plan for long term development of each major port.

CIVIL AVIATION

- Formulate a civil aviation policy keeping in view the role of the sector in the inter-modal context and the promotion of trade and tourism.
- Speed up the modernisation of Delhi and Mumbai airports, as they handle the bulk of air traffic.
- Draw up plans for the development of all airports. Chennai and Kolkata must be restructured on the lines of the proposed restructuring of Delhi and Mumbai airports.
- Prepare Model Concession Agreements for developments of airports in order to promote PPP.
- Revamp the Airports Authority of India with multi-disciplinary staff to meet the long-term goals of the civil aviation sector.
- Set up a statutory regulatory body for economic regulation and dispute resolution.
- Consider permitting equity participation by foreign airlines in the domestic air transport operations in order to get the necessary expertise.

INFORMATION AND COMMUNICATIONS TECHNOLOGY

9.2.1 We are living in the age of information. The world is moving into a convergence mode because of the tremendous potential of the Information and Communications Technology (ICT) and the impact it has on every other sector. Planned development and use of ICT hold the key to faster growth and give the country a competitive edge in the globalised economy. It is against this backdrop that the Tenth Plan aims at the creation of an efficient and world-class telecom infrastructure in order to meet the requirements of the IT-based sectors and needs of a modern economy on least cost basis. Provision of affordable and effective communication facilities to all citizens on a universal basis and ensuring easy access to these facilities in uncovered areas including rural areas is one of the primary objectives of the Tenth Plan. The other major objectives include efficient spectrum management, strengthening research and development efforts in the country, protecting the defence and security interests of the country and enabling Indian telecom companies to become truly global players.

PROGRESS IN THE TENTH PLAN

9.2.2. Specific targets were fixed for the sector during the Tenth Plan in order to achieve the above objectives through the joint efforts of public and private sectors. The private sector was expected to play a greater role in the provision of connectivity through mobile and wireless services. Except for rural telephony including Village Public Telephones (VPTs), the progress with respect to all other targets has been satisfactory so far. The present status of achievement in respect of major targets is given in Table 9.2.1

9.2.3 The Tenth Plan had visualised an addition of 650 lakh new connections - 395 lakh by the public sector companies - Bharat Sanchar Nigam Ltd (BSNL) and Mahanagar Telephone Nigam Ltd (MTNL) - and 255 lakh by the private sector. Because of an explosive growth in the cellular segment, especially in the private sector, almost 49 per cent of the Tenth Plan target has been achieved in the first two years. The rate of expansion has been equally encouraging during the first nine months of 2004-05 whereby another 163.52 lakh new connections were provided. In line with the trend during the first two years, the cellular segment continues to grow at an impressive rate of about 12.50 lakh connections per month. As a result, 479.24 lakh new connections have been provided so far during the Tenth Plan (as on 31.12.2004) thus achieving about 74 per cent of the Tenth Plan target.

9.2.4 The growth has been driven by the private sector, with the public sector contributing only about 25 per cent. The cellular segment contributed about 85 per cent of the net addition so far; private sector accounting for about 78 per cent of the growth in this segment. The share of private sector has increased from 15 per cent in March 31, 2002 to 46 per cent as on 31.12.2004. The number of telephones provided by private sector increased from 68 lakh as on 31.03.2002 to 426.44 lakh as on December 31, 2004. As a result of this impressive growth, the teledensity has already increased to 8.59 in December 2004 as against the Tenth Plan target of 9.91.

9.2.5 In spite of this impressive growth, India lags far behind the countries like Brazil and China where the teledensity is more than 40. Innovative and bolder policy initiatives and greater flow of funds would be needed in the remaining period of Tenth Plan and thereafter to achieve some sort of parity with the leading achievers in the sector. Table 9.2.2 gives the international comparison of teledensity and relative position of population and per capita income.

9.2.6 There seems to be a clear shift in demand in favour of the cellular segment as against fixed line phones, because of the substantial reduction in tariffs and better suitability to the needs of subscribers. The cellular segment is expected to maintain the high growth trend during the remaining period of the Tenth Plan. Keeping in view the growth

Table 9.2.1
Status of achievement of targets

S. No	Targets	Present status (As on 31.12.2004)
1	To endeavour to make telephones available, by and large, on demand by the end of 2002-03 and sustain it thereafter.	Almost achieved in urban areas
2	To achieve an overall teledensity of 9.91 by 31 March, 2007	Present tele-density is 8.59. The target would be achieved earlier than 2007 because of phenomenal increase in mobile telephony. Keeping in view the present trend and the plans drawn up by both public and private sector operators for network expansion, the teledensity of 20 is expected to be reached by 2007.
3	Achieve telecom coverage of all villages by December 2002 and provide reliable transmission media in all rural areas.	Out of a total of 6,07,491 villages in the country, 5,24,606 villages have been covered. Out of the total target of replacing 1.8 lakh Multi Access Radio Relay (MARR) based VPTs with WLL during Tenth Plan; about 1,14,000 have been replaced so far.
4	Provide reliable media to all exchanges by the end of March, 2003.	Achieved.
5	Provide high-speed data and multimedia capability using technologies including ISDN to all towns with a population greater than two lakh by the end of March, 2003.	Such capabilities have been provided through technology like Integrated Services Digital Network (ISDN). However, ISDN has had a questionable track record in terms of effective available bandwidth and reliability of its delivery. After the announcement of the Broadband Policy 2004 by the Government, Mahanagar Telephone Nigam Ltd and Bharat Sanchar Nigam Ltd have launched broadband services on 14 January, 2005 which will provide "Always On" 256 Kbps minimum download speed to an individual subscriber. This service would be available in 200 cities by March, 2005. Similar initiatives are also expected from private telecom operators using various technologies.

during the first two years and the present trend, the expansion of the network during the Tenth Plan is expected to be much higher than the initial targets visualised. The progress during the first three years is given in Table 9.2.3.

9.2.7 The performance of BSNL and MTNL during the first two years has been mixed. BSNL provided 82.30 lakh connections during the first two years against the Tenth Plan target of 366.67 lakh and MTNL provided 90,000 connections against the target of 27.56 lakh. However, in case of rural connectivity, BSNL continued to play the key role in the expansion of telecom services in the rural areas. In fact, the private sector reneged on its commitment for the rollout in the rural India and has opted for liquidated damages. BSNL accepted the challenge and has provided 40 lakh new rural connections (upto February, 2005), which is nearly three times the Company's target of 14.67 lakh rural lines fixed for the Tenth Plan. MTNL provided 3,96,212 gross connections during 2004-05 and 16,70,654 gross connections during the Plan period till 31st December 2004. Due to public policy, the public sector was a late entrant in the mobile segment. In spite of this, BSNL has captured a fairly large segment of the mobile market. It is planning to provide cell phone on demand within next

Table 9.2.2
International comparison of teledensity

(December 2003)

Country	Population (million)	GDP (per capita) (US$)*	Teledensity
Brazil	·175.96	2603	42.38
Canada	31.72	23417	104.58
China	1256.95	963	42.32
Egypt	68.65	1260	21.17
France	59.90	24057	126.19
India	**1056.89**	**494**	7.10
Malaysia	25.17	3870	62.36
Pakistan	149.58	428	4.42
Singapore	4.20	20894	125.84
UK	58.12	26369	143.13
USA	292.30	36223	116.43
Asia	**3621.14**	**2313**	**28.52**
Europe	**795.13**	**12822**	**96.28**
World	**6129.15**	**5383**	40.32

Source: International Telecom Union (ITU)
*: Figures pertain to year 2002

six months. MTNL, on the other hand, has provided more mobile connections than the private sector in the last quarter of 2004-05 in the highly competitive markets of Mumbai and Delhi.

9.2.8 However, a large number of fixed line telephones have been surrendered due to migration from fixed line to mobile service. MTNL's entry into mobile services along with a drastic fall in rates from Rs.16 per/minute to Rs.3 per/minute and provision of services by other operators has resulted in an explosive growth of mobile services. MTNL is now deploying additional mobile capacity of 8 lakh lines and another 8 lakh CDMA (Code Division Multiple Access) lines during the Plan period. It has also launched broadband service along with BSNL. It is expected that MTNL will be able to meet the overall Plan target. The details of targets fixed and the likely achievement in respect of the public sector are given in Annexure 9.2.1.

9.2.9 The performance of Indian Telephone Industries Limited (ITI), engaged in the manufacturing of telecom equipment, has been unsatisfactory. The company has incurred a loss of about Rs.1,000 crore during the first two years of the Plan period. However, given the strategic importance of its existence, the government has recently approved a revival package for its rehabilitation which includes foreign collaboration for the latest wireless technologies. However, it has to be recognised that Information Technology (IT) is a field of rapidly changing technology and ITI has failed to update itself technologically. If it is to survive in the competitive environment in the years ahead, it must make radical changes in its systems of management.

9.2.10 An outlay of Rs.86,984.00 crore including a budgetary support of Rs.1,500.00 crore was approved for the public sector units/ organisations in the telecom sector. The utilisation of expenditure during the first three years is anticipated to be 33.74 per cent of approved outlay at current prices and 31.45 per cent at 2001-02 prices. Only about Rs.374.89 crore out of the budget support of Rs.545.00 crore approved for the regulatory and research and development (R&D) bodies in the public sector is likely to be utilised during the first three years. At constant (2001-02) prices, the likely utilisation of outlay and budgetary support during the first three years works out to 33.71 per cent and 23.25 per cent of the Tenth Plan outlay respectively. The main reasons for low utilisation was lower availability of resources with BSNL coupled with lower reimbursements on account of license fee, spectrum charges and Universal Service Obligations (USO) and lower fund utilisation as against the approved outlay for MTNL. The details of the outlays approved and the likely expenditure are given in Annexures 9.2.2 and 9.2.3.

9.2.11 The Radio Frequency (RF) spectrum is a scarce natural resource. In accordance with international treaties, it has to be shared among a very large number of radio communication services and users - defence, civil, government and private - based on the principles of co-existence and most efficient use. The increasing share of cellular mobile in total number of telephones points to the need for greater focus on the policy of allocating frequency spectrum.

9.2.12 In addition to cellular mobile, which will have a large number of lines by the end of the Tenth Plan, frequency spectrum is required for the Wireless in Local Loop (WLL), used for providing basic as well as broadband services. The advent of new technologies will also pose a significant challenge for the planners of radio spectrum. The increasing adoption of wireless technologies and the need to align with international standards would mean that there will be a need to address the shortage of wireless spectrum and to reconcile competing demands in certain frequency bands. The policy governing spectrum allocation and licensing has to be designed in such a manner that this scarce resource is used optimally and does not become a constraint for growth. Some steps have been taken to this end. These are:

- Notification regarding de-licence of 2.40-2.48 GHz band for low-power use of all technologies which, inter alia, include those based on IEEE 802.11 b and 802.11 g standards has been issued.
- Notification for de-licensing of 5.15–5.35 GHz band for the indoor use of low power Wireless Fidelity (Wi -Fi) systems has been issued.
- An automated spectrum management system has been commissioned in January, 2005.
- In case of receive only Very Small Aperture Terminals (VSATs) - an

Table 9.2.3
Status of telecom network

(Lakh lines)

Items	Network (31.3.02)	Tenth Plan target	Achievement during Tenth Plan*			Network as on 31.12.2004		
			PSUs	Private	Total	PSUs	Private	Total
Fixed +WLL	385.37	-	32.47	37.09	69.56	411.91	43.02	454.93
Cellular	64.31	-	88.38	321.29	409.67	90.56	383.42	473.98
Total DELs	449.68	650.00	120.86	358.38	479.24	502.48	426.44	928.92
VPTs (Nos)	468016	-	-	-	52626	-	-	524606
Teledensity	4.29	9.91	-	-	-	-	-	8.59@

*: Achievement up to 31.12.2004
@: Urban Teledensity - 25.90; Rural Teledensity - 1.69

already approved network - and Direct-To-Home (DTH) with receive only internet, no clearance is required from the Standing Advisory Committee on Radio Frequency Allocation (SACFA) / WPC if the total height of installation is less than 5 meters above the roof top of an authorised building.

9.2.13 Policy initiatives in many areas have led to reduction in tariffs, expansion of networks and increase in teledensity. Such policy initiatives are a continuous process. The other items like providing adequate financial support for implementating obligations on account of USO, national plan for optimum use of spectrum and provision of telecom services to the people in the rural areas in an efficient and affordable manner also form a part of the agenda of reforms for the Tenth Plan. These need to be addressed in the rest of the Plan period.

PENDING ISSUES, POLICY INTERVENTIONS AND NEW INITIATIVES FOR TENTH PLAN

Availability, Allocation & Utilization Of Spectrum

9.2.14 Spectrum is the scarcest of resources. Available spectrum has already been utilized in major urban centres with a result that spectrum is tending to be a major constraint in maintaining the high growth rate of cellular mobile services in the urban areas. The spectrum availability for upcoming 3G services etc. is also very soon expected to become a bottleneck in the growth of cellular mobile services which so far in the Tenth Plan has been the base of growth in the telecom sector. The spectrum availability needs to be adequately increased by both more efficient utilization by the existing operators and services and by release of spare spectrum by modernization and upgradation of equipment.

9.2.15 Some new frequency bands need to be made available in line with the international radio frequency spectrum allocations to provide for newer services such as broadband mobile services. The spectrum currently occupied by Defence and some other agencies may have to be released for this purpose. This may necessitate changing the old equipment deployed by defence and other agencies so that the required spectrum can be released for civilian use. The investment required would first need to be estimated and then made available for this purpose. An action plan needs to be drawn up and implemented in a time bound manner for getting more spectrum vacated from defence and other agencies/users. The task of getting more spectrum vacated has been going on through inter-ministerial discussions for the last several years. However, we have reached such a stage that these efforts have to be translated into a formalized institutional arrangement for vacation of spectrum in the form of a very high level group (Group of Ministers) to have the action plan implemented. The basic requirement from this group will have to be to make necessary funds available to the Manestry of Defence in particular for replacement of analogue / old equipments with more spectrally efficient equipment. Besides, to ensure that the time taken for procurement of Defence equipment is curtailed drastically and the entire project is completed in a time bound manner i.e. by March, 2007. Similarly emerging technologies like Wi-Max in sub 1 GHz are coming up. The 750 MHz band is presently being used for analogue broadcasting by the public broadcaster in India. Efficient digital terrestrial broadcasting should be considered for introduction for public broadcaster so that the terrestrial transmission in digital format is introduced in our country and vacating the frequencies for other uses in tune with other countries. To bring about a smooth transition, in the initial years it will be necessary to have digital and analogue broadcasting in parallel, before analogue broadcasting is totally phased out.

9.2.16 Keeping the national vision of 'Broadband for All' in mind, the spectrum-related issues need to be addressed on priority basis. Alternative spectrum bands, which are not in high usage and could be deployed for broadband services, also need to be explored and identified, taking into account the appropriate technologies.

Broadband Connectivity

9.2.17 Broadband – "an always-on network capable of providing interactive voice, data and video services on public networks" – is fast becoming a prerequisite for rapid economic growth and social transformation. Broadband-enabled Internet applications promise to fuel productivity growth in virtually every sector. High-speed access to information and web-based communications/transactions has become a competitive differentiator. Internet-based services or connectivity for industries and remote places is crucial for enhanced productivity and, in the near future, even for survival. Effective and affordable broadband services would hold the key to maintaining India's competitive advantage in the international markets. Without this, Indian firms would not be able to reap the three main benefits of such connectivity: tapping new market opportunities, overcoming barriers and increasing efficiency and cost reduction. DOT has taken up a major initiative for promoting broadband connectivity and for the proliferation of Internet by announcing the Broadband Policy on 14th October 2004, the highlights of which are in Annexure 9.2.4.

9.2.18 Countries without a broadband vision and a commitment to implement it, run a serious risk of trailing behind others and have to play a perpetual "catch up" game. After taking the ground realities into account, governments support their broadband visions with policies that encourage private investment in broadband infrastructure and services. Bringing broadband to all citizens by the end of this decade should be the national priority for every modern country and also for India. Broadband connectivity has been identified as one of the major areas for deliberation by the High Level Committee on Infrastructure, headed by the Prime Minister and serviced by the Planning Commission.

9.2.19 Different countries adopted different methods for creating broadband infrastructure. Sweden did it through direct government investment: Canada and the United States through public-private partnership while South Korea and Japan adopted a multifaceted approach. South Korea deregulated the telecommunication sector and invested approximately US $1.16 billion in a new high capacity backbone network. The government also provides low cost loans to spur broadband deployment in rural areas and encourages rural communities to form associations with municipal governments, regional education institutions and telecommunications operators to promote IT in their regions and drive the applications that broadband allows. Japan is working towards the goal of linking all homes with high-speed Internet connections by 2005. The Japanese government has targeted US$ 16.7 billion for the programme, which includes tax incentives, low-interest loans, strong government-facilitated competition and digitising of government and education services.

9.2.20 In order to achieve an 8 per cent growth rate of the economy and to transform India into a vibrant and knowledge-based society, the government needs to be ambitious in terms of broadband connectivity. A Joint study report titled *India's Broadband Economy: Vision 2010* by the Confederation of Indian Industry (CII) and the DIT (March 2004) and recommendations made by the Telecom Regulatory Authority of India (TRAI) on broadband services (April, 2004) have been deliberated upon by the DoT culminating into the Broadband Policy, 2004. These documents have projected a certain vision for broadband roll-out in the country. The broadband has been defined as an "always on" data connection supporting interactive services including Internet access with minimum download speed of 256 Kbps per subscriber. Specific targets have been laid down in the policy to be achieved by 2007 and 2010. The public sector companies – BSNL and MTNL – plan to provide 1.50 million connections by the end of 2005 covering 200 cities. In quantitative terms, this vision is summarised in Box 9.2.1

9.2.21 According to the initial estimates in the CII-DIT study, the ubiquitous broadband connectivity during 2010 to 2020 is estimated to contribute to direct employment of 1.80 million; indirect employment of 59 million and yield benefits of US$ 90 billion (estimated at present value). However, these benefits will come at a price. Translating this vision into reality would require large investments. Providing broadband connectivity to ten million subscribers by 2010 and 35 million by 2020 would require investments of the order of US$ 2.60 billion by 2006 and approximately US$ 5.40 billion by 2010. Out of this, an investment to the tune of US$ 250 million would be required to cover 25 to 30 per cent of the rural networks through broadband connectivity.

9.2.22 To become an engine of growth and change, broadband has to be made easily accessible, affordable and useful to the masses. It also has to be technology neutral. Effective use of broadband is critically dependent on the PC penetration. This is low especially in rural areas. Unless this is adequately addressed, broadband for the masses will not become a reality. Incentives and policy regime needs to be put in place which will make PCs affordable for the masses. These will include fiscal measures to encourage domestic manufacture at affordable prices. Secondly, cost of international bandwidth is another bottleneck that needs to be quickly addressed. Enormous efforts need to be made to reduce the costs of international bandwidth and make it affordable. The prime principles that should guide the envisaged rollout plan for broadband connectivity need to include:

- Ensuring mass market usage of broadband access and services (not just availability but off-take).
- Eliminating digital divide through focused research, design and development to get access to broadband either at home or through public kiosks within walking distance.
- Enabling viable/sustainable business models to promote investments and entrepreneurship and minimise the need for direct investments by the government.
- Providing choice for the user, content/ application provider, and service provider in a potentially oligopolistic industry.
- Balance demand and supply through competition and a viable business model at affordable user costs.
- Making available requisite critical infrastructure like electricity, reliable connectivity etc.
- Put in place policy regime aimed at lowering the costs of PC to make it affordable so as to encourage large scale PC penetration in the rural areas.
- Devise a system aimed at substantially reducing the cost of international bandwidth.

RURAL TELECOM GRID

9.2.23 Many countries have tapped the potential of wireless communication for providing communication and Internet services in rural and remote areas. India lives in its villages and providing connectivity to remote

Box 9.2.1
Goals for broadband

- Seven million broadband subscribers by 2007.
- 20 million broadband and 40 million Internet subscribers by 2010, which translates into penetration levels of 1.70 per cent and 3.40 per cent respectively.
- Broadband network of 10 million subscribers by 2010 and 35 million subscribers by 2020 in urban India across homes, enterprises and public kiosks.
- Achieve broadband coverage by providing access to at least 50 per cent of the rural population by 2010 and 100 per cent by 2020 through rural broadband kiosks.
- Make appropriate and locally relevant e-education, e-Governance, entertainment and e-commerce services and employment opportunities available through broadband connectivity to all cities, towns and villages in India.

areas without reliable power supply arrangement is a gargantuan task. The advent of cellular (Global System for Mobile or GSM/ CDMA) and 802.11 Wireless Fidelity (Wi-Fi) technologies has enabled much greater access to broadband applications and services. Until recently, every wireless access point required expensive wired backhaul connections to provide the wireless user with Internet connectivity. This disadvantage, combined with limited range of 802.11 Wi-Fi medium, confined deployments to relatively small areas. The goal of true ubiquitous connectivity for the wireless user was still a vision and dream.

9.2.24 However, Worldwide Interoperability of Microwave Access (Wi Max) based solutions could extend the range of broadband backhaul and provide fast, reliable, scalable and cost-effective, standards-based wireless broadband connectivity to the villages and facilitate the vision of 'connected village' – being connected anywhere and anytime using any device – becoming a reality when the technology becomes established and proven to provide cost effective solution in sparsely populated rural areas. With the DIT announcing a SWAN policy and putting in place network connectivity right up to the block level by extending the existing National Informatics Centre (NIC) network up to the district, the power of Wi Max (802.16) can be effectively used for creating hot spots around the block headquarters and extending the reach for last mile access, so that any village can gain broadband experience in a level playing field environment.

9.2.25 Apart from technological and cost related issues for providing voice and broadband data services through possible Wi-Max deployment it also faces several challenges related to government permits, licenses and processes, in addition to installation and technical challenges. One way to promote the deployment on a large scale is to have the 3.3-3.4 GHz band spectrum licensed at a lower or subsidised rate. The licence free band of 2.4 GHz can also provide low cost Wi-Max connectivity.

Rural Connectivity

9.2.26 While the principal immediate focus in rural telephony is voice centric, the telecom infrastructure should have adequate capacity to be also used to carry text, data and video. The country has witnessed a very impressive growth

Box 9.2.2
Status of rural telecom services (31 December 2004)

- Rural teledensity of 1.67 as compared to the urban teledensity of 25.90 and an overall teledensity of 8.59.
- There are 27,000 BSNL exchanges in the rural areas having optical fibre connectivity. The capacity utilisation is negligible.
- So far 5,24,606 villages in the country have been connected using a Village Public Telephone (VPT). The remaining 66,822 villages excluding the villages with population of less than 100 and villages in insurgency-prone or thick forest areas are yet to be covered. These are envisaged to be covered in a phased manner by 2007.
- BSNL has provided 98 per cent of the VPTs installed in the rural areas. Only about 13,000 VPTs have been provided by the private sector.
- There are 130.37 lakh connections; half of which are estimated to be un-remunerative. These are basically owned and operated by BSNL.
- The annual operational loss of BSNL on rural telephony is estimated to be about Rs.9,000 crore.
- The total collection for USO Fund so far has been Rs.6, 695 crore, though the actual disbursals to USO administration were only Rs.1,814 crore which have been fully utilized.

in the telecom network. Rural tele-density has grown from 1.21 to 1.67 during the current Plan period. However, the growth in the rural telecom sector continues to be slow. There are about 1.30 million people still waiting for basic telephone connectivity from BSNL. It would, thus, appear that the traditional model of fixed line voice telephony connectivity needs to be augmented by wireless technology like WLL etc.

9.2.27 The present policy of fixed-line voice telephony-based rural connectivity has proved to be unviable. This is basically due to the high cost of rollout and low revenue generation capabilities as it involves provision of single service, that is, voice telephony. The annual financial burden of rural telephony in the present form works out to about Rs.12,300 crore consisting of Rs.9,000 crore as operational loss to BSNL; Rs.3,000 crore reimbursement to BSNL on account of rural telephony apart from reimbursement from USO Fund for covering rural areas by variety of other services.

9.2.28 In the present system, the loss on account of inefficient operations by the incumbent and losses on account of meeting social obligations can be estimated only very broadly. More granularities are needed in these estimates. Besides leading to serious financial implications for BSNL, the government may find it difficult to sustain it over a long period of time. The provision of access and carriage predominantly for voice may have to be expanded to also include data to enable provision of content and applications. The model must have the capabilities to meet the future needs of e-commerce, tele-info services and social services like e-education, e-health and delivery of public services under e-Governance. The broadband seems to be the appropriate platform to achieve this. The future rollout of content and applications in the rural areas may have to be built around this platform.

9.2.29 The various technologies available for providing services in a converged way through broadband medium should be explored. At the current moment, these include wireless technologies like GSM / CDMA, WiFi, Wi-Max, High Speed Data Packet Access (HSDPA), cable based broadband, VSAT based satellite technology, voice over Internet protocol (VOIP), Internet telephony and CorDECT (Corrected Digital Enhanced Cordless Telecommunications) etc. In any future plan for a national rollout of broadband services in the rural areas, these along with any new emerging ones, may have to be used in a judicious mix depending upon the suitability and financial sustainability. Salient features of some of such technologies are given below in table 9.2.4.

9.2.30 As a result of huge investments made by the government/BSNL during the last decade, highly suitable infrastructure in the form of optical fibre backbone is available right up to the interiors. BSNL's 27,000 rural exchanges have optical fibre connectivity in all the 2,648 Short Distance Charging Areas (SDCAs) making the optical fibre nodes available in four to five interior locations in each block.

Table 9.2.4
Wireless broadband technologies

	3G (WCDMA)	Wi Fi 802.11a/b/g	Wi-Max (802.16-2004)
Range	Typical: 2-7 km	Up to 300 Feet	Max: 50 km Typical: 5-10 km
Throughput	Up to 2 Mbps	11-54 Mbps	Up to 75 Mbps+
Functionality	Wide Area Networks	Local Area Networks	Metropolitan / Urban and Rural Area Networks
Usage Model	Highest mobility / voice + data applications	Mobility / Enterprise connectivity	Fixed Wireless Broadband / DSL & Cable, Fibre Replacement

This implies that one can reach within 15-20 km of most villages with large bandwidth through lighting up of the dark fibres. This, in turn, would imply that the total investment needed for building the backbone for a country-wide roll-out of broadband in the rural areas would be one-fourth to one-fifth of that needed against a scenario in which the entire optic fibre backbone will have to be built afresh. In order to effect the rollout, the optical fibre needs to be lighted up and development of last mile connectivity ensured. Taking into account the logistics, the time frame for rollout and cost effectiveness, wireless technology seems to be ideally suited. The choice of technology, however, has to be left to the operator of the last mile.

UNIVERSAL SERVICE OBLIGATION (USO)

9.2.31 A major initiative towards promoting connectivity in the rural and far flung areas has been the setting up of the USO Fund through the Indian Telegraph (Amendment) Act, 2003. India has been able to operationalise the Fund successfully and the rules for administering it have also been notified by the USO Administrator on 26 March, 2004. Besides India, only six other countries have actually operationalised USO administration. India, perhaps, is the only country where reimbursement from the USO is available for shared public access both for data and voice through public teleinfo centers. The basic goals and objectives visualised under the rules and their implementation status based on a transparent competitive process is as follows :

Stream-I: Provision of public telecom and information services

- Operation and maintenance of VPTs in the villages identified as per the 1991 Census. So far financial support is being provided to 5,23,000 VPTs.
- Installation of VPTs in the additional villages as per the 2001 Census. Agreements have been signed to cover 66,822 villages by 2007.
- Upgradation of public telephones in villages with population exceeding 2,000 to High Speed Public Tele Info Centres (HPTICs) in a public place at the block headquarters. A pilot project covering 2000 villages has been taken up which will be extended to other such villages in 2005-06.
- Replacement of Multi Access Radio Relay (MARR)-based VPTs installed before 1st April 2002. Already 1,14,000 such VPTs have been replaced and the balance would be replaced by June, 2006.
- Provision of additional rural community phones in villages with population more than 2,000, where no public call office exists, after achieving the target of one VPT in every revenue village. Agreements have already been finalized with two operators for completing this work in 46,253 such villages by 2007.

Stream-II: Provision of household telephones in rural and remote areas

- Paying the difference between the rent actually charged and the rent prescribed by TRAI on all Direct Exchange Lines (DELs) installed before 1st April 2002 until such time as the Access Deficit Charges take into account such difference. Support has already been extended on this basis to 90.50 lakh rural lines.
- For household DELs installed after 1st April 2002, capital recovery, operational expenses and revenue are to be taken into account to determine the net cost. Agreements have been signed with four operators to provide rural DELs in all 1685 eligible SDCAs, covering nearly 70 per cent of the country, between the period 01.04.2005 and 31.03.2007. Agreeements have also been finalized to provide support to rural DELs already installed between 01.04.2002 and 31.03.2005.

9.2.32 Though the USO Fund has been operationalised, the mechanism for passing on the funds to the USO Administrator continues to be ad hoc in nature. Till now, the USO administration has received only Rs.1814 crore which has been fully utilized from the Ministry of Finance against the accrual of about Rs.6,695 crore into the Consolidated Fund of India on account of USO levy. For the Annual Plan, (2005-06), an allocation of Rs.1200 crore has been approved whereas the requirement of funds to implement the programmes firmed up in line with the NTP, 1999 objectives is of the order of Rs.5,000 crore. Keeping in view the constraints of the present system, a mechanism needs to be put in place where the funds accrued on account of USO levy (currently 5 per cent of the adjusted gross revenue of the telecom sector) are transferred in full to the USO Fund. Till such time that the required mechanism/legal framework is put in place and operationalized the transfer of resources collected through the USO levy and accruing to Consolidated Fund should be effected through the Plan route on yearly basis. The possibility of providing adequate financial support through USO for creation of shareable infrastructure so as to minimise the impact of higher costs for providing cellular mobile wireless services in the rural areas should be immediately explored for rapid rollout of such services in the rural areas.

RESEARCH AND DEVELOPMENT

9.2.33 The very impressive growth in the communications sector in the country in the last few years has been characterized by deployment of radically new technologies by service providers as well as competitive provisioning of mobile wireless and broadband services. The indigenous R&D and manufacturing has a complimentary role to play in the fast changing scenario as it has done earlier in the nineties. Though the leading national R&D institutions like Centre for Development of Telematics (C-DOT), Centre for Development of Advanced Computing (C-DAC), IITs etc., have worked considerably in the new areas, yet the pace of development has not been as fast as compared to availability of new technology from outside vendors so as to have a significant national impact. C-DOT has taken up some initiatives to prepare a new roadmap both for short term and long term to meet the needs of the changing market requirements and to help bridge the digital divide through its redefined programme. The present research efforts in the emerging areas of broadband internet and rural wireless connectivity, efficient use of spectrum, packet switching networks, wireless LANs etc. need to be supported fully. Other long term projects on which work can be initiated includes an all optical networks, optical protocols, wavelength multiplexed links, & inter-connecting nodes, grid computing & access network and new internet protocols like IPv6.

9.2.34 A few institutional and structural changes were envisaged as part of the R & D effort for the communications sector for the Tenth Plan. It included setting up of a Communication Research Council (CRC) as a apex body to prioritize, plan and finance R & D projects in the country; associating the industry with financing and managing the activities of C-DOT; earmarking a percentage of the turnover of the companies in the organized sector for financing the corpus envisaged under the CRC and allowing adequate flexibility to PSUs to decide perks and pay for retaining the talent with them. The necessary follow-up action in this regard needs to be initiated.

PROMOTION OF INFORMATION TECHNOLOGY (IT) INCLUDING APPLICATIONS

Internet Penetration

9.2.35 The present Internet penetration in India is extremely low at 0.40 connections per hundred persons against 2 in China, 11 in Malaysia and 58 in South Korea. This indicates a total disconnect between India's strength in software and its resolve to be an IT superpower and availability of this potent tool of information and empowerment to its citizens. The major reasons for low Internet penetration are:

- Lack of access to this facility in the rural areas
- High cost of accessibility on account of:
  - ➢ high price of personal computers (PCs) in relation to the per capita income

- ➢ high dial up charges for dial in connections
- ➢ high rentals and user charges adversely affecting affordability
- Lack of content and IT applications suitable to local language and local needs
- Shortage of appropriate spectrum at reasonable prices.
- Cost of international bandwidth

9.2.36 BSNL and MTNL have recently reduced the public switching network (PSTN) access charges for dial-up Internet access. TRAI has issued a consultation paper in April 2004 to address the issue of prices of international bandwidth and other factors. DOT has taken up the matter with TRAI so that the tariffs for international bandwidth are reduced without further delay.

9.2.37 The Broadband Policy enunciates some measures for promoting Internet penetration and services. These need to be implemented quickly. In addition, the following policy initiatives would help in ushering in broadband communication connectivity and help in providing Internet access and services at international standards:

- Delicensing of radio spectrum for use by wireless communications like WiFi and Wi Max technology.
- Adoption of suitable policies including encouraging domestic manufacture of PC components to bring down the prices to affordable level. These may include:

Table 9.2.5
International comparison of ICT penetration

Parameters	Korea	Malaysia	China	India
Access and Infrastructure (per 100 persons)				
PCs	78.60	15.00	2.80	@1.3
Cable TVs	49.00	18.50	16.70	6.00
Fixed Telephones	49.00	18.50	16.70	4.50
Mobile Phones	68.00	39.60	16.10	@4.73
Internet	58.00	11.00	2.00	@0.45
Internet users	59.40	33.00	5.00	@2.25
Broadband Connections	57.50	0.21	1.00	0.02
Financial Parameters (US$)				
GDP	10000.00	4000.00	965	465.00
PC Cost (US $)	#500.00	1100.00		600.00
Cost of Cable/DSL Modem	60.00			100.00
Broadband charges (per month)	30.00	29.00	16.00	20.00
Bandwidth charges (100kbps) (in US $)	0.25	7.61	3.07	*15.63
Import duty on local customer premises made equipment used for broadband	Local made		Local made	38%

#: Numbers are estimates
@: as on December, 2004
*: Based on present rate for 128 kbps
Source: TRAI, 2003

- Negotiation with software and hardware companies for special country pricing as was done in China, Malaysia and Thailand.
- Adoption of suitable fiscal measures like tax reduction etc. for attaining the psychological benchmark price of Rs.10, 000 per PC.
- Depreciation of 100 per cent on IT products
- Rationalisation of taxes
- Instruments to deal with zero duty regime

- Promotion of content creation in local languages, suited to local needs.
- Promotion of IT in the domestic market on a larger scale including promotion of low cost technology alternatives such as Linux.
- Providing PC loans to citizens under priority sector lending
- Fiscal incentives for expanding rural network
- Leveraging SWANs for rural connectivity
- Take necessary steps to ensure availability of uninterrupted power supply

INITIATIVES OF THE DEPARTMENT OF INFORMATION TECHNOLOGY

9.2.38 In order to achieve the goal of ICT connectivity for everyone, the Department of Information Technology (DIT) has taken the following key initiatives:

- ICT research and development programme has been taken up for innovating and bringing emerging technologies to the service of the common man. Developmental works leading to products such as *Grampatra, Gramchitra, Infothela, Shruti-Drishti* and *Bhav Poochiye*, to name a few, have been carried out.
- Community Information Centres (CICs) have been set up in all the 487 blocks of the eight north-eastern states to provide Internet access and computing facilities (Figure 9.2.2). These centres would deliver education, infotainment and e-governance services. The programme is being extended to Jammu and Kashmir.
- The *Vidya Vahini* programme has been implemented in 140 government and government-aided schools on a pilot basis for delivering education and enhancing its quality through computers. These selected schools have been provided connectivity using VSATs for providing educational programmes in an e-learning mode.
- As a part of the envisaged national programme on e-governance, a State Wide Area Network (SWAN) with 2 Mbps connectivity right up to the block level covering all states is envisaged.
- State Data Centres are proposed to be established for data storage and processing, which is necessary for effective provision of services.
- The National Internet Exchange of India (NIXI) has been set up in association with the Internet Service Providers Association of India (ISPAI) as a non-profit company under Section 25 of the Companies Act. Under this, four nodes have been established at Delhi (Noida), Mumbai, Chennai and Kolkata.
- A policy for proliferating and popularising the .IN domain has been launched on 1st January 2005.
- Experiments on the next version of Internet protocol (IPv6) and putting in place a network architecture meeting the new protocols have been initiated by the DIT.
- A Center of Excellence in Wireless Technologies has been set up at IIT Madras to undertake research and development in fixed / mobile wireless technologies and leapfrog from the current generation of mobile telephony (2 – 2.5 G) to the fourth generation (4G) technology. This will help to address

the problems in last mile connectivity for cost effective broadband communication services.

- Digital Signature regime has been put in place for encouraging e-commerce.

RURAL CONTENT PROVIDERS (RCPS)

9.2.39 The Department of Information Technology is taking several steps to make PCs affordable for the masses. The Department is also taking steps to popularise local language tools since PC penetration as well as Internet coverage is critically dependent on local language content being made available. The Department has an ambitious plan of setting up of 1,00,000 Common Service Centres (CSCs) spread all over the country for the benefits of e-governance and other services to reach the common man. The importance of creating local/rural content to make PCs and Internet an attractive proposition to a much larger number of people is well recognised. Involving the private sector in this regard would also be essential. Therefore, it is felt that a new entrepreneurial category of Rural Content Providers (RCPs) would give a further boost to and drive the demand both for PCs and Internet access as well as for rural connectivity. It will also help in better utilisation of the cable/ wireless network already laid, or being planned in the rural areas by the Bandwidth Providers.

9.2.40 The issue that needs to be examined is how to encourage this new category of Rural Content Provider. The Rural Content Provider would provide content and other facilities, including entertainment, which will be of interest to the rural population. Content creation would be a specialised area requiring thorough understanding of the local requirements and language which can only be done through local entrepreneurs. The business model of such an RCP would vary from region to region and would be driven by the market. The Department of IT and the Department of Telecommunications need to evolve a suitable policy framework which would encourage such RCPs. The existing incumbent access providers should look upon these RCPs as engines to push faster and deeper penetration of the market for their mutual economic benefit.

LEVERAGING POSTAL NETWORK FOR BUILDING DELIVERY MECHANISM

9.2.41 The postal network run by the Department of Posts with more than 1,55,000 post offices / outlets is one of the largest networks in the world. The two unique strengths of this retail network in the country are its nationwide outreach spreading into the remotest areas and reliability backed by Govt. accountability and sovereignty. As a result, access to any citizen for delivery of services is assured. Keeping in line with the Tenth Plan thrust on technology induction and modernization, the Department has undertaken a programme of progressive computerization and networking of the post offices / outlets. The Department has already made a beginning in the delivery of e-services like e-post and e-bill post. The system can be leveraged most advantageously to build front-end delivery mechanisms including kiosks as multi-product multi-service centres. The network can also be used for building the shared infrastructure envisaged by the USO administration. Leveraging the postal network for ICT connectivity and national efforts for e-Governance would ensure optimum returns from the public investments being made in the delivery mechanism.

9.2.42 The Tenth Plan policies and programmes are guided by the basic goal of creating a world-class telecom infrastructure in order to meet the needs of a modernizing economy and provision of basic services on universal basis at affordable prices. Based on a very impressive growth in the cellular segment, the expansion of network so far has been satisfactory and the Tenth Plan targets are expected to be exceeded. As expected, private sector has played a major role in the growth. The rural telecom services, however, have been an area of concern. The rural teledensity is as low as 1.69 against urban teledensity of 25.90 and national teledensity of 8.59. With the private sector not entering rural areas so far and BSNL incurring large operational losses, the present policy of fixed-line voice centric telephony-based rural connectivity may need to be broadened to take advantage of new wireless technologies.

9.2.43 The recent experience of USO Fund tenders for providing rural telephone lines however reflects a positive change in the attitude of private operators to compete with BSNL, resulting in more operators rolling out in rural areas. This interest of both public and private sector to compete for the rural segment of the telephone sector indicates the growing rural market which has resulted in significant lowering of costs primarily based on wireless technologies like WLL. BSNL can leverage its widespread Optical Fibre network terminating at various points in all blocks of the country. This coupled with similar network rollout by other operators provide an opportunity for an accelerated countrywide rollout of voice and data services including broadband services at very competitive costs. Keeping in line with the international trends, effective and affordable broadband services provided through a national rollout would hold the key to maintaining India's competitive advantage in international market. The possibility of providing adequate financial support through USO for creation of shareable infrastructure so as to minimize the impact of higher initial costs for providing cellular mobile wireless services in rural areas should be immediately explored for rapid rollout of such services in rural areas.

THE WAY FORWARD

- To work out and implement in a time-bound manner an action plan for optimum utilization of spectrum including technology upgradation and allocation of appropriate spectrum for the defense, paramilitary and other organizations so that surplus spectrum is released for civilian use. Necessary funds need to be provided through plan route.
- Put in place policy regime aimed at lowering the costs of PC to make it affordable so as to encourage large scale PC penetration in the rural areas.
- Devise a system aimed at substantially reducing the cost of international bandwidth.
- Adopt a promotional policy for setting up shared access to connectivity (including broadband wherever feasible) for front-end infrastructure for delivery of services as part of multi-product multi-service retail outlets or centres based on PPP model. This may take the shape of public teleinfo centers, kiosks, community information centres etc.
- To initiate necessary legal and other measures to transfer the resources accruing through the USO levy to USO Fund to promote rural telecom services. Pending this, Plan route may be preferred over the non-Plan mode.
- Take necessary steps, including fiscal measures, for encouraging domestic manufacture of PC components to bring the prices to affordable level.
- Promote creation of content in local languages suited to local needs.
- Take necessary steps to ensure availability of uninterrupted power supply.
- Promotion of IT in the domestic market on a larger scale including promotion of low cost technology alternatives such as Linux.
- The Department of IT and the Department of Telecommunications need to evolve a suitable policy framework for encouraging RCPs .
- Leveraging the postal network for building a nationwide delivery mechanism for ICT connectivity and e-Governance efforts.

Annexure 9.1.1

Transport Sector -Expenditure-Tenth Plan
(At Constant Prices)

(Rs. crore)

Sector	10th Plan Outlay	2002-03 Exp.	2003-04 Exp.	2004-05 RE	2005-06 BE
Railways*					
Centre	60600	10712	12193	13205	12891
GBS	27600	5283	6292	7193	6073
IEBR	33000	5429	5901	6012	6818
Roads and Road Transport					
Centre	59700	10432	4973	5202	16029
GBS	35000	5039	4973	5202	8890
IEBR	24700	5393	0	0	7139
State **	62259	9952	11143	12617	NA
Total	121959	20384	16116	17819	
Ports, Shipping and Inland Water Transport					
Centre	14220	1137	1202	1299	2353
GBS	2350	180	185	348	454
IEBR	11870	957	1017	951	1899
State	1194	85	105	105	NA
Total	15414	1222	1307	1404	
Civil Aviation					
Centre	12928	1617	1237	1101	1998
GBS	400	40	29	34	311
IEBR	12528	1577	1208	1067	1687
State	352	114	132	114	NA
Total	13280	1731	1369	1215	
Total Transport Sector					
Centre	147448	23898	19605	20807	33271
GBS	**65350**	**10542**	**11479**	**12777**	**15728**
IEBR	**82098**	**13356**	**8126**	**8030**	**17543**
State	63806	10151	11380	12836	NA
Total	**211254**	**34049**	**30985**	**33643**	

Note: Centre sector consists of GBS & IEBR
* No State Sector ** Also includes other transport

Annexure 9.1.2

Achievement of Targets (Plan Head-Wise)

	Target for X Plan	2002-03 (Actual)	2003-04 (Prov.)	2004-05 (Target)	Total
New Lines (kms.)	1310	178	162	205	545
Gauge Conversion (kms.)	2365	830	854	841	2525
Doubling (kms.)	1500	194	206	307	707
Track Renewals (kms.)	23000	4776	4986	4725	14487
Railway Electrification (kms.)	1800	455	504	375	1334
Wagons (FWUs)*	65000	12684	13435	18500	44619
Coaches	9160	1669	2072	2224	5965
EMUs	1965	122	139	180	441
MEMU/DEMU	750	126	121	192	439
Diesel Locomotives	444	100	109	120	329
Electric Locomotives	343	69	86	90	245

*Does not include departmental wagons.

Annexure 9.1.3

Physical Targets/Achievements - Roads & Bridges (Central Sector)
(excluding BRDB & NHAI)

S. No.	Scheme	Unit	10^{th} Plan Targets	2002-03		2003-04	
				Targets	Ach.	Targets	Ach.
1	2	3	4	5	6	7	8
1	Widening to four lanes	Kms.	800	47	26	49	36
2	Widening to two lanes	Kms.	4000	751	610	576	555
3	Strengthening weak 2 lanes	Kms.	2000	587	580	567	703
4	Bypasses	Kms.	25	9	6	7	5
5	Cons./Rehabilitation of Bridges	No.	300	174	134	109	125
6	Improvement of Riding Quality	Kms.	10000	4125	4833	4129	3496

Annexure 9.1.4

Central Road Sector- Outlay and Expenditure

(Rs. crore)

S. No.	Name of the Scheme	10th Plan	2002-03 Outlay	2002-03 Expdr.	2003-04 Outlay	2003-04 Expdr.	2004-05 Outlay	2004-05 Expdr.
1	2	3	4	5	6	7	8	9
1	**i) Externally Aided Projects (EAPs)**							
	a) Externally Aided (RW)	2560	123.8	4.9	39.3	0	80	21.6
	b) Counterpart Funds (RW)	640	31	4.7	21.5	0	33.5	8.4
	EAP-Ministry	3200	**154.8**	9.6	**60.8**	0	**113.5**	30
	c) Externally Aided (NHAI)	8712	1602	1202	1835.4	1159.1	2568	1600
	d) Counterpart Funds (NHAI)	49.5	0	0	0	0	0	0
	e) Loan to NHAI	2028	401	301	459.3	289.8	642	400
	EAP-NHAI	**10789.5**	2003	**1503**	**2294.7**	**1448.9**	**3210**	2000
	f) Streg. of PIC	1	0.2	0.2	0.2	Neg.	0.2	0.2
	Sub Total (a to f)	**13990.5**	**2158**	**1512.8**	**2355.7**	**1448.9**	**3323.7**	2030.2
2	Other Schemes- NH (O)	8664	1440	1425	1544	1474.6	1482	1630
3	Works under BRDB	950	145	210	210	256	210	210
4	Travel Exp (domestic) and Other Charges	20	2	0.4	1.5	0.3	0.9	0.9
5	Dev. Of IT	20	4	2.5	5	1.8	3	3
6	Strategic Roads under Roads Wings/BRDB	50	9.5	10.3	19.5	24.5	19.5	19.5
7	R&D Plg. Studies	20	3	1.8	3	0.2	7.9	7.9
8	Training	10.5	1.5	0.4	12	10.6	1	1
9	Machinery & Equipment	15	2	1.5	7	6.3	3	3
10	Charge Expd.	50	5	5	5	3.7	5	5
11	NHAI (Investment)	10500	2000	2000	1993	1993	1848	1848
12	E&I for States/ UTs from CRF	500	100	25	100	64.5	96	96
	Total- Budgetary Support	**34790**	**5870**	**5194.7**	**6255.7**	**5284.4**	7000	**5854.5**
13	Internal & Extra Budgetary Resources (IEBR)	24700	5592.9	5592.9	0	0	3300	0
	Grand Total	**59490**	**11462.9**	**10787.6**	**6255.7**	**5284.4**	**10300**	**5854.5**

Neg: negligible

Annexure 9.1.5

Year-wise coverage of unconnected habitations under the PMGSY

Sl. No.	States	Total No. of habitations	No. of unconnected habitations	No. of eligible unconnected Habitations		
				1000+	500-999	250-499
1	2	3	4	5	6	7
1	Andhra Pradesh	67401	2679	167	417	396
2	Arunachal Pradesh	3857	3235	103	228	287
3	Assam	22963	15786	6149	4196	2799
4	Bihar	42286	24321	11717	6203	3497
5	Chhattisgarh	29021	23628	2891	6102	3644
6	Goa	369	51	0	16	33
7	Gujarat	35706	8136	475	2286	1493
8	Haryana	6745	67	0	2	0
9	Himachal Pradesh	6020	3494	262	853	2379
10	Jammu & Kashmir	8774	3947	853	942	969
11	Jharkhand	34800	23134	2622	4178	3602
12	Karnataka	49155	5416	332	207	183
13	Kerala	14381	5415	2224	2306	0
14	Madhya Pradesh	55719	34771	5804	10645	1535
15	Maharashtra	56663	7190	253	1124	754
16	Manipur	2808	1250	28	151	336
17	Meghalaya	5539	3030	12	197	722
18	Mizoram	788	384	40	108	116
19	Nagaland	1049	127	21	32	54
20	Orissa	49048	28299	2937	6382	2365
21	Punjab	13528	880	103	433	0
22	Rajasthan	39930	15885	2906	6190	2036
23	Sikkim	897	410	16	138	164
24	Tamil Nadu	62919	5318	577	1825	238
25	Tripura	8132	3803	203	706	1182
26	Uttar Pradesh	141534	61554	8839	15358	87
27	Uttaranchal	18253	8681	168	676	1788
28	West Bengal	51472	35667	11941	11668	1679
	Total	829757	326558	61643	83569	32338

Based on Core Network (subject to verification)

* Final figures to be available after verification of Core Network.

** Based on proposals cleared upto 19.1.2004

Annexure 9.1.5(contd.)

Year-wise coverage of unconnected habitations under the PMGSY

	Habitations being covered out of PMGSY proposals cleared in								
	1000+			500-999			250-499		
	2000-01	2001-02 & 2002-03	2003-04**	2000-01	2001-02 & 2002-03	2003-04**	2001-02	2001-02 & 2002-04	2003-04**
	8	9	10	11	12	13	14	15	16
Andhra Pradesh	48	58	45	64	159	118	27	85	74
Arunachal Pradesh	0	11		3	37		0	60	
Assam	460	857	381	300	74	178	261	20	58
Bihar	322	957		73	141		31	57	
Chhattisgarh	0	324	307	0	128	282	0	67	228
Goa	0	0		4	4		3	6	
Gujarat	12	159	65	54	232	105	0	1	6
Haryana	0	0	0	0	0	0	0	0	0
Himachal Pradesh	16	65	17	54	147	71	131	98	99
Jammu & Kashmir	25	70		26	36		7	20	
Jharkhand	243	319	192	150	117	74	137	62	95
Karnataka	40	111	0	21	97	0	20	33	0
Kerala	29	148	71	3	33	0	0	0	0
Madhya Pradesh	175	751	1032	32	199	288	13	182	192
Maharashtra	49	131	50	16	329	148	15	14	62
Manipur	12	15		25	35		25	14	
Meghalaya	0	9		0	47		0	30	
Mizoram	3	17	16	3	6	17	1	7	12
Nagaland	0	10	3	29	1	7	31	3	8
Orissa	323	596	388	199	162	139	89	85	77
Punjab	65	25	12	24	234	103	0	6	0
Rajasthan	341	619	1533	0	0	41	0	0	44
Sikkim	0	9	1	0	8	22	0	5	2
Tamil Nadu	343	84	113	415	222	371	77	47	211
Tripura	26	18		56	32		101	65	
Uttar Pradesh	2956	981	1781	392	33	776	0	26	132
Uttaranchal	3	55	23	3	35	3	9	35	7
West Bengal	422	882	654	69	166	103	60	59	35
Total	**5913**	**7281**	**6684**	**2015**	**2714**	**2846**	**1038**	**1087**	**1342**

Annexure 9.1.5(contd.)

Year-wise coverage of unconnected habitations under the PMGSY

	Habitations connected as on 19.1.2004 under PMGSY			
	1000+	500-999	250-499	Total 17+18+19
	17	18	19	20
Andhra Pradesh	151	341	186	678
Arunachal Pradesh	11	40	60	111
Assam	1698	552	339	2589
Bihar	1279	214	88	1581
Chattisgarh	631	410	295	1336
Goa	0	8	9	17
Gujarat	236	391	7	634
Haryana	0	0	0	0
Himachal Pradesh	98	272	328	698
Jammu & Kashmir	95	62	27	184
Jharkhand	754	341	294	1389
Karnataka	151	118	53	322
Kerala	248	36	0	284
Madhya Pradesh	1958	519	387	2864
Maharashtra	230	493	91	814
Manipur	27	60	39	126
Meghalaya	9	47	30	86
Mizoram	36	26	20	82
Nagaland	13	37	42	92
Orissa	1307	500	251	2058
Punjab	102	361	6	469
Rajasthan	2493	41	44	2578
Sikkim	10	30	7	47
Tamil Nadu	540	1008	335	1883
Tripura	44	88	166	298
Uttar Pradesh	5718	1201	158	7077
Uttaranchal	81	41	51	173
West Bengal	1958	338	154	2450
Total	**19878**	**7575**	**3467**	**30920**

Annexure 9.1.6

Outlay and expenditure on major ports in Tenth Plan

Rs. Crores

S. No.	Name of the Port / Organ.	10th Plan Approved Outlay	2002-03		2003-04		2004-05		Likely% Expdr. during 2002-05 (Col. 5+7+9) as % of (Col. 3)	Bal. Available for the last 2 years of the 10th Plan (Col. 3 minus Cols 5+7+9)
			Apprd. outlay	Actual Expdr.	Apprd. outlay	Actual Expdr.	Apprd. outlay	Actual Expdr.		
1	2	3	4	5	6	7	8	9	10	11
(A)	**Major Ports**									
1(a)	Kolkata	150.80	8.30	0.85	13.30	5.41	6.30	8.02	9.47	136.52
(b)	Haldia	288.62	16.62	5.25	47.00	3.98	30.40	25.90	12.18	253.49
(c)	RR Schemes	350.00	175.00	0.75	150.00	1.09	9.52	9.52	3.25	338.64
	Sub Total (Kolkata)	**789.41**	**199.92**	**6.85**	210.30	10.48	**46.22**	43.44	7.70	**728.65**
2.	Mumbai	880.20	109.05	100.76	54.21	57.81	56.15	46.51	23.30	675.12
3.	JL Nehru	262.75	149.36	40.26	143.02	12.73	102.14	127.59	96.87	82.27
4.	Chennai	326.70	95.99	85.50	36.69	29.21	16.75	25.32	42.87	186.67
5.	Cochin	366.51	—	10.02	18.88	10.86	85.41	50.79	19.56	294.84
6.	Vizag	240.84	49.06	51.30	51.00	55.65	54.44	54.44	67.02	79.45
7.	Kandla	416.71	30.86	26.53	87.14	43.06	53.85	24.16	26.94	205.04
8.	Mormugao	348.06	30.86	26.53	87.14	43.06	53.85	24.16	26.94	254.31
9.	Paradip	222.70	59.00	41.42	53.40	14.56	87.16	58.76	51.53	107.96
10.	New Mangalore	147.40	37.00	24.41	25.00	5.14	20.00	18.45	32.57	99.40
11.	Tuticorin	230.00	76.10	36.02	17.54	21.84	25.81	19.38	33.59	152.76
12.	Ennore Port Ltd.	300.00	1.00	0.00	150.00	0.99	95.00	45.00	15.33	254.01
13.	Sethusamudram	—	—	—	1.00	0.00	10.00	200.00	@	(-)200.00
	Total (A)	**4531.29**	**902.12**	**478.96**	**914.89**	**303.83**	**745.91**	**828.12**	**35.56**	**2920.38**
(B)	**Others**									
14.	DCI	365.00	179.00	23.55	201.00	23.99	150.50	51.00	27.00	266.46
15.	ALHW	200.00	30.00	25.74	30.00	17.50	35.50	34.60	38.92	122.16
16.	R&D / Studies	2.00	1.02	0.81	0.62	0.39	1.13	1.13	—	(-) 0.33
17.	Other Ports	12.00	1.00	0.87	1.05	0.14	5.00	2.00	25.09	8.99
18.	Tariff Authority	8.00	3.86	3.01	4.33	2.04	4.93	4.93	+	(-) 1.98
19.	Sagar Mala	—	—	—	—	—	24.48	24.48	@	(-) 24.48
	Total (B)	587.00	214.88	53.98	237.00	44.06	221.04	118.14	36.83	370.82
(C)	Survey Vessels	300.00	45.00	8.95	50.00	0.00	100.00	100.00	36.32	191.05
	Grand Total (A+B+C)	**5418.29**	**1162.00**	**541.89**	**1201.89**	**347.89**	**1066.95**	**1046.26**	**35.74**	**3482.25**

@ Additional schemes allocations to be made based on annual requirements.
\+ Allocation to be made based on annual requirements.

Annexure 9.1.7

Physical targets and achievements in major ports during first three years of Tenth Plan (from 2002-03 to 2004-05) (Commodity-wise)

(In MT)

Sr. No.	Name of Commodity	10th Plan approved target	2002-03		2003-04		2004-05
			Target	Achiv.	Target	Achiv.	Target
1	2	3	4	5	6	7	8
1.	POL	154.30	104.08	109.61	113.32	122.22	129.05
2.	Iron Ore	51.50	46.00	50.63	52.85	58.87	49.00
3.	Fertilizers	4.96	3.58	2.88	4.33	2.85	12.42
4.	FRM	8.49	6.89	5.67	5.60	4.66	
5.	Thermal Coal	55.15	31.10	32.88	36.72	32.91	61.40
6.	Cooking Coal	16.15	15.10	15.23	17.50	16.07	
7.	Containerised Cargo (5.09)	61.10 (3.14)	40.71 (3.37)	43.67 (3.84)	49.41 (3.90)	51.06 (4.08)	48.90
8.	Other Cargo	62.35	48.38	52.96	54.02	55.89	49.95
Total		415.00	295.84	313.53	333.75	344.55	366.97

Annexure 9.1.8

Physical targets and achievements of major ports during first three years of Tenth Plan (from 2002-03 to 2004-05) (Port-wise)

(In MT)

Sr. No.	Name of the Port Organisation	Tenth Plan approved target	2002-03		2003-04		2004-05 Target
			Target	Achiv.	Target	Achiv.	
1	2	3	4	5	6	7	8
(A)	Major Ports						
1(a)	Kolkata	21.40	5.50	7.20	7.50	8.69	9.42
(b)	Haldia	33.40	26.25	28.60	31.50	32.36	33.91
Sub Total (Kolkata)		**54.80**	**31.75**	**35.80**	**38.50**	**41.05**	**43.33**
2.	Mumbai	30.40	26.43	26.80	27.00	29.96	32.26
3.	JL Nehru	34.50	25.80	26.84	29.70	31.18	36.12
4.	Chennai	40.00	32.50	33.69	36.60	36.71	39.18
5.	Cochin	17.20	12.79	13.00	13.50	13.57	14.07
6.	Vizag	60.00	44.40	46.01	49.00	47.74	49.56
7.	Kandla	51.00	38.00	40.63	41.50	41.52	42.32
8.	Mormugao	26.30	22.93	23.65	24.35	27.88	28.78
9.	Paradip	28.90	22.20	23.90	26.30	25.31	27.49
10.	New Mangalore	32.70	16.99	21.43	22.95	26.67	27.77
11.	Tuticorin	18.70	13.65	13.29	13.65	13.68	14.20
12.	Ennore Port Ltd.	20.50	8.40	8.49	10.30	9.28	11.89
Total (A)		**415.00**	**295.84**	**313.53**	**333.75**	**344.55**	**366.97**

Annexure 9.1.9

Approved private sector/captive port projects in major ports during first two years of Tenth Plan

S. No.	Project Name	Port Name	Capacity (MT)	Project Cost (Rs. Million)	Project Status
1.	Container Terminal at Multipurpose Berth outer harbour.	Visakhapatnam	4.80	1000	License Agreement with United Liner Agencies Pvt. Ltd signed on 11.9.2002. Terminal commissioned on 26.6.2003.
2.	Redevelopment of existing Bulk Terminal into Container Terminal	Jawaharlal Nehru	14.00	9000	Maersk led consortium emerged successful bidder offering highest revenue sharing, letter of intent to Maersk led consortium issued on 24.6.2004 and consortium submitted its acceptance on 24.6.2004. Consortium incorporated a company named Gateway Terminals India Pvt. Ltd., for this project and License Agreement was signed on 10.8.2004 with this company. Licensee has initiated tendering process for construction activities.
3.	Development of International Container Terminal at Vallarpadam.	Cochin	5.0 (to be raised to 40.00 MMT in phases)	21180 (First Phase 6000)	Govt approval for award of the Licence to the highest bidder M/s. Dubai Port International issued on 9.9.2004. Letter of Intent issued on 16.9.2004. M/s DPI also asked to finalise details of action plan for achieving threshold traffic volume of 4 lakhs TEU at RGCT.
	Grand Total		31180.00		

Annexure 9.1.10

Financial progress of programmes of the civil aviation sector

Sl. No.	Organisation	Tenth Plan Outlay	Annual Plan 2002-03		Annual Plan 2003-04		Annual Plan 2004-05	
			Outlay	Exp.	Outlay	Exp.	Outlay	Exp.
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Air India Ltd.	2661.39	858.70	743.07	600.81	479.57	471.40	350.05
2.	India Airlines Ltd.	4240.50	510.00	418.93	280.00	248.78	226.00	221.70
3.	Airports Authority of India							
	(i) NAD	3378.06	709.60	283.38	552.68	443.87	525.08	442.26
	(ii) IAD	2026.15	286.45	162.28	247.32	122.35	270.00	164.48
4.	Pawan Hans Helicopters Ltd.	458.90	133.80	53.01	81.45	19.60	109.50	60.92
5.	Indira Gandhi Rashtriya Uran Akademy	10.00	2.09	0.98	3.50	0.50	3.00	3.00
6.	Directorate General of Civil Aviation	19.00	3.10	2.54	4.15	2.86	4.00	3.62
7.	Bureau of Civil Aviation Security	114.00	7.69	3.87	7.00	4.24	10.00	0.52
8.	Hotel Corporation of India Ltd.	15.00	8.76	8.76	1.00	0.51	1.00	1.00
9.	Aero Club of India	5.00	1.00	0	1.27	1.00	1.00	1.00
	Total	12928.00	2521.19	1676.82	1779.18	1323.28	1620.98	1248.37

Annexure 9.2.1

MID TERM APPRAISAL OF TENTH PLAN (2002-07)
Physical Performance of Telecom Sector

Scheme	Units	Ninth Plan Achvnt	Tenth Plan Targets	2002-03 Targets	2002-03 Achievmt	2003-04 Targets	Achievmt	2004-05 Targets	Antcd. Achievmt 3yrs	Antcd. Achievmt (in %)
Tot. DELs	Lakh lines	236.01	650.23	69.83	96.48	64.11	219.23	132.56	448.27	68.94
Fixed	Lakh lines		96.89	25.03	23.32	14.00	-2.47	20.49	41.34	42.67
WLL	Lakh lines		62.93	13.43	10.60	16.61	87.03	25.50	123.13	195.66
GSM	Lakh lines		235.41	31.37	62.56	30.00	134.67	81.57	278.80	118.43
BSNL	Lakh lines	218.86	367.67	64.34	47.70	60.61	34.60	100.00	182.30	49.58
Fixed	Lakh lines		80.90	22.90	22.12	14.00	0.19	4.50	26.81	33.14
WLL	Lakh lines		62.93	11.94	3.19	16.61	4.43	25.50	33.12	52.63
GSM	Lakh lines		223.84	29.50	22.39	30.00	29.98	70.00	122.37	54.67
MTNL	Lakh lines	17.15	27.56	5.49	2.38	3.50	-1.48	5.00	5.90	21.41
Fixed	Lakh lines		15.99	2.13	1.20		-2.66			
WLL	Lakh lines		0.00	1.49	0.27		0.50			
GSM	Lakh lines		11.57	1.87	0.91		0.68			
PRIVATE	**Lakh lines**		255.00	0.00	46.40	0.00	**186.11**	**27.56**	260.07	**101.99**
Fixed	Lakh lines				0.00			15.99	15.99	
WLL	Lakh lines				7.14		82.10	0.00	89.24	
GSM	Lakh lines				39.26		104.01	11.57	154.84	
TAX	**Lakh lines**	**25.09**		**11.47**	10.61	**11.08**	**11.08**	**12.66**	34.35	
BSNL	Lakh lines	23.05		10.05	10.11	10.58	10.58	10.58	31.27	
MTNL	Lakh lines	2.04		1.42	0.50	0.50	0.50	2.08	3.08	
Microwave	**000KMs**	**87.35**		5.00	**8.08**	2.00	2.00	2.00	12.08	
Optical Fib	**000KMs**	**273.83**		**125.06**	87.55	55.00	55.00	**38.00**	180.55	
BSNL	-do-			76.06	75.81	35.00	35.00	18.00	128.81	
MTNL	-do-			49.00	11.74	20.00	20.00	20.00	51.74	
VPT	Nos	218860	18000.00	3944.00	3693.00	7130.00	2960.00	8060.00	14713.00	

Annexure-9.2.2

MID TERM APPRAISAL OF TENTH PLAN (2002-07)
TELECOM SECTOR

(Rupee crore at current prices)

Name of Orgn.	IXth Plan Outlay	IXth Plan Actuals	Xth Plan outlay	AP 02-03		AP 03-04		AP 04-05		AP 05-06	Oprational Outlay	Anticipated Expnd.(4yrs)	% of Xth Plan
				BE	Actual	BE	Actual	BE	RE	BE			
1	2	3	4	5	6	7	8	9	10	11	(5+7+9+11)	(6+8+10+11)	
BSNL	37995.00	59994.35	66412.00	14076.00	11819.00	12285.00	6535.80	8809.00	6636.00	9696.00	44866.00	34686.80	52.23
IR	30965.00		66407*	7692.00	8937.00	6515.00		7734.00	6381.00	8051.00			
Bonds	7030.00			3502.00	2881.00	1341.00		1074.00	255.00	1645.00			
Others				2881.00	0.00	4428.00		0.00	0.00	0.00			
GBS			5.00	1.00	1.00	1.00		1.00	0.00	0.00			
MTNL	5446.00	4762.91	11955.44	3994.06	1053.91	2284.00	965.91	2557.00	2220.00	1887.00	10722.06	6126.82	51.25
IR	4066.00		9180.44	2744.06	1053.91	2284.00		2557.00	2220.00	1887.00			
Bonds	1380.00		2775.00	1250.00	0.00	0.00		0.00	0.00	0.00			
ITI	175.00	170.99	790.00	73.00	32.00	202.00	10.86	120.00	738.00	0.00	395.00	780.86	98.84
IR	0.00		130.00	-77.00	-328.00	7.00		0.00	0.00	0.00			
Bonds	150.00		660.00	150.00	200.00	195.00		120.00	0.00	0.00			
Others	25.00				160.00			0.00	538.00	0.00			
BS									200.00				
WMO	44.04	17.00		2.25	2.97	9.36	0.10	14.27	3.27	18.77	44.65	25.11	
WPC		1.33		101.05	15.80	131.17	94.01	73.75	20.00	62.71	368.68	192.52	
TRAI		6.00	1450*	1.50	0.92	1.67	1.67	0.00	0.00	3.00	6.17	5.59	
TDSAT		0.00		0.20	0.48	0.87	0.63	0.60	0.70	1.00	2.67	2.81	
TEC		7.16		4.00	1.28	2.27	2.46	4.00	2.98	1.13	11.40	7.85	
C-DOT		292.63		75.00	103.00	38.66	47.66	81.38	68.36	131.40	326.44	350.42	
IR										49.40	49.40	49.40	
GBS									68.36	82.00	82.00	150.36	
Others*	2782.00		6331.56								0.00	0.00	0.00
Total	46442.04	65252.37	86984.00	18327.06	13029.36	14955.00	7659.10	11660.00	9689.31	11801.01	56743.07	42178.78	48.49
IR	35031.00		79152.44	10359.06	9662.91	8806.00		10291.00	8601.00	9987.40			
Bonds	8560.00			4902.00	3241.00	1536.00		1194.00	793.00	1645.00			
Others	2782.00		6331.56	2881.00	0.00	4428.00		0.00	0.00	0.00			
BS	44.04		1500.00	185.00	125.45	185.00	146.53	175.00	295.31	168.61	545.00	735.90	49.06

* VSNL Rs 2737.00 crore+HTL Rs 45.00 crore

Annexure- 9.2.3

MID TERM APPRAISAL OF TENTH PLAN (2002-07)

(Rupee crore at 2001-02 prices)

Name of Orgn.	IXth Plan Outlay	IXth Plan Actuals	Xth Plan outlay	AP 02-03		AP 03-04		AP 04-05		AP 05-06	Oprational Outlay	Anticipated Expnd.(4yrs)	% of Xth Plan
				BE	Actual	BE	Actual	BE	RE	BE	(5+7+9+11)	(6+8+10+11)	
1	2	3	4	5	6	7	8	9	10	11			
BSNL	37995.00	59994.35	**66412.00**	**13573.77**	**11397.30**	**11483.45**	6109.37	**7768.08**	**5851.85**	**8143.11**	40968.41	31501.63	47.43
IR	30965.00		66407*	7417.55	8618.13	6089.92	0.00	6820.11	5626.98	6761.57			
Bonds	7030.00			3377.05	2778.21	1253.51	0.00	947.09	224.87	1381.54			
Others				2778.21	0.00	4139.09	0.00	0.00	0.00	0.00			
GBS			5.00	0.96	0.96	0.93	0.00	0.88	0.00	0.00			
MTNL	5446.00	4762.91	**11955.44**	**3851.55**	1016.31	**2134.98**	902.89	**2254.85**	1957.67	**1584.78**	9826.16	5461.65	45.68
IR	4066.00		9180.44	2646.15	1016.31	2134.98	0.00	2254.85	1957.67	1584.78			
Bonds	1380.00		2775.00	1205.40	0.00	0.00	0.00	0.00	0.00	0.00			
ITI	175.00	170.99	790.00	70.40	30.86	**188.82**	10.15	**105.82**	650.79	0.00	365.04	691.80	87.57
IR	0.00		130.00	-74.25	-316.30	6.54	0.00	0.00	0.00	0.00			
Bonds	150.00		660.00	144.65	192.86	182.28	0.00	105.82	0.00	0.00			
Others	25.00			0.00	154.29	0.00	0.00	0.00	474.43	0.00			
BS				0.00	0.00	0.00	0.00	0.00	176.37	0.00	0.00		
WMO	44.04	17.00		2.17	2.86	**8.75**	0.09	12.58	2.88	15.76	39.27	21.60	
WPC		1.33		97.44	15.24	**122.61**	87.88	65.04	17.64	52.67	337.76	173.42	
TRAI		6.00	1450*	1.45	0.89	**1.56**	1.56	0.00	0.00	2.52	5.53	4.97	
TDSAT		0.00		0.19	0.46	**0.81**	0.59	0.53	0.62	0.84	2.38	2.51	
TEC		7.16		3.86	1.23	**2.12**	2.30	3.53	2.63	0.95	10.46	7.11	
C-DOT		292.63		72.32	99.32	**36.14**	44.55	71.76	60.28	110.36	290.58	314.51	
IR													
GBS													
Others*	2782.00		6331.56										0.00
Total	46442.04	65252.37	86984.00	**17673.15**	12564.47	**13979.25**	7159.38	**10282.19**	**8544.37**	9910.99	51845.57	38179.20	43.89
IR	35031.00		79152.44	9989.45	9318.14	8231.45	0.00	9074.96	7584.66	8387.84		0.00	
Bonds	8560.00			4727.10	3125.36	1435.78	0.00	1052.91	699.29	1381.54			
Others	2782.00		6331.56	2778.21	0.00	4139.09	0.00	0.00	0.00	0.00			
BS	44.04		1500.00	178.40	120.97	172.93	136.97	154.32	260.41	141.61	647.26	659.96	44.00

* VSNL Rs 2737.00 crore+HTL Rs 45.00 crore

Annexure 9.2.4

BROADBAND POLICY, 2004 - MAJOR HIGHLIGHTS

- Broadband has been defined as an always-on data connection supporting interactive services including Internet access with minimum download speed of 256 Kbps per subscriber. The new broadband policy aims to target three million broadband subscribers and six million Internet subscribers with a timeframe of December 2005. By the end of year 2010, the policy aims to target 20 million broadband subscribes and 40 million Internet subscribers.
- There are more than 4.5 lakh route km of optical fibre laid by BSNL / MTNL and more than one lakh route km laid by private operators. Spread of optical fibre networks shall be emphasised keeping in view the long-term perspective.
- Last mile copper loop is not a 'bottleneck facility' for Broadband service providers. Access providers shall be free to enter into mutually agreed commercial arrangements for utilisation of available copper loop for expansion of broadband services. The owner of local loop shall be free to decide the areas in which investment is to be made to upgrade the infrastructure for Broadband services.
- There are more than 40 million copper loops in the country available with BSNL and MTNL out of which 14 million loops are in rural areas. Due to combination of old and new cables only about 25-30 per cent of the 26 million loops in the urban areas (about 7 million loops) can be leveraged for broadband services by BSNL and MTNL. Due to combination of old and new cables, the owners of copper loop will have to be given high priority because their role is critical as key drivers in the broadband service market using DSL.
- Further, use of brand name being treated, as a part of the value shall be permitted in such commercial arrangements.
- Management of BSNL and MTNL has decided to provide 1.5 million connections by the end of 2005.
- Cable TV network can be used as franchisee network of the service provider for provisioning Broadband services. However, all responsibilities for ensuring compliance of terms & conditions of the licence shall vest with the Licensee. The terms of franchise agreement between Licensee and his franchisee shall be settled mutually by negotiation between the two parties involved.
- Very Small Aperture Terminals (VSAT) and Direct-to-Home (DTH) services would be encouraged for penetration of Broadband and Internet services with the added advantage to serve remote and inaccessible areas.
- VSAT service providers are permitted to transmit data up to 2Mbps instead of earlier limit of 512 kbps in a Closed User Group domestic VSAT network.
- Commercial VSAT service providers having ISP license shall be permitted use of same hub station and remote station to provide Internet service directly to the subscribers. Further, this remote station shall be permitted to be used as a distribution point to provide Internet services to multiple independent subscribers. Necessary amendments in the licence agreement shall be carried out immediately.
- DTH service providers shall be permitted to provide Receive Only Internet Service after obtaining ISP licence from Department of Telecommunications. Further, ISP licensees shall be permitted to allow customers for downloading data through DTH after obtaining necessary permission from the competent authority. DTH Service providers will also be permitted to provide bi-directional Internet services after obtaining VSAT and ISP licence from DoT.

- In order to simplify SACFA clearance, the VSAT operators shall be allowed to start the installation process of VSAT terminals after a period of one month of submitting all relevant documents to WPC for SACFA clearance wherever the total height of such installation is less than 5 meters above the rooftop of an authorised building. In the case of Receive-Only VSAT terminals and DTH with Receive-Only-Internet, no SACFA/ WPC clearance will be required wherever the total height of such installation is less than 5 meters above the rooftop of an authorised building.
- Other wireless installations with antenna height less than 5 meters, above the rooftop of an authorised building, will also not require SACFA clearance for such antenna.
- A transparent scheme is being outlined separately for time-bound frequency allocation, siting clearance and wireless licensing.
- With a view to encourage broadband connectivity, both outdoor and indoor usage of low power Wi-Fi and Wi-Max systems in 2.4 GHz-2.4835 GHz band has been delicensed. The use of low power indoor systems in 5.15-5.25 GHz and 5.725-5.875 GHz bands has also been de-licensed in January, 2005.
- To accelerate penetration of Broadband and Internet, the 5.15-5.25 GHz shall be de-licensed for the indoor use of low power Wi Fi systems. For outdoor use, the band 5.25-5.35 GHz shall be de-licensed in consultation with DoS and delicensing in the band 5.15-5.25 GHz would be considered after the process of vacation. Alternative spectrum bands, which are not in high usage and could be deployed for Broadband services, shall also be explored and identified.
- As per TRAI Act, 1997, TRAI has to prescribe QoS parameters. Government recognises that QoS parameters are extremely important and have an impact on investment and rollout decisions of operators. TRAI would be requested to prescribe QoS parameters for provisioning of broadband service using various access technologies at an early date.
- National Internet Exchange of India (NIXI) has been set up by DIT, Government of India to ensure that Internet traffic, originating and destined for India, should be routed within India. It is expected that NIXI will take appropriate steps for increasing the utilisation of such infrastructure.

Energy

10.1 The Tenth Five-Year Plan recognised the fact that underperformance of the energy sector can be a major constraint in delivering the targeted 8 per cent annual growth in gross domestic product (GDP). It, therefore, called for an integrated energy policy based on acceleration of the reform process and substantial increase in installed capacity and production in the energy sector. Several important steps have been taken in this direction, but the process is far from complete. The Electricity Act, 2003 was notified on 10 June 2003, and contains enabling provisions for the development of a competitive and efficient power sector, but there have been delays in operationalising the Act due to delays in finalising policies and implementing regulations required under the Act. Reforms in the petroleum and natural gas sector through the dismantling of the Administered Price Mechanism (APM) have also not progressed as envisaged and real competition in the marketing of petroleum products is yet to emerge. The Coal Bill 2000 aimed at amending the provisions of Coal Mines (Nationalisation) Act 1973 and permit private sector in non-captive mining is pending in Parliament.

10.2 Serious weaknesses in the State Electricity Boards (SEBs), especially in the distribution segment, continue to plague the power sector and weaken its financial viability. The anticipated capacity addition in power sector is likely to reach just over 75 per cent of the Tenth Plan target. The target for coal production is likely to be exceeded by over 6 per cent in the terminal year of the Tenth Plan. As a result of higher domestic production and higher imports, the demand supply gap of 35 million tones (mt) foreseen in the terminal year of the Tenth Plan is expected to narrow to about 11 mt. Although the target of crude oil production may be achieved, a 5 per cent shortfall is anticipated in the production of natural gas. The target for addition of power generation capacity through renewable energy sources is likely to be exceeded by 3 per cent primarily because wind power capacity addition is expected to more than make up for shortfalls in all other renewable capacity targets.

POWER SECTOR

10.3 The power sector remains the most important element of infrastructure essential for delivering targeted levels of GDP growth. The need to introduce reforms in the sector was recognised in the early 1990s but the outcome remains unsatisfactory despite a series of efforts. Energy and peaking shortages, low quality of supply and internationally uncompetitive tariffs adversely affect economic activity and the situation is not likely to improve unless the distribution segment becomes efficient and financially viable.

10.4 The thrust areas for the power sector in the Tenth Plan are:

- Power sector reform through:
  - unbundling of vertically integrated state utilities;
  - establishing independent regulatory regimes at the state level as well as the Centre;
  - improving financial discipline and the financial viability of the state utilities and
  - transforming the Accelerated Power Development and Reforms Programme (APDRP) from an investment-driven programme to an outcome-driven one.
- Raising the level of competition in each element of the electricity value chain through:

- ➢ increased private sector participation;
- ➢ instituting open access to consumers and
- ➢ creating a level playing field.

- Tapping the available captive capacity by integrating it into the grid.
- Enactment of the Electricity Bill to provide the legal framework that embodies all of the above.
- Encouraging CPSUs to take new investments through joint ventures with state utilities and private sector. .

Physical Performance

10.5 Against the originally envisaged Tenth Plan target of 41,110 MW of capacity addition, the likely capacity addition will at most be 31,290 MW, a shortfall of at least 23.9 per cent. The likely capacity addition includes 4293 MW of capacity that was not part of the original Tenth Plan targets. If the unplanned capacity is excluded, the shortfall would rise to 34.4 per cent.

10.6 Table 10.1 indicates the actual achievement in capacity addition during the first two years, anticipated capacity addition in 2004-05 and likely achievement for the last two years of the Tenth Plan period. While the Planning Commission projects a likely capacity addition of 31,290 MW during the 10th Plan, the Ministry of Power projects 36,955 MW. The difference between the two is largely due to gas based projects and nuclear projects included by the Ministry of Power. These projects were not part of Tenth Plan projects and the availability of gas over the next two years is highly uncertain. As per MoP's projections the likely shortfall will be 10 per cent if these projects come through, otherwise it will be 20 per cent.

10.7 The sector-wise break up of the projects that were not originally included in the Tenth Plan but have actually materialised or are likely to materialise in the Tenth Plan period is as follows:

Central sector	-	2,250 MW
State sector	-	1,620 MW
Private sector	-	423 MW
Total	-	4,293 MW

All the above unplanned projects are thermal plants. These non-Plan projects have helped improve the Tenth Plan performance.

10.8 The targets and anticipated likely achievement for each of the sub-sectors – hydro, thermal and nuclear capacity – are given in Table 10.2.

Table 10.1
Targets and achievements in capacity additions in the Tenth Plan period

(in MW)

	Tenth Plan Target	2002-03 Actual	2003-04 Actual	2004-05 Anticipated	2005-07 Likely	TENTH PLAN LIKELY ACHIEVEMENT	
						In respect of Tenth Plan Projects	Including projects not included in Tenth Plan
Centre	22,832	1,210	3,035	3,630	9,222	14,847 (65.0)	17,097 (74.9)
State/UT	11,157	1,114	819	1,443	7,727	9,483 (85.0)	11,103 (99.5)
Private*	7,121	548	232	173	2,137	2,667 (37.5)	3,090 (43.4)
TOTAL	**41,110**	**2,872**	**4,086**	**5,246**	**19,086**	**26,997 (65.6)**	**31,290 ^ (76.1)**

* Excludes windmill capacity through private sector
^ Likely achievement projected by Ministry of Power is 36,955 MW
Note- Figures in brackets indicate percentage of target achieved.

Table 10.2
Generating capacity anticipated at the end of the Tenth Plan

(MW)

	Hydro	Thermal	Nuclear	Total
Capacity as on 31.3.2002	26,269	76,057	2,720	1,05,046
Tenth Plan Target	14,393	25,417	1,300	41,110
Likely addition during Tenth Plan	10,800 (75.0)	19,190 (75.5)	1,300 (100.0)	31,290 (76.1)
Likely installed capacity On 31.3.2007	37,069	95,247	4,020	1,36,336

(Figures in brackets indicate percentage of target achieved)

10.9 The likely shortfall in capacity addition in the case of hydel and thermal plants will be around 25 per cent. The Tenth Plan envisaged building 9.6 per cent of the capacity using the more efficient super critical 660 MW modules. However, the use of the larger and more efficient units was shifted to the Eleventh Five-Year Plan in order to realise higher physical performance based on the proven 500 MW units. The capacity addition target for nuclear plants will be realised in full. The Central sector is expected to have a shortfall of 23 per cent, while the state sector is likely to have a marginal shortfall of 0.5 per cent. The private sector shortfall will be as high as 57 per cent, which largely reflects the fact that the distribution segment of the power sector remains financially unviable. The financial closure of private sector projects remains difficult in the absence of a payment security mechanism and the difficulties of obtaining fuel linkage both in respect of coal and gas. The sector-wise break-up of delayed Tenth Plan power generation capacity is given in Table 10.3.

10.10 Significant shortfalls in achieving Plan targets for capacity addition have been a consistent phenomenon, except during the Seventh Plan period. The inadequate creation of capacity has been partially addressed through higher plant load factor (PLF) as shown in Table 10.4. But high PLFs lower both quality and reliability of supply. System operators have handled capacity shortfalls by shifting agricultural load to low peak night hours and through scheduled power cuts. Low reliability, poor quality of supply and high tariffs have pushed industrial and commercial units to resort increasingly to captive generation. Table 10.4 also shows that the PLF for nuclear plants has gone down to 73.70 per cent in 2003-04, after reaching a high of 79.40 per cent in 2001-02. This is primarily due to non-availability of

Table 10.3
Delayed Tenth Plan power generation capacity

(MW)

Sector	Thermal Projects	Hydro Projects	Total
Central sector	5,420	2,565	7,985
State sector	1,116	558	1,674
Private sector	3,984	470	4,454
Total	10,520	**3,593**	**14,113**

Table 10.4
Plant Load Factor (%)

Mode	Beginning of the Ninth Plan 1996-97	End of the Ninth Plan 2001-02	2002-03	2003-04
Thermal	64.40	69.90	72.20	72.70
Nuclear	55.90	79.40	79.30	73.90

nuclear fuel because the development of domestic mines has not kept pace with addition of generating capacity.

10.11 Large gaps remain in rural electrification. Out of 5,87,000 inhabited villages, an estimated 4,95,000 villages were electrified up to the end of 31 March 2004 yielding an all-India village electrification level of 84.3 per cent. However, this is based on the earlier definition of village electrification, which states "a village will be deemed to be electrified if electricity is used in the inhabited locality within the revenue boundary of the village for any purpose whatsoever." The new definition of village electrification requires that:

- Basic infrastructure such as distribution transformer and distribution lines be provided in the inhabited locality as well as the dalit basti/hamlet where it exists.
- Electricity is provided to public places like schools, panchayat office, health centres, dispensary, community centres etc.
- The number of households electrified should be at least 10 per cent of the total number of households in the village.

If this new definition is applied, and if de-electrified villages are also included, the number of unelectrified villages is expected to at least double, thereby reducing village electrification to little less than 70 per cent.

10.12 The level of household electrification is, of course, much lower. The 2001 Census data indicates that only 44 per cent of the rural households are electrified, leaving 56 per cent of the households without electricity. The current status of village electrification and household electrification in individual states is given in Table 10.5.

Financial Performance

Plan Outlays

10.13 The Tenth Plan approved outlay for the power sector is Rs.2,70,276 crore, representing 18.2 per cent of the total public sector outlay. Tables 10.6 and 10.7 indicate the progress on Plan expenditure (Centre and States) and financing of Central sector. The likely Central sector expenditure during the first four years of the Plan will only be Rs.70,966 crore (at current prices) which amounts to around Rs.63,102 crore in constant (2001-02) prices compared to the total Tenth Plan outlay of Rs.1,77,050 crore in constant (2001-02) rupees.

Table 10.5
Reported status of rural electrification

Better Electrified States			Poorly Electrified States		
States	**Electrified villages (%)**	**Electrified households (%)**	**States**	**Electrified villages (%)**	**Electrified households (in %)**
Himachal Pradesh	99.38	94.80	Rajasthan	98.38	54.70
Punjab	100.00	91.90	Chhattisgarh	94.00	53.10
Haryana	100.00	82.90	West Bengal	83.63	37.50
Gujarat	100.00	80.40	North-East Region	75.32	33.20
Maharashtra	100.00	77.50	Uttar Pradesh	58.73	31.90
Madhya Pradesh	97.43	70.00	Orrisa	80.15	26.90
Karnataka	98.91	78.50	Jharkhand	26.00	24.30
Tamil Nadu	100.00	78.20	Bihar	50.00	10.30
Kerala	100.00	70.20			
Andhra Pradesh	100.00	67.30			

Table 10.6
Financial performance of power sector

All figures in 2001-02 prices (Rs. crore)

Sl. No.	Year	Central	State	Total at Constant 2001-02 prices
1.	Ninth Plan approved	68,782	91,918	1,60,700
2.	Ninth Plan realisation	43,347	1,10,329	1,19,576
3.	Tenth Plan approved	1,77,050	93,226	2,70,276
4.	2002-03	10,601	14,339	24,940
5.	2003-04	13,526 (Actuals)	14,528 (RE)	28,054
6.	2004-05	15,947 (RE)	15,076 (Est.)	31,023
7.	2005-06	23,028(BE)	15,794 (Est.)	38,822
8.	Likely achievement in first four years	63,102	59,737	1,22,839
9.	2006-07 (Likely)	51,269 #	16,546	67,815
10.	Likely investment during Tenth Plan	1,14,371#	76,283*	1,90,654
11.	(%) utilisation	64.60	81.83	70.54

As forecast by the concerned Ministries/Deptt.

* Assumes a 10 per cent growth in nominal terms (for the remaining three years) over the level 2003-04.

Table 10.7
Financing of Ministry of Power investment during Tenth Plan

Sl. No.	YEAR	IEBR		GBS	Outlay at constant 2001-02 Prices
		IR	EBR		
1.	Tenth Plan approved	14,138	1,04,261	25,000	1,43,399
2.	2002-03 (actual)	1,630	4,946	1,765	8,341
3.	2003-04 (actual)	2,138	6,176	1,726	10,040
4.	2004-05 (R.E)	3,280	6,986	2,116	12,382
5.	2005-06 (B.E)	4,276	11,609	2,520	18,405
6.	First four years Anticipated	41,041		8,127	49,168
7.	2006-07 (likely) #	31,179		12,594	43,773
8.	Likely investment during Tenth Plan #	72,220		20,721	92,941
9.	% of Tenth Plan	61.0		82.9	64.8

As estimated by the Ministry of Power

Notes for Tables 10.6 and 10.7 :

(1) The Tenth Plan outlays are based on 2001-02 price levels.

(2) The investments estimated by the Ministry of Power in the last two years of the Tenth Plan look very high compared to the actual achievement in the first three years. Planning Commission estimates that the likely outlay by the Ministry of Power will not exceed Rs.64,000 crore. The total central sector outlay will likely be Rs.85,430 crore.

Progress in Tenth Plan

10.14 Despite the importance given to the power sector in the Tenth Plan, it remains an area of serious concern because of the following factors:

- Internationally uncompetitive and poor quality power imposes a heavy burden on trade and industry.
- System wide aggregate technical and commercial (AT&C) losses exceed 40 per cent
  - In Orissa, such losses are over 45 per cent even six years after privatisation
  - In Delhi, the losses are over 40 per cent even three years of privatisation
- The SEBs are financially sick; loss on sale of electricity, though lower than the peak reached in 2001-02, has been rising since 2002-03.
- 56 per cent households are not electrified; power on demand remains a distant dream.
- Reported peaking and energy shortages are 7 per cent and 11 per cent respectively but these do not reflect the real shortages, as they do not account for suppressed demand and scheduled load shedding.
- The growing share of CPSUs relative to state sector and private sector. CPSUs receive guaranteed 14/16 percent post tax returns under a cost plus tariff regime. Such high guaranteed returns on a non-competitive basis are unique to India and, more importantly, cannot be sustained with the prevailing high level of AT&C losses. The need to make industrial/commercial tariffs internationally competitive limits the scope for further tariff increases for these two consumption categories. Less than 42 per cent of the energy is sold to industrial and commercial consumers (including sales to public water works and railway traction). However, this 42 per cent of energy yields over 70 per cent of the actual revenue collected by the state utilities.
- Even though distribution reform remains the key to improving the viability of the sector, generation and transmission investments continue to dominate the sector with a share exceeding 90 per cent of the investment. This is akin to building a superstructure without the foundation.

Power Sector Reform and Outcomes

10.15 Power sector reforms have been under way for over a decade. Some of the important changes it has effected are:

- Nine states — Orissa, Haryana, Andhra Pradesh, Uttar Pradesh, Karnataka, Rajasthan, Madhya Pradesh, Gujarat and Delhi — have enacted their State Electricity Reforms Acts which provide, inter-alia, for unbundling/ corporatisation of SEBs, setting up of State Electricity Reforms Commissions (SERCs), etc.
- Twenty-four states have either constituted or notified the constitution of SERC and eighteen SERCs have issued tariff orders. With the Electricity Act, 2003 having come into force the setting up of SERCs has become mandatory. The states where the SERCs are not in existence have been advised to take necessary action for the setting up of SERCs. These are Manipur, Nagaland, Meghalaya, Arunachal Pradesh and Mizoram.
- The SEBs of Orissa, Haryana, Andhra Pradesh, Karnataka, Uttar Pradesh, Uttaranchal, Rajasthan, Delhi, Madhya Pradesh, Gujarat and Assam have been unbundled/corporatised.
- Distribution has been privatised in Orissa and, Delhi, while Uttar Pradesh is in the process of doing so.

10.16 Despite these achievements, the power sector remains locked in a situation that is fundamentally unsustainable. The efficiency of the distribution segment as measured by the extent of Aggregate Technical and Commercial

(ATC) losses remains low. The proportion of energy billed to energy available has remained flat at under 67 per cent since 2000-01. Well over 40 per cent of the energy pumped into the system is lost, not billed, incorrectly billed or not collected. The losses have declined slightly (Table 10.8) but much less than was expected or, indeed, is necessary to ensure the financial viability of the SEBs. As a percentage of turnover, losses have come down because of tariff increases and efficiency improvement in SEBs. The tariff between 2000-01 and 2003-04 went up by 19.4 per cent while the cost of supply went up by only 4.8 per cent over the same period. Such a differential in tariff hikes and supply costs is not sustainable and the trend is already showing a sign of reversal. As tariff increases and efficiency gains become more moderate, the losses on sale of electricity are seen to be rising in absolute terms. (Table 10.8). In this situation, SEBs are unable to invest in improving the distribution system or in expanding generation and strengthening/ expanding inter-state transmission capacity. This is reflected in the fact that although the state sector accounted for two-thirds of the generating capacity at the start of the Tenth Plan and the Central Sector one-third, the targets for capacity creation of the two sectors were in reverse proportion in the Tenth Plan. The financial difficulties of the SEBs are also responsible for their inability to attract private investment and, therefore, the performance of the private sector against plan targets remains poor.

Tripartite Agreement

10.17 One reason why the Central sector has been insulated from these problems is the Tripartite Agreement (TPA) under which the outstanding dues of SEBs to CPSUs as on 30 September 2001 were securitized and subsequent payments to CPSUs were protected by recourse to the account of the state governments with the Reserve Bank of India. The states have been maintaining payment discipline vis-à-vis CPSUs since then, but the viability of the arrangement is questionable.

10.18 Compliance under the tripartite agreement is rewarded by cash incentives. Even payment of incentives under the APDRP and the release of the APDRP investment component has been made conditional on compliance with the tripartite agreement. Although these are good measures to ensure payment discipline, it is also a fact that the structure put in place ensures net transfers to the states in the early years of the scheme.

Table 10.8
Financial performance of 20 major states excluding Delhi and Orissa

Particulars	2000-01 Actual	2001-02 Actual	2002-03 Actual	2003-04 Provi.	2004-05 RE
Energy Sold (MU)	265396	279471	290017	311196	334684
Energy Sold/ Energy Available (%)	66.79	66.17	65.96	66.82	67.95
Revenue from sale of electricity (Rs.crore)	60989	68115	76597	85358	92553
Total expenditure (Rs.crore)	91437	98541	102800	112342	120282
Loss on sale of electricity (Rs.crore)	29760	30427	26203	26983	27729
Average cost of supply (Paise/Kwh)	344.53	352.60 (2.34)	354.46 (2.88)	361.00 (4.78)	359.39 (4.31)
Average tariff (Paise/Kwh)	229.80	243.73 (6.06)	264.11 (14.93)	274.29 (19.36)	276.54 (20.34)
Gap between average cost of supply and average tariff (Paise)	114.73	108.87	90.35	86.71	82.85

Note: Figures in the bracket represents increase over 2000-01

While this has encouraged payment in the early years, a reduction in cash incentives in the subsequent years may give rise to defaults by state governments or the state sector utilities. The risk of such defaults will rise once the repayment of the securitised dues starts in October 2006.

Accelerated Power Development and Reform Programme

10.19 The APDRP was aimed at supporting distribution reforms in the states through investments and incentives for achieving desired outcomes. Under the investment component, projects worth Rs.17,612.36 crore had been sanctioned by 15th March, 2005. All of these projects were designed to reduce the AT&C losses through strengthening of the sub-transmission and distribution system. While the total investment needs for projects in special category states were to be met by the Government of India, the non-special category states were required to fund 50 per cent of the approved project outlay through counterpart funding arranged by the state governments. A broad summary of the investment component is given in Table 10.9.

10.20 Table 10.9 highlights two issues. One, the total investment in APDRP projects over three years has only been Rs.5,768 crore. Thus, despite recognising the criticality of the distribution sector to the efficiency of the power sector, actual investments in the distribution sector remain low. Second, the actual investment is well below the total funding made available for APDRP projects. The performance of APDRP has, thus far, fallen well short of the promise held out in support of the programme. Availability of baseline data and its reliability to measure outcomes remains in doubt.

10.21 An independent review of APDRP is essential and the programme may have to be restructured to a completely outcome-driven one, with established baselines and monitorable outcomes. Ministry of Power has already engaged a number of independent agencies for a study of APDRP Schemes. The state utilities support the programme as it provides the only resource for upgrading distribution. However, they would prefer greater flexibility and delegation in the design/implementation of the programme. The distribution sector has been neglected in the past and, based on the experience thus far with APDRP, it is estimated that an investment exceeding Rs.1,00,000 crore could easily be absorbed in the short to medium term to improve distribution efficiency It would best if at least 40 per cent of the Plan outlays are earmarked for distribution over the next seven to 10 years.

10.22 As regards the incentive components of the APDRP scheme, five states - Gujarat, Maharashtra, Haryana, Rajasthan and Andhra Pradesh - have received incentives aggregating Rs.882.58 crore corresponding to an audited loss reduction of Rs.1,765.14 crore over their loss levels of 2001-02. However, the loss reduction includes improvements due to tariff increases. The budget provision for disbursement of incentive has been Rs.1750 per year during the first three years of the

Table 10.9
Summary of investment component of APDRP
(As on 15th March, 2005)

(Rs. Crore)

Sl. No.	Category of states	Project outlay	APDRP component to be funded by GOI	Amount actually released by GOI	Counterpart funds provided by states	Total utilisation (Actual investment)
1	Non-special	15,039.23	7,519.62	3,570.04	2,636.59	5,286.71
2	Special	2,573.13	2,573.13	943.04	-	481.00
Grand Total		17,612.36	10,092.75	4,513.08	2,636.59	5,767.71

Table 10.10
Summary of incentive component in APDRP

(Rs. crore)

States	Incentive Received		
	2002-03	**2003-04**	**Total**
Andhra Pradesh	-	265.11	265.11
Gujarat	236.38	-	236.38
Haryana	5.01	100.48	105.49
Maharashtra	137.89	-	137.89
Rajasthan	-	137.71	137.71
Total	**379.28**	**503.30**	**882.58**

scheme. The utilisation during the first two years of the Tenth Plan was only 25.2 per cent. The details of state-wise incentive disbursement for 2002-03 and 2003-04 is given in Table 10.10.

The Electricity Act 2003

10.23 The Electricity Act 2003 was notified on 10 June 2003. The Act, as finally approved, provides the basic framework for encouraging reforms and introducing competition in the sector.

The following notable actions have been taken since the notification of the Electricity Act, 2003:

- The Central Government notified the National Electricity Policy (NEP) on 12th February, 2005.
- Guidelines for the competitive bidding under Section 63 of the Act were notified on 19th January, 2005.
- Rules under 14 sections of the Electricity Act have already been notified. Other rules are currently being finalised.
- CEA has circulated draft notifications on following four items:
  - o Transaction of its business
  - o Standards for connectivity to the grid
  - o Regulations on metering
  - o Regulation on governing approval for hydro projects.

10.24 However, the Ministry of Power has not met, certain requirements relating to various policies and implementing regulations as foreseen under the Act (Box 10.1). The required consensus around these policies and implementing regulations is still missing. Hence, much remains to be done to operationalise the Act in letter and spirit.

10.25 The Electricity Act de-licenses notified rural areas completely for generation, transmission and distribution of electricity. However, this requires that the States notify rural areas. Such notification could see the emergence of independent rural suppliers of electricity.

10.26 There have been several demands for a review of key provisions of the Electricity Act. Some of the issues of concern have been addressed but other issues remain. These should be resolved as quickly as possible to end uncertainty. Care should be taken to ensure that the revisions do not affect the provisions relevant for promoting competition and improving efficiency of the sector. Such enabling provisions include unbundling, separation of content from carriage, phasing out of cross subsidies, shifting to direct subsidies where possible, flexibility for captive generation, parallel

Box 10.1
Commitment for implementing the Electricity Act, 2003

- Notify the Tariff Policy under Section 3
- Notify the National Policy on Rural Electrification under Section 5
- Notify the National Policy on Stand Alone Systems under Section 4
- Make rules for second and subsequent distribution licensees under Section 14
- Make remaining implementing Rules required under various Sections of the Act.
- Get the Central Electricity Authority (CEA) to issue notification under 7 sections of the Act
- Constitute and operationalise the Appellate Tribunal

distribution, open access etc. Competition is essential to realising efficiency gains in the sector and the proposed review, if any, should be driven by the need to realise such gains in this loss-making sector.

Regulatory Reform

10.27 The experience with independent regulation has been patchy, at best (Box 10.2). The record so far has raised the following concerns:

- Delayed, inconsistent and deficient orders.
- Regulations on competition, wheeling, open access, cross subsidies, trading are lacking or are deficient.
- Regulators have an all-powerful role but the checks and balances on the performance of regulatory institutions is inadequate. The issue of accountability of regulation needs to be addressed.
- Inappropriate eligibility criteria and a selection process that lacks transparency.
- Lack of regulatory capacity and expertise.
- Absence of necessary training for regulators.

Hydro Power Development

10.28 A 50,000 MW hydropower initiative was launched in May 2003 With the objective of realising the feasible balance of hydropower potential in the country in a systematic manner. This initiative includes 162 hydroelectric projects with an aggregate capacity of over 48,000 MW. The proposed schemes include 17,000 MW of storage scheme and 31,000 MW of run-of-the-river projects. Around 50 per cent of this capacity lies in Arunachal Pradesh alone, which is proposed to be taken up by CPSUs. The Central Electricity Authority (CEA) has prepared the pre-feasibility reports for these 162 projects. However, the run-of-the-river schemes (over 60 per cent of the total) do not have the ability to provide peaking capacity that is essential to improve the hydro/ thermal mix.

Box 10.2
Regulatory System in Infrastructure

The Mid Term Appraisal points to the importance of overcoming the infrastructure deficit which plagues the economy as an essential condition for accelerating growth especially in the industrial sector. Given the constraints on expanding public investment, increasing reliance would have to be placed on public private partnerships for bridging the investment gap. Private investment requires a policy framework which can enable an adequate rate of return and also a regulatory system which is seen to be fair by consumers and also by producers. For the latter, the system must be independent of government. This is especially so when private sector service providers have to compete with incumbent public sector providers.

During the past decade, economic regulation has evolved in different ways in different sectors. In power and telecommunication regulators have been set up with extensive functions. In the highways sector, regulation has relied mainly on the concession agreement while in ports, the role of Regulatory Authority is confined to tariff setting.

Several issues arise. How far does the regulatory system in each area meet the requirement of the sector and does it measure up to international best practices? Should there be a separate regulator for each sector or should there be a common regulator for similar sectors? What should be the role and functions of the regulation in each sector? The Planning Commission will prepare a discussion paper reviewing the situation with regard to regulation in different sectors and make suggestions for changes as needed based on extensive consultation with stake holders and keeping in view international best practices.

Development of National Power Grid

10.29 The Power Grid Corporation of India Ltd. (PGCIL) has envisaged the establishment of an integrated National Power Grid by 2012 with an inter-regional power transfer capacity of 30,000 MW. The major considerations taken up while formulating such a perspective plan are, creation of "transmission highways" from potential surplus regions (mainly east and north-east) to load centres in the northern, southern and western regions. The inter-regional power transfer capacity had increased from 1,200 MW in 1997 to 8,000 MW by March 2004 and in terms of energy flow it has increased from 3600 MUs to 22,000 MUs during the same period. The performance of PGCIL in creating evacuation facilities and laying down the base for the National Grid is progressing as planned. Creation of such inter-regional transfer capacity augurs well for both system operation as well as promoting trading and open access.

Viability of the Strategy of CPSU-led Capacity Creation

10.30 One consequence of the financial unviability of the state sector is that creation of power capacity is being led by central sector PSUs. Based on current plans, the CPSUs are estimated to account for some 53 per cent of the energy generated by the end of the Eleventh Plan. It is also likely that all inter-state transmission remains under CPSU control even by the end of the Eleventh Plan. This dominant role of the CPSUs is the result of a number of asymmetries. One of these relates to the preferential payment arrangement. Another relates to the fact that the present system guarantees the CPSUs post tax returns of 14/16 per cent. In contrast, state regulators sometimes do not provide any returns to the state's own power sector facilities or else approve tariffs that effectively yield zero returns or returns well below those provided to CPSUs. Such an approach is necessitated by the need to limit increases in tariffs paid by consumers while meeting payment obligations to the CPSUs under the tripartite agreement. The result is that the state utilities are starved of investible resources required to address the problems of the distribution sector that remains under their control. The financially sick state utilities are forced to borrow funds for their own investments and this compounds their financial woes.

10.31 This arrangement clearly cannot be sustained. A reduction in AT&C losses from the current level of 40 per cent plus to a manageable 15-20 per cent level is essential. In the absence of such a loss reduction, the state utilities cannot continue to pay CPSUs even for the current level of purchases. Regulating supplies or enforcing the guarantee under the tripartite agreement to access funds from Central devolutions to the states, on a sustained basis, are not realistic options.

Competition for an Efficient Power Sector

10.32 The Indian power sector is internationally uncompetitive and the paying

Table 10.11
Retail tariffs in various countries in 2002

Country	Domestic (Cent/Kwh)	Industrial (Cent/Kwh)	Average tariff (Cent/Kwh)	Average tariff (Cent/Kwh) on PPP basis
Japan	21.3	14.3	17.8	15.3
Germany	12.4	4.4	8.4	9.5
United States	8.6	5.5	7.7	7.7
Brazil	12.8	5.7	9.25	27.6
China	4.5	4.4	4.45	20.6
India	4.7	8.6	5.6	30.8

Source: From various country reports

consumer is burdened with one of the highest tariffs in the world for similar class of consumption (Table 10.11). This can only be corrected by encouraging competition under level terms in each element of the electricity value chain. Such an enabling environment would create conditions that allow the private sector, the CPSUs and the state sector to compete on level terms based on tariffs and without any guaranteed returns.

Privatisation in Distribution

10.33 Distribution reform and reduction of distribution losses is critical for achieving to sustainability of the sector. Privatising distribution is a potential answer to tackling this issue. However, the experience so far in Orissa and Delhi suggests that privatisation is not a guaranteed solution. In Orissa, AT&C losses remain over 45 per cent. In Delhi, loss levels remain at an unsustainable level of 40 per cent plus even though the contracted loss reduction has been achieved. The privatisation programme in Delhi has been able to tolerate such huge losses because the state government has agreed to a subsidy to cover the gap generated by the current tariff. However, the costs of following this approach are enormous. Applying the Delhi model to the whole country would require an estimated Rs.1,00,000 crore of viability gap funding over three to five years. Alternatives such as last mile privatisation involving metering, meter reading, billing and collection must be pursued to improve the viability of the sector and help generate investible surpluses for upgrading the distribution network.

Village and Household Electrification

10.34 The current scheme of village and household electrification that provides for 40 per cent capital subsidy has not been successful. The National Common Minimum Programme (NCMP) has proposed that all households be electrified in five years. To achieve this objective, the Ministry of Power has proposed a revised village and households electrification scheme based on a 90 per cent capital subsidy. A sustainable revenue model is essential for the success of even the 90 per cent Capital Subsidy Scheme. The Ministry of Power is committed to disbursement under the 90 per cent subsidy scheme only if revenue sustainability is assured.

Nuclear Power Issues

Reducing Construction Periods and Lowering Costs

10.35 The Nuclear Power Corporation Limited (NPCIL) made major strides in cutting costs and construction periods for nuclear power projects in the Tenth Plan. Construction periods have already been brought down to less than five years from seven years in the past. The lower construction period and improved contracting and contract management has resulted in reduction in capital cost per MW.

Choice of Technology for Capacity Expansion

10.36 The Kudankulam project (2x1000 MWe) is being set up based on light water reactor (LWR) technology and NPCIL has initiated pre-project activities for its expansion with another two units of 1000 MWe. Further, the design of 700 MWe indigenous pressurised heavy water reactors (PHWRs) has been undertaken by NPCIL to enhance the pace of first stage capacity addition programme. Pre-project activities of four such units have been initiated. Site selection of these new plants is likely to be finalised shortly.

Promoting Fast Breeder Reactor Technology

10.37 Having successfully completed the research and development phase of the fast breeder reactor (FBR) technology, the Department of Atomic Energy (DAE) has engaged the Indira Gandhi Centre for Atomic Research (IGCAR) for the design, development, construction and operation of the country's first 500 MWe liquid sodium cooled fast breeder reactor. The Government set up a new company, Bharatiya Nabhikiya Vidyut Nigam Ltd. (BHAVINI) in September 2003 to implement the first project based on FBR technology. The first 500 MWe prototype fast breeder reactor is likely to be commissioned in the Eleventh Plan. The

FBR technology is critical to developing stage two of India's nuclear power programmes. Without developing the wide-scale use of FBR technology, India would find it difficult to go beyond 10,000 MWe nuclear capacity based on known indigenous uranium resources. Use of FBR technology would enable indigenous uranium resources to support a 20,000 MWe nuclear power programme that is critical to developing the thorium-based third stage of India's nuclear power programme. The Bhabha Atomic Research Centre (BARC) is also engaged in R&D activities to develop Advanced Heavy Water Reactors of 300 MWe capacity that provide an alternative route to the thorium-based Stage Three of India's nuclear power programme.

10.38 Nuclear energy remains an important tool for de-carbonising the Indian energy sector. Given limited indigenous uranium resources, India must seek at least 20,000 MWe of additional nuclear power capacity on a turnkey basis, based on a competitive power tariff, to be built over the next 10-12 years. Alternatively, India must seek nuclear fuel on competitive terms for a similar level of capacity to be built by NPCIL in the next 12-15 years

COAL & LIGNITE

10.39 Coal is the mainstay of India's energy sector. About 50 per cent of primary commercial energy supply and 70 per cent of the power generated is coal based. Coal reserves are also expected to last for over 50 years at the present levels of production, suggesting that coal will continue to remain the principal source of commercial energy in the country for the foreseeable future. The Tenth Plan envisaged a substantial expansion in domestic coal production to support the power sector expansion programme, needed to achieve the 8 per cent targeted GDP growth with emphasis on liberalisation to make the sector competitive.

10.40 The thrust areas for the development of the coal sector identified in the Tenth Plan are:

- Permitting private participation in non-captive mining through suitable legislative amendments.
- Revival of loss making coal companies and restructuring of the coal sector by providing autonomy to individual coal producing companies to encourage competition.
- Setting up of a regulatory authority for ensuring fair competition in the sector.
- De-blocking of coal blocks held by Coal India Ltd. (CIL) to offer the same on bidding basis both for public and private entrepreneurs.
- Permitting outsourcing of certain mining operations through appropriate legislative amendments for improving the economics of operations.
- Permitting free trade of coal.
- Intensification of exploration and up gradation of coal reserves.
- Rapid development of lignite resources.

PHYSICAL PERFORMANCE

10.41 The overview of physical performance of coal sector in the first two years of the Tenth Plan 2002-03 and 2003-04 and anticipated achievement in 2004-05 is given in Tables 10.12 and 10.13.

COAL DEMAND

10.42 Against an estimated annual growth in consumption/offtake of coal of 5.74 per cent projected in the Tenth Plan, the actual growth is expected to be 6.11 per cent. This is largely the result of upward revisions in the production targets of steel (hot metal) and cement over the initially projected levels. Some marginal increase in the demand for the non core sector, such as bricks, from levels forecasted earlier is also expected. In the case of the power sector (utilities) there is a shortfall in coal based generation capacity by about 12 per cent as per the revised plans but the revised coal based generation programme of 446 billon units (BU) for 2006-07 is only marginally below the targeted generation of 452 BU. Thus the power sector demand is estimated to remain at levels forecasted earlier. However, upon the insistence of the Ministry of Power, a 5 million tonne provision has been added to the requirement in 2006-07 for shortfalls in stock levels, if any.

Table 10.12
Physical performance for coal and lignite

Sl. No.	Parameter	Ninth Plan actual achievement in the terminal year (2001-02)	Tenth Plan terminal year target (2006-07)	2002-03 Actual	2003-04 Actual	2004-05 Anticip.	MTA Revised target for the Tenth Plan terminal year (2006-07)	X Plan % CAGR	
								Original #	MTA Revised
0	1	2	3	4	5	6	7	8	9
1	Coal demand/ offtake (mt)	351.71 (3.60)	460.50 (5.24)	365.98 (3.25)	380.91 (3.16)	414.82 (3.20)	473.18	5.74	6.11
2	Coal production (mt)	327.80	405.00	341.23	361.06	386.95	431.50	4.46	5.65
3	Coal imports (Total)	20.55	20.48	20.02	21.68	26.79	30.69		
	Coking Coal	11.11	17.18	12.52	12.95	16.05	24.19		
	Thermal coal	9.44	3.30	9.50	8.69	10.74	6.50		
4.	Net gap in demand-Supply	-	35.02	-	-	-	10.99		
5	NLC* Lignite Production (mt)	18.36	27.00	18.62	20.56	21.00	21.50	9.06	4.20
	Gross Power Gen. (MU)	14451	15213	14970	16389	15286	16359	3.06	4.60

Note :- (i) Figures in brackets indicate washery middlings and are not included in the totals.
(ii) * NLC's plan includes lignite production and power generation.
(iii) # Original growth projections of the Tenth Plan were based on RE figures of 2001-02 and are slightly higher than the growth figures if compared with the actual figures of 2001-02 indicated in column 2.

Table 10.13
Performance of Central sector schemes

Sl. No.	Parameter	Ninth Plan Actual Achievement	Tenth Plan Target	2002-03 Actual	2003-04 Actual	2004-05 Anticipated	MTA Revised Target
0	1	2	3	4	5	6	7
1	Promotional Exploration (Drilling in m)	665213	600000	117300	131531	129350	687931
2	Detailed Drilling in Non-CIL Blocks (m)	233600	212800	31540	101378	48350	283000
3	Voluntary Retirement Schemes (no. of persons)	34675	15500	6173	3810	4360	15500

10.43 As a result of all this, coal demand in the terminal year of the Tenth Plan (2006-07) has been revised from 460.50 mt (excluding 5.24 mt of washery middlings) to 473.18 mt. However, it is important to note that the likely demand-supply gap envisaged at the time of formulating the Tenth Plan has actually narrowed from 35.02 mt to 10.99 mt because of increased output by CIL and a higher level of imports. The details of sectoral coal demand are given in Annexure-10.1.

Coal Production

10.44 The public sector coal companies have risen to the challenge of meeting the rising demand by exceeding the planned 4.46 per cent annual growth in coal production during the Tenth Plan. Production is expected to grow at 5.65 per cent per annum during the Plan Period. This is a considerable improvement over the 2.5 per cent growth achieved in the Ninth Plan. This has been achieved despite the fact that production from new mines that was expected to add 83 mt to the production by the terminal year of the Tenth Plan is now likely to yield only 61 mt of additional production. This achievement is the result of increasing production from existing mines and accelerating production build up in mines under development. New mines are taking longer to fructify due to delays in obtaining environmental and forest clearances, land acquisition, rehabilitation, etc. Measures adopted to successfully enhance production during the Tenth Plan are not long-term solutions and unless CIL brings new mines to production in a timely fashion, the demand-supply gap can be expected to rise in the Eleventh Plan. Production in the terminal year of the Tenth Plan (2006-07) is now expected to reach 431.50 mt (CIL 373 mt; Singareni Collieries Company Ltd. (SCCL) 37.50 mt; Others 21 mt), which is 6.5 per cent more than the original target of 405 mt (CIL 350 mt; SCCL 36.13 mt; Others 18.87 mt). However, there is a need to further augment domestic production through private participation in non-captive mining in order to meet rising coal demand. The company-wise details of coal production are given in Annexure-10.2.

10.45 Production from Tata Steel/Indian Iron and Steel Co (IISCO) / Damodar Valley Corporation (DVC) and others (including captive blocks) projected at 18.87 mt originally is now expected to reach 21 mt in 2006-07. Captive blocks continue to have difficulties in delivering targeted outputs due to delays in land acquisition and environmental clearances.

10.46 The availability of washed coking coal from CIL (mainly from Bharat Coking Coal Ltd or BCCL) sources has stagnated at around 4.5 mt. New mines and modernising existing washeries is critical for the operations of BCCL if this level of output has to be raised. In order to comply with the coal quality stipulations of the Ministry of Environment & Forests, the capacity of thermal coal washeries in the country needs to be increased to about 90 mt from a level of about 30 mt.

Coal Imports

10.47 Against an overall coal import of 20.55 mt (11.11 mt of coking coal and 9.44 mt of thermal coal) in the terminal year of the Ninth Plan (2001-02), the imports in the terminal year of the Tenth Plan (2006-07) were estimated at 20.48 mt (17.18 mt of coking coal & 3.30 mt of thermal coal). It is now estimated that coal imports in 2006-07 will be 30.69 mt (24.19 mt of coking coal and 6.5 mt of thermal coal). These imports will account for 6.5 per cent of the estimated demand in the terminal year of the Tenth Plan against 5.8 per cent in the terminal year of the Ninth Plan. However, since the import requirements in the terminal year of Tenth Plan presume that the revised higher production targets will be met, it would be prudent for the core sectors to plan for higher levels of imports compared to estimates for coal imports. This would avoid loss of production in the core coal consuming sector and is in line with the advice of the Ministry of Coal.

Irrationality of Coal Pricing

10.48 CIF prices of imported thermal coal ranged between US$ 35-40 per tonne in recent history inclusive of a freight element of US$ 7-10 per tonne. In the last three years, imported thermal coal price has reached US$ 85-90 per tonne inclusive of a freight element of US$ 25-30 per tonne. Imported coal currently translates to US$ 13.71-14.52 per million kilo calories on a CIF basis and typically has ash below 10 per cent and sulphur above 2 per cent.

10.49 In comparison, the poor quality Indian coal from CIL with ash in excess of 40 per cent and sulphur of around 1 per cent costs US$ 3.76 per million kilo calories at the mine mouth. However, this translates into a delivered cost that is two to three times higher i.e. US$ 8.09-11.56 per million kilo calories at distance ranging from 1000 km. to 2000 km. from the mine mouth. This is the result of rail freight for coal that is higher than economically justified. The Indian Railways uses its freight revenues from coal to cross subsidise passenger traffic. Even the mine mouth price of coal is based on a cost plus formulation and could come under competitive pressure if private mining takes root, linkages are abolished and trading of coal is made easier.

Lignite Production & Gross Power Generation-Neyveli Lignite Corporation Ltd.

10.50 Lignite production was projected to grow by 9 per cent per annum in the Tenth Plan to reach 27 mt in 2006-07, the terminal year of the Tenth Plan. However, actual growth is now expected to be only 4.2 per cent per annum and lignite production in 2006-07 will only reach 21.5 mt. The total electricity production by the Neyveli Lignite Corporation (NLC) was projected as 15.2 BU in 2006-07 and is now likely to be higher by 7.8 per cent at 16.4 BU. Despite the lower lignite production and higher electricity generation, NLC is not facing any fuel shortages. This clearly shows that the original Tenth Plan targets for lignite production were over estimated in comparison to the actual requirement.

Infrastructure Development

10.51 For facilitating smooth movement of coal, certain critical rail links in potential coalfields were proposed in the Tenth Plan. These rail links are Talcher to Paradeep (Mahanadi Coalfields Ltd or MCL), a new rail link between Korba and Pendra Road (South Eastern Coalfields Ltd or SECL), link between Belpahar- Sardega and Talcher-Bimlagarh (MCL) and development of Tori-Shivpuri link in North Karanpura Coalfields (Central Coalfields Ltd. or CCL). Work has been initiated in most of these cases. Also, port capacity for handling coal is being strengthened to permit higher imports and coastal movement of domestic coal. Port handling capacity for coal shall rise from 47 mt in the beginning of the Tenth Plan to 67 mt by 2006-07.

Promotional Exploration

10.52 This scheme is aimed at supplementing GSI's efforts for regional exploration of coal and lignite. During the Tenth Plan, a drilling target of 6 lakh metres had been set comprising of 3.3 lakh metres for coal covering 43 blocks and 2.7 lakh metres for lignite covering 13 blocks. This was expected to raise coal reserves by 6.68 billion tonnes in the indicated and inferred categories. Against this, the anticipated achievement in the first three years is 3,78,181 m or 63 per cent of the Tenth Plan drilling target. It is proposed to enhance the drilling target by 87,931 m thus requiring 3,09,750 m of drilling in the next two years of the Tenth Plan. The revised drilling target for the Tenth Plan would be 6,87,931 m. However, while drilling targets are being exceeded, performance of other components of the programme such as preparation of Geological Reports (GRs), developing coal and lignite resource information, conducting coal bed methane studies, etc. is below expectations. Despite the higher drilling target, no additional outlay is foreseen for promotional exploration because of savings in certain components of the programme.

Detailed Drilling in Non-CIL Blocks

10.53 The blocks outside the purview of CIL have been proposed to be explored in detail for reducing the time lag between offering the blocks to potential entrepreneurs and start of mining operations. Out of 2,12,800 metres of drilling target set under this programme to cover 19 blocks, the likely achievement in the first three years is 1,81,268 metres or 85 per cent of the Tenth Plan target. Due to the inclusion of 15 new blocks, the drilling programme has been revised upwards from 2,12,800 metres to 2,83,000 metres. This implies completion of 1,01,732 m of balance drilling in the next two years of the Tenth Plan. In view of additional blocks being taken up and the need for enhanced drilling, the original outlay has been revised upwards and the details are given in Annexure-10.3.

Science and Technology

10.54 Despite the thrust laid on science and technology (S&T) programmes in coal, the progress has not been satisfactory both in taking up new projects or utilising the outlays provided to various ongoing projects. Some of the high value S&T projects like pilot project for washing low volatile medium coking coals, demonstration project for coal bed methane exploration and production (taken up with the assistance of United Nations Development Programme/ Global Environment Facility or UNDP/GEF) have not been progressing satisfactorily. Due to slow progress in implementation of various schemes, the original outlay has been revised downwards and the details are given in Annexure-10.3.

Environmental Measures and Subsidence Control

10.55 A number of schemes for subsidence control, restoration/reclamation and rehabilitation of mined out areas and for dealing with fires in the Jharia and Raniganj coalfields have been taken up under this head. Such schemes are designed to mitigate the damages caused by unscientific mining carried out before nationalisation. However, the progress has not been satisfactory due to constraints of land acquisition, agitation/frequent interruption by local people, non-availability of a site for rehabilitation and certain technical problems. Cooperation of the local administration is important for the successful implementation of the scheme. In the absence of sufficient progress in the implementation of various projects under the head of EMSC, the original outlay has been revised downwards and the details are given in Annexure-10.3.

Voluntary Retirement Scheme

10.56 The Voluntary Retirement Scheme (VRS) is aimed at rationalising manpower in loss making coal companies, namely, Eastern Coalfields Ltd. (ECL), BCCL and CCL. The target was to reduce staff strength by 15,500 persons through VRS funded by domestic budgetary support in the Tenth Plan. About 92 per cent of the targeted reduction in manpower is likely to be achieved in the first three years of the Tenth Plan. The original outlay for this scheme has been retained. Details are given in Annexure-10.3.

Financial Performance

10.57 The overview of the financial performance of the coal sector is given in Table-10.14.

10.58 The anticipated cumulative capital expenditure in the first three years of the Plan is only 18.12 per cent of the target. The main reasons for shortfall in plan expenditure are:

- Delay in taking up of new projects

Table 10.14
Financial performance of coal sector

(Rs. crore, constant prices at 2001-02)

Sl. No.	Sector	Ninth Plan expenditure	Tenth Plan approved outlay	2002-03 actual	2003-04 actual	2004-05 antici-pated	Cumulative expenditure (2002-05)	2002-07 MTA Revised
1	Coal and Lignite	13699.95	23583.36	1685.84	1479.80	2239.29	5404.93	13379.91
2	NLC (Power)	1105.43	8007.64	169.43	72.20	79.37	321.00	2455.24
	Total MOC	**14805.38**	**31591.00**	**1855.27**	**1552.00**	**2318.65**	**5725.93**	**15835.15**

- Delay in procurement of heavy earth moving machinery
- Outsourcing of mining operations by some coal companies
- Slow progress in implementation of other central sector schemes.

10.59 Despite a lowering of the Tenth Plan outlay to 50 per cent of the original outlay, coal production is expected to exceed the original target by over 6 per cent. This is largely the result of outsourcing and improving production from existing mines. The revised outlay is to be financed through internal and extra Budgetary resources (IEBR) of Rs.14974.71 crore and a gross budgetary support (GBS) of Rs.860.44 crore (domestic budgetary support or DBS Rs.848.27 crore and Externally Aided Projects or EAP Rs.12.17 crore) in 2001-02 prices. The company-wise/scheme-wise outlays are given in Annexure-10.3.

Royalty on Coal and Lignite

10.60 The royalty rates on coal were last revised on 16 August 2002 (after eight years) and set at between Rs.65 per tonne and Rs.250 per tonne depending on the grade of coal. These are specific rates and a number of coal producing states have been requesting that coal royalty rates be changed to an advalorem basis. The Planning Commission also supported this view. The royalty rate on lignite was last revised in March 2001 to Rs.50 per tonne from the earlier level of Rs.2.50 per tonne.

PETROLEUM AND NATURAL GAS SECTOR

10.61 The current indigenous production of crude oil is about 33 mt whereas the requirement is about 120 mt. Import dependence is therefore very large and is expected to increase over time. India's current balance recoverable reserves of crude oil may last for about 22 years at the current rate of production unless reserve accretion exceeds current rates of production.

10.62 The following thrust areas were identified for the Tenth plan:

- Reforms in the sector through:
  - ➢ Market determined pricing mechanism for crude oil and petroleum products.
  - ➢ Rationalisation of taxes and duties
  - ➢ Restructuring of the sector
  - ➢ Establishing an independent regulatory regime

Table-10.15
Overview of physical performance of petroleum and natural gas sector

Parameters	Tenth Plan target	2002-03 Actual	2003-04 Actual	2004-05 Likely	2005-06 Projected	2006-07 Projected	Tenth Plan antici-pated	% of Tenth Plan target
Consumption of petroleum products (mt)	120.40#	104.12	107.76	111.99	116.14	120.40	120.40	100.00
Crude oil production (mt)	169.38	33.04	33.37	33.75	34.48	33.97	168.01	99.19
Natural Gas production (BCM)	177.48	31.39	31.95	30.88	37.23	37.63	169.13	95.30
Accretion to reserves (mt)	785.00-914.00	329.57	348.32	-	-	-	>785.00-914.00	>100.00
Refining capacity (mtpa)	138.00-155.00	116.97	127.37	132.47	140.87	141.70	141.70	102.70-91.20

\# Targets for the terminal year of the Tenth Plan; mt - Million tonne
BCM- Billion cubic metres; mtpa- Million tonne per annum

- Oil security through:
  - Aggressive exploration for oil and gas in the Indian sedimentary basins
  - Acquisition of equity oil and gas abroad
- Development of marketing and distribution network to meet the growing demand
- Environmental management through:
  - Adoption of vehicular emission norms equivalent to Bharat stage II and III
  - Improvement of fuel quality.

Physical Performance

10.63 An overview of the physical performance of petroleum and natural gas sector is given in Table10.15. A more detailed account is given in Annexure 10.4.

Consumption of Petroleum Products

10.64 The consumption of petroleum products was estimated to reach 120.4 mt by the terminal year of the Tenth Plan against the consumption of 100.4 mt in 2001-02. Based on the trend in consumption of petroleum products during the first three years (Table 10.15), the projected consumption of 120.4 mt in the year 2006-07 is likely to be realised.

Exploration for Oil and Gas

10.65 There has been a sharp rise in exploration activity after the initiation of the New Exploration Licensing Policy (NELP) in 1997-98. Out of the total area of 3.14 million sq. km. in 26 sedimentary basins including deep water, an area of 1.0 million sq. km. is currently under petroleum exploration licenses. This includes an area of 0.24 million sq. km that had been under exploration in the pre-NELP period. About 35 per cent of Indian sedimentary basins were targeted to be appraised under the exploration programme for the Tenth Plan. The area under exploration coverage is currently 31.8 per cent of the Indian sedimentary basins. With the award of further NELP blocks in the remaining period of the Tenth Plan, the target of 35.0 per cent coverage is likely to be exceeded.

Reserve Accretion

10.66 The Tenth Plan target for accretion to in-place domestic hydrocarbon reserves during the Plan period was 785-914 mt. The accretion during the first two years of the Plan was 677.89 mt, which is 86.4-74.2 per cent of the Tenth Plan target. This is mainly on account of large finds of reserves of 404.6 mt (primarily in the Krishna-Godavari basin) by private/joint venture companies. The reserve accretion target for the Tenth Plan is likely to be achieved.

Crude Oil and Natural Gas Production

10.67 The Tenth Plan target for domestic crude oil production by the Oil and Natural Gas Corporation (ONGC), Oil India Ltd. (OIL) and joint venture companies was fixed at 169.38 mt over five years. The cumulative crude oil production during the first three years of the Tenth Plan is estimated to be 99.56 mt including 87.39 mt of production (88.1 per cent) by the public sector companies and 12.17 mt of production (11.9 per cent) by private/joint venture companies. The production for 2005-06 and 2006-07 has been projected at 34.48 mt and 33.97 mt respectively. Based on current assessment, the likely achievement of crude oil production in the Tenth Plan will be 168.01 mt (99.2 per cent of the Tenth Plan Target) including 146.99 mt (87.5 per cent) by public sector companies and 21.02 mt (12.5 per cent) by private/joint venture companies.

10.68 The Tenth Plan target for domestic production of natural gas was fixed at 177.48 BCM over five years. The cumulative production of natural gas during the first three years is expected to be 94.27 BCM including 75.63 BCM (80.2 per cent) by public sector companies and 18.64 BCM (19.8 per cent) by private/joint venture Companies. The production for the remaining two years of the Tenth Plan is projected to be 37.23 BCM and 37.63 BCM respectively. The projected production of gas in the Tenth Plan is estimated at 169.13 BCM including 123.58 BCM (73.1 per cent) by public sector and 45.55 BCM (26.9 per cent) by private/joint venture companies.

This level of output will be 95.3 per cent of the Tenth Plan target. The production will be below target because of lower anticipated production by OIL (89.93 per cent of target) and private/joint venture companies (86.32 per cent of target). Natural gas production shortfall of 4.7 per cent from the target production may seem small. However, as compared to the projected addition of 36.56 BCM in production during the Tenth Plan, the shortfall of 8.35 BCM is substantial (22.8 per cent). This will have significant impact on generation from new gas based power plants constructed over the 10th Plan period.

Acquisition of Equity Oil and Gas Abroad

10.69 The Tenth Plan targets for ONGC Videsh Ltd. (OVL) share in production of equity oil and natural gas overseas were set at 5.2 mt and 4.94 BCM respectively, mainly from Sakhalin-1 and Vietnam. OVL's equity oil and gas share in the first three years of the Tenth Plan is estimated to be 7.34 mt of oil and 1.72 BCM of natural gas. The increase in share of oil is mainly on account of the Nile Ganga project in Sudan, which was not envisaged at the time of formulation of the Tenth Plan. Current indications are that OVL might succeed in raising its equity oil and gas shares to 15 mt and 4.41 BCM respectively by the end of Tenth Plan. This assessment factors in the delay in Sakhalin-I development.

Refining Capacity Build up

10.70 The total refining capacity in the country at the end of the Tenth Plan was projected to be in the range of 138-155 MMT. The actual refining capacity as on 1 April 2004 was 127.37 MMT. The total refining capacity by the end of the Tenth Plan will reach 141.70 MMTPA, which will be more than the capacity required to meet the consumption in the country. The refinery-wise capacity build-up is given in Annexure-10.5.

Table- 10.16
Tenth Plan outlays and expenditure

(Rs. Crore at 2001-02 prices)

Sl. No.	Year	Exploration & production	Refining & marketing	Total at constant 2001-02 prices
1.	**Ninth Plan Approved (1997-2002)**	35621.37	**59893.12**	**95514.49**
2.	**Ninth Plan Realisation (1997-2002)**	28472.99 (79.93%)	**25514.90 (42.60%)**	**53987.89 (56.52%)**
3.	**Tenth Plan approved**	**59468.95**	**36572.24**	**96041.19**
4.	2002-03 (Actual)	11715.89	3525.84	15241.73
5.	2003-04 (Actual)	11416.46	4124.75	15541.21
6.	2004-05 (RE)	15989.87	4291.63	20281.50
7.	2005-06 (B.E)	17726.09	5176.14	22902.23
8.	**Likely achievement in first four years**	**56848.31**	**17118.36**	**73966.67**
9.	% Utilisation in first four years	95.59	46.80	77.01
10.	2006-07 (likely)	17597.18	5199.17	22796.35
11.	**Likely expenditure during Tenth Plan**	**74445.49**	**22317.53**	**96763.02**
12.	**(%) Utilisation**	**125.18**	**61.02**	100.75

FINANCIAL PERFORMANCE

10.71 The approved Tenth Plan outlay and actual expenditure during the first two years and likely expenditure for 2004-05 and the remaining years of the Tenth Pan are given in Table 10.16.

10.72 The Tenth Plan approved outlay was fixed at Rs.96,041.19 crore at constant 2001-02 prices. The likely expenditure for the first four years of the Tenth Plan is Rs.73966.67 crore at constant prices of 2001-02. Based on the trend of expenditure during first four years, the likely expenditure for 2006-07 is assessed at Rs.22796.35 crore. Thus, the likely expenditure for the Tenth Plan is assessed at Rs.96763.02 crore at constant 2001-02 prices, which will be 100.75 per cent of the Tenth Plan approved outlay. However, it may be seen from Table 10.16 that expenditure on exploration and production activities will be higher and that of the refining and marketing activities will be lower than the approved outlays.

PROGRESS IN TENTH PLAN

Pricing of Petroleum Products

10.73 The Administered Price Mechanism (APM) for petroleum products was formally dismantled with effect from 1 April 2002, after which the pricing of crude oil and petroleum products except for kerosene and domestic LPG sold through the public distribution system (PDS) was to be market determined. However, the factual position is that the public sector oil companies are collectively fixing prices of crude oil and petroleum products based on so called import parity pricing. However, all price changes are approved by the Government of India prior to implementation. Thus, the sector is devoid of any real competition among the public sector oil companies. The entry of private oil companies such as Reliance Industries, Essar Oil and Shell in the marketing of petroleum products in a small way has not changed this ground reality since the bulk of output from private refineries is still marketed by the oil sector CPSUs. However, the stated policy is to encourage competition in the marketing of petroleum products. Currently, competition exists in certain products such as lubricating oils that account for about 1.2 per cent of the total petroleum products.

10.74 The current pricing policy based on import parity is not transparent and includes several elements in the price build up that are debatable. In any event, recent history shows that increase in product prices are not always in tandem with increase in crude oil prices. Further, the current pricing mechanism uses import parity pricing even for products, in which India is the net exporter. This provides higher margins to the refiners. Economic rationality suggests that trade parity should be the norm for pricing instead of import parity. Moreover, custom duty on crude oil is 5 per cent while average duty on petroleum products is 10 per cent. This further increases the refinery margins. The normative transportation and storage costs charged to the products instead of the actual costs also increase the margins of refining and marketing companies. Private sector refineries are following the same methodology for building up prices for their products. Bulk of the output from private refiners is being marketed by the oil sector CPSUs. The current-pricing methodology results in large profits and cash surpluses for the oil and gas sector CPSUs and even larger benefits for the more efficient private refineries.

Rationalisation of Taxes And Duties

10.75 Rationalisation of the tax structure in the petroleum sector has been under consideration for some years. Currently, the tax and duty structure is characterised by: a differential custom duty on import of crude oil and petroleum products; differential excise duties and cess on various petroleum products; differential royalty regimes; and differential sales taxes and state levies. The current tax and duty structure leads to hidden subsides to the refining and marketing companies; irrational fuel choices; opportunities for adulteration and diversion of products from intended uses; and practices such as invoicing sales in states with low taxes. Reduction in custom duties on crude and petroleum products in the 2005-06 budget is expected to reduce the protection that the refining and marketing companies currently enjoy as a result of the prevailing import parity pricing mechanism.

Investment Programmes of Oil Sector CPSUs and The Emerging Structure

10.76 The investment pattern of CPSUs (ONGC, Indian Oil Corporation, Hindustan Petroleum Corporation Limited, Bharat Petroleum Corporation Limited, GAIL and OIL) indicates that instead of building upon core competencies, they are all aiming to vertically integrate operations from upstream exploration and production to downstream retail activities. The proposed approach offers no strategic advantage either for the sector or to the consumer as it leads to sub optimal investments. Six government owned national oil majors that individually compare poorly in size with global integrated oil majors, are competing with one another to become integrated oil companies on the strength of public funds at their disposal. There are no parallels of such an approach worldwide. The investment patterns are clearly sub-optimal and are making the sector increasingly uncompetitive. There is a need to review the investment programme of each oil PSU and take an integrated view of the sector as a whole to optimally invest public funds. The oil sector companies need to be re-structured to attain sectoral objectives more efficiently. Alternatively, the Government of India, in its capacity as the owner, may wish to mop up surpluses generated by the oil companies to limit sub-optimal investment patterns.

Restructuring of Oil and Gas Sector

10.77 In order to improve the intrinsic competitiveness of the sector, there is need to restructure the oil CPSUs. Potential options that may be considered are:

i. Create two fully integrated public sector national oil companies that compete with each other and private companies. These two national oil companies would engage in exploration and production activities in the field of oil and gas and have downstream refining and marketing operations. These integrated national oil companies would (directly or through majority owned subsidiary companies) also invest in equity oil and gas overseas.

ii. Develop transportation, storage, port handling, fueling at airports etc. as common services offered on regulated open access principles. This may involve stripping existing non-captive assets of CPSUs falling in these categories and placing them in a separate company promoted by the oil and gas industry with private participation.

iii. Encourage competing private companies with concentration in any one segment of the industry (exploration and production, refining, marketing) or integrated operations covering the entire or any part of the oil and gas sectors.

Need for Upstream and Downstream Regulation

10.78 The APM was dismantled to generate competition. However, not much has changed as the Ministry of Petroleum and Natural Gas continues to effectively control prices as well as the investment decisions of all oil and gas CPSUs. There is a need for independent regulation in both the upstream and downstream segments of the oil and gas sector till such time that competitive markets come into place. The draft "Petroleum and Natural Gas Regulatory Bill 2004", as currently drafted covers only the downstream oil and natural gas activities with no upstream regulation.

New Exploration Licensing Policy

10.79 Out of a total of 90 blocks awarded under NELP in four rounds of bidding, 26 (29.0 per cent) have gone to CPSUs, 13 (14.4 per cent) to private companies (mainly Reliance Industries Limited), 31 (34.4 per cent) to joint ventures with CPSUs and 20 (22.2 per cent) to joint ventures with private companies. Although the response to NELP bidding from the private sector is quite encouraging, the response from foreign companies has been poor. Further, there is

Box 10.3
Petroleum and Natural Gas Regulatory Bill 2004

The Bill envisages:

- Regulation of downstream activities, excluding production of crude oil and natural gas
- Adequate supply of petroleum products and natural gas in all parts of the country
- Promotion of competitive downstream markets
- Resolution of disputes through the mechanism of the Petroleum and Natural Gas Appellate Tribunal
- Establishment of a Petroleum and Natural Gas Regulatory Board

The Bill covers the downstream oil and natural gas sector only. There is a need for establishing a regulatory mechanism for the upstream sector also.

no response from major international oil companies. This lack of interest may reflect their negative assessment of the potential of the Indian sedimentary basins. The need of the day is to attract companies with experience in deep sea basins so as to be able to maximally exploit commercially viable potential of the Indian Sedimentary Basins. This must be achieved expeditiously to address concerns relating to energy availability to fuel India's growth. If attracting such technology requires changes in NELP or the regulatory environment then MOP&NG should seek such changes. The Ministry of Petroleum and Natural Gas need to formulate a strategy to attract foreign oil companies and oil majors so as to ensure that the exploration and production objectives are not only met competitively but also attract the best technologies available in the world. This will become critical as India seeks to explore its deep-sea potential.

Acquisition of Equity Oil and Gas Abroad

10.80 The bulk of OVL's acquisitions so far have been in non-investment grade countries. Further, OVL has limited control over the actual cost of developing the reserves because it, typically, buys minority stakes and is not the operator. OVL must ensure that equity oil is being acquired in a cost effective manner while recognising political risks to investments in host countries. Acquiring equity oil/gas is a sophisticated business and there is need to develop strong commercial and technical skills within OVL to ensure that its investments are optimal and well managed. It is pointed out that economic considerations relating to crude mix requirement of Indian refineries and transport costs may require that OVL sell the equity oil/gas instead of bringing it to India. This requires skills in international trading of oil and gas.

Import of Gas Through Transnational Gas-pipeline

10.81 The import of natural gas through transnational gas-pipelines has been under consideration for over a decade. Such imports are desirable for ensuring competitive supplies and diversifying supply sources to serve the ultimate objective of meeting India's energy security needs. Continuing efforts through negotiations at both bilateral and multilateral levels have recently resulted in a Memorandum of Understanding (MOU) between India, Bangladesh and Myanmar for a gas pipeline from Myanmar to India via Bangladesh. Iran has also agreed to supply gas through the Iran-Pakistan-India pipeline at the Indian border.

Recovery from Abandoned and Marginal Untapped Fields

10.82 Technological innovations make it possible to extract significant quantities of oil and gas from abandoned and marginal fields not considered economical based on extraction technologies deployed by the ONGC. These abandoned/marginal fields could be made productive by allowing foreign operators to bring technology and investment to exploit their potential. Output, if any, may be shared with the investor with a right to procure the investor's share at prevailing international prices. Currently, sufficient attention is not being paid to attracting foreign technology for this purpose.

Extending Common Carrier Principle to Develop Marketing and Distribution Assets

10.83 The Petroleum Regulatory Bill 2004 has included pipelines under the common carrier principle. However, it is not possible to differentiate between a pipeline and import terminal that feeds it or a product pipeline and the interim storage that is associated with it. It is recommended that the existing common facilities of the oil and gas companies that are not 100 per cent dedicated may be hived off into a new/existing service company that has no upstream or downstream interests. Such a company could provide services on common carrier principles, under regulated tariffs, to the refining and marketing companies. This will be in the best interest of developing a competitive market.

Developing Natural Gas/LNG Markets

10.84 The overall LNG/natural gas scenario and strategy for development of a competitive gas/LNG market remains unclear due to the existing distortions like different prices for natural gas both by source and region. Further, LNG instead of competing with local gas or with India's energy basket that it replaces is being procured/priced in a manner that is raising pressure to increase local natural gas prices. Such an approach works because of a supply constrained gas market. There is a need to evolve a system of pricing and allocation of all components of natural gas/LNG till an efficient natural gas/LNG market develops. These components feeding the petrochemical industries are not being priced at market prices even when there is no official policy to continue doing so.

Policy for the Development of Gas Pipeline Network

10.85 The draft policy for the development of Gas Pipeline Network (National Gas Grid) envisages regulation of gas transmission pipelines only. Gas distribution assets, comprising of low-pressure pipelines feeding local distribution network, are also natural monopolies. Such assets should be made available to competing suppliers of gas on open access basis. In order to be able to do this, separation of carriage from content is essential. Low-pressure pipelines and local distribution network will also need to be regulated as natural monopolies.

Private Participation in Distribution and Retail Business

10.86 The distribution and retailing of petroleum products and natural gas is also dominated by CPSUs. This was expected to change with the privatisation of BPCL and HPCL. Given the shift of policy in this regard, alternatives that make it easy to bring private sector efficiencies to the distribution and retail segments of the sector need to be explored. One possibility could be to lower the Rs.2,000 crore investment barrier for the right to market transportation fuels. However, given the absence of common carrier features in the distribution and marketing assets and the inability of new operators to poach existing franchisees, progress is slow as new entrants have to create new assets.

Role of Petronet India Limited

10.87 Petronet India Limited (PIL) was set up for laying product pipelines under the common carrier principle. In reality, however, product pipelines are being laid by incumbent players through separate companies that have participation by PIL. Such pipelines are essentially driven by the interests of the incumbent player promoting the investment. Thus, the very objective of setting up of PIL for laying pipelines on common carrier principle is being defeated. This anomaly needs to be rectified by enforcing a policy that requires all non-dedicated infrastructure such as pipelines/ tankages etc. to be built on common carrier principles. Competition in pipelines is essential since currently pipelines are being justified largely on the back of an inefficient railway sector that cross subsidises passenger traffic with freight traffic. All non-dedicated product pipelines and associated tankages should be operated on common carrier principles.

Viability of Retail Outlets

10.88 All the marketing companies are making pre-emptive investments by setting up a number of retail outlets. The viability of these outlets needs to be examined. A sub-optimal pattern appears to be emerging with each company planning to set up a retail network that primarily absorbs its own output. This phenomena will be addressed once real competition emerges in marketing of petroleum products.

National Auto Fuel Policy

10.89 The government announced a comprehensive National Auto Fuel Policy for the country on 3rd October 2003. The policy broadly addresses the issue of environmental management through: adoption of vehicular emission norms equivalent to Bharat Stage-II and Bharat Stage-III; supply of auto fuels that enable achievement of vehicle emission norms with available commercial technologies; and a road map for meeting vehicular emission norms covering new and in-use vehicles.

10.90 CPSUs have undertaken several investments in the recent past to enable the supply of superior grade fuels. In addition, initiatives have been taken to introduce alternative clean fuels such as CNG/LPG, ethanol-blended petrol and bio-diesel. With the ongoing investment in the refineries for upgrading fuels, oil companies are expected to meet the targets of fuel quality as per the road maps envisaged in the auto fuel policy. Only about 60 per cent of diesel is being used in the transport sector. The balance is used in the agriculture and industrial sectors. Auto fuel quality diesel may not be needed in these sectors. Therefore, there is a need to review the strategy of improving quality of the entire production of diesel as it may unnecessarily add to the cost of operations in sectors other than transport. Further, the programme on ethanol-blended petrol is facing problems in respect of ethanol availability and its price. The programme needs to be reviewed.

NEW AND RENEWABLE SOURCES OF ENERGY

10.91 The programmes under new and renewable energy sources include: power generation through wind, small hydro, biomass and solar energy; socially oriented programmes to meet rural energy demand such as the National Project on Biogas Development (NPBD) and the Integrated Rural Energy Programme (IREP); solar energy programmes for applications like lighting, water heating, cooking and water pumping and research and development covering ocean energy, photo-voltaics, hydrogen energy, fuel cells, and alternate fuels for surface transport.

Physical Performance

10.92 Targets and actual achievement under the major renewable energy programmes including electrification of remote villages through decentralised renewable energy sources such as solar, biomass and small hydro are detailed in Table 10.17. Achievement in wind power is likely to exceed targets, but there are shortfalls in all other areas especially in the solar power programme. The target set for solar power includes the 140 MW Integrated Solar Combined Cycle (ISCC) power plant to be installed at Mathania, Rajasthan. This project is unduly delayed due to questions about its viability and availability of gas to run the hybrid plant during periods of low insolation.

Financial Performance

10.93 The Tenth Plan outlay is comprised of GBS of Rs.4,000 crore and IEBR of Rs.3,167 crore. The financial progress in the first two years of the Tenth Plan, the budget allocations in the third year and the assessed requirement of funds in the remaining two years are given in Table 10.18.

Progress in the Tenth Plan

10.94 Several important issues emerged from the mid-term appraisal of new and renewable energy sources of energy sector.

Table 10.17
Likely physical achievements in respect of the major renewable energy programmes during the Tenth Plan

Sl. No.	Year	Wind Power (MW)	Small Hydro (MW)	Biomass Cogeneration (MW)	Biomass gasification (MW)	Solar Power (MW)	Energy from wastes (MW)	Village Electri fication* (Nos.)
1.	Tenth Plan Target	1500	600	700	50	145	80	5000
2.	2002-2003 (Actual)	241.30	80.39	102.63	2.07	0.50	3.75	520
3.	2003-2004 (Actual)	615.25	84.04	129.50	4.85	0.05	15.65	613
4.	2004-2005 (Actual ach.)	1111.00	102.27	136.10	8.33	1.75	4.00	381
5.	Actual ach. In first 3 years (% of Tenth Plan)	1967.55 (131.17)	266.70 (44.45)	368.23 (52.60)	15.25 (30.50)	2.30 (1.59)	23.40 (29.25)	1514 (30.00)
6.	Likely achievement in last two years	1050.00	335.00	360.00	30.00	0.00	25.00	3500
7.	Likely achievement during Tenth Plan (% of Tenth Plan target)	3017.55 (201.17)	601.70 (100.28)	728.23 (104.03)	45.25 (90.50)	2.30 (1.59)	48.40 (60.50)	5014 (100.28)

* Proposed to be energised through renewable energy technologies

Table 10.18
Likely utilisation of Central Sector funds by the Ministry of Non-conventional Energy Sources (MNES) during the Tenth Plan

(Rs. crore at 2001-02 Prices)

Sl. No.	Year	GBS	IEBR	Total outlay at constant 2001-02 prices
	Ninth Plan (approved)	4168.97	3296.43	7465.40
.	Ninth Plan Realisation	2171.90 (52.09%)	2697.84 (81.84%)	4869.74 (65.23%)
1.	10th Plan (approved)	4000.00	3167.00	7167.00
2.	2002-2003 (Actual)	408.64	450.07	858.71
3.	2003-2004 (Actual)	359.33	310.63	669.96
4.	2004-2005 (Actual)	204.74	352.69	557.43
5.	2005-2006 (B.E.)	503.91	222.93	726.84
6.	Likely achievement in first four years	1476.62	1336.32	2812.94
7.	% Utilisation in first four years	36.92	42.2	41.32
8.	Expected level of expenditure in 2006-07*	225.21	387.96	613.17
9.	Likely investment during Tenth Plan	1701.83	1724.28	3426.11
10.	Tenth Plan likely utilisation in %	42.55	54.45	47.80

* Assumes a 10 per cent annual growth in nominal terms over the level of 2004-05

Wind Power

10.95 There is lack of clarity on the economically exploitable wind resource potential for wind power generation. The earlier estimated potential of 20,000 MW has been scaled up to 45,000 MW. The Ministry of Non-Conventional Energy Sources (MNES) has estimated that the exploitable technical potential is limited at only 13,000 MW due to limited power evacuation capacity of the grid. This is a technical limitation and steps are needed to overcome this limitation in order to exploit a higher portion of the available potential. It may not be possible to economically tap the entire revised potential of 45,000 MW. MNES must estimate the economically and technically viable wind potential in the country.

10.96 The installed capacity of wind power has touched 3595 MW (as on 31st March 2005) and has already exceeded the Tenth Plan target. This is largely the result of heavy capital subsidies in the initial years of the programme and, more recently, attractive fiscal incentives. While capacity has been realised on the back of one of the most aggressive incentive programmes; the actual capacity factors achieved average about 17 per cent for the country as a whole.

Small Hydro Power

10.97 The assessed potential for such projects for the country as a whole is 15,000 MW. The actual cumulative achievement as on 31st March 2004 was around 1705 MW. However, about 1,100 MW was developed earlier by the Ministry of Power when it was given the responsibility for hydropower above three MW. The definition of small hydro now also includes projects between 3 MW and 25 MW size. If the capacity developed by Ministry of Power is excluded, it becomes evident that MNES has helped exploit some 500 MW of the small hydro potential even though the programme has been in existence for over 20 years. MNES is yet to gear up fully to tap small hydropower projects up to 25 MW capacities.

10.98 The real barrier to small hydro generation is the absence of a structure for distributed generation, absence of independent networks, and difficulty in interconnectivity to the grid where feasible and, most importantly, getting paid for the energy supplied to the grid. None of the available subsidies are specifically designed to address these barriers.

Integrated Rural Energy Programme

10.99 The Integrated Rural Energy Programme (IREP) was started as a pilot exercise in the Planning Commission in 1985 and was transferred in 1994 to the MNES as an operational programme. IREP assesses the local energy needs and integrates the same with locally available energy resources like solar, biomass, biogas, small hydro etc. and external energy sources that might include electricity, kerosene, LPG etc. IREP is a comprehensive demand driven programme aimed at meeting the rural energy needs with an optimal mix of local and external energy resources. However, it is operating in isolation, though, ideally other MNES programmes should feed into this. IREP has a small budget that is spread over 860 blocks and actual annual utilization has never exceeded Rs.12 crore. A significant part of the Central funding actually ends up in supporting soft costs.

Biomas Gasification

10.100 Biomass Energy Systems have been successfully demonstrated in several states, including Karnataka, Tamil Nadu and West Bengal. These programmes are also being implemented in Chhattisgarh and Orissa. The local community is involved in biomass collection. The operation of the energy supply systems is done through locally available manpower. The electricity generated is used for providing drinking water supply and other basic needs like lighting. Biomass energy schemes such as these create direct and indirect employment for the unemployed local youth in addition to providing much needed electricity and safe drinking water.

Village Energy Security Programme

10.101 As a part of the Remote Village Electrification Programme (approved in the

Tenth Plan), MNES has taken up a pilot project to provide total energy security, with the village as the basic unit. This programme, covering around 200 villages, will endeavor to integrate locally available renewable energy sources like biogas, biomass and bio-fuels to meet all energy needs at the village level. This is an innovative programme and the demonstration experiment in varied conditions would provide valuable insights into creating self-sustaining rural energy systems. With the experience gained from the pilot projects a programme combining IREP and Village Energy Security Programme (VESP) may be evolved for replication, wherever found feasible.

Cogeneration Programme

10.102 One of the commercially viable power generation programme under MNES is cogeneration in sugar mills using bagasse as the fuel. There is a potential to generate 3500 MW of exportable surplus power through bagasse based cogeneration. Sugar mills hardly require 20-30 per cent of their power generating capacity for internal consumption. The balance power is available for feeding into the grid. However, the actual level of achievement in bagassebased cogeneration is only 447 MW. The lower achievement is on account of issues related to power evacuation facilities, purchase and payment for surplus co-generated power and tariff for power produced using conventional fuels during the off-season periods when no cane crushing takes place. Several other industries requiring both power and steam could use technologies for cogeneration and waste heat recovery to improve overall energy balance. MNES needs to promote such technologies/programmes.

Biogas Programme

10.103 This is the oldest programme under MNES and was started in 1981-82. Some 35,24,000 household plants have been installed against an assessed potential of 120,00,000 units. However, the programme faced issues in respect of functionality of the units and their benefits to the users. The community biogas plant programme did not succeed under MNES and was, thus, transferred to the states.

10.104 Institutional biogas plants promoted by MNES were successful. However, since community and institutional biogas plants formed a composite scheme, the institutional scheme was also transferred to the states along with the community plants. The states are now requesting MNES to extend necessary support/subsidies for the institutional plants as was done before. However, MNES maintains that institutional biogas plants are commercially viable and capital subsidies are not needed. In order to exploit the full potential of institutional biogas plants promotional measures like awareness campaigns, technical support, marketing of biogas manure etc. are still needed.

10.105 Biogas has traditionally been produced in India from cow dung (*gobar gas*). However, dung is not adequately and equitably available in villages. Technologies have now been developed for using tree-based organic substrates such as leaf litter, seed starch, seed cakes, vegetable wastes, kitchen wastes etc. for production of biogas. Besides cooking, biogas can also be used to produce electricity in dual fired diesel engines or in hundred per cent gas engines. MNES is taking initiatives to integrate biogas programme in its VESP.

Solar Photovoltaic Pumps

10.106 Under this programme, pumps of 200-3000 Wp capacity were promoted to include small capacity pumps used for horticulture. However, the majority of pump sets promoted at present are in the range of 900 - 3000 Wp. The estimated cost of a solar photo voltaic pump of 1800 watt is Rs.2.7 lakh. Two-third of the cost is subsidised by MNES for general areas and in the case of pumps installed in special areas 90 per cent of the cost is subsidised. Soft loans from the Indian Renewable Energy Development Agency (IREDA) are also available to meet the balance cost after availing MNES subsidy. Some 6452 pumps had been installed as on 31st March 2004. MNES should ascertain the economic benefits of this programme in terms of savings in diesel to justify the large amount of subsidies provided to sustain this programme.

THE WAY FORWARD

Across the Energy Sector

Improve regulation by:

- Creating a Regulatory Academy.
- Institutionalising the selection of regulators and their impact assessment under the Regulatory Academy
- Mandating training for all regulators
- Granting financial autonomy to regulatory institutions.
- Limiting the quasi-judicial role of regulators to tariff setting and dispute resolution
- Providing for system to make regulators accountable to Parliament
- Mandating annual reports from all regulators in compliance with the Act
- Develop a debt pool that would provide up to 20-year loan funding for energy projects.
- Establish and enforce energy efficiency standards. The Bureau of Energy Efficiency (BEE) and Petroleum Conservation Research Association (PCRA) must be required to develop such standards for an initial set of energy intensive industries and appliances and develop modalities for a system of incentives/penalties for compliance/non-compliance.

Power Sector

- As far as possible the power generation and transmission projects taken up for construction in future must be bid out competitively on level terms. At some points of time in future, this should become a mandatory requirement. Respective Regulators may grant exemption after allowing due process through public hearings.
- CERC must review compliance with the tariff guidelines it issues the state Electricity Regulators, especially with respect to returns on equity or net capital employed.
- All Central assistance to state governments for the sector must be linked exclusively to loss reduction and improved viability.
- Project finance must replace corporate finance as the norm, starting with projects taken up for construction in the Eleventh Plan to ensure that financial institutions appraise projects purely on their individual merit.
- Promote an industry structure that embodies the following elements to ensure efficiency and growth:
  - Multiple generators with access to transmission and distribution
  - Transco – a regulated monopoly only providing carriage
  - Competition in distribution through separation of content from carriage and regulated wheeling charges
  - Flexible and enabling captive regime
  - Consumer choice through open access
  - Independent load dispatch at regional and state levels
  - An independent planning body for transmission network
  - New technologies such as distributed generation with waste heat recovery where feasible.
  - Demand side management
  - Energy conservation and energy efficiency with incentives for Negawatts.
- Operationalising open access to consumers requires:
- Respective regulators to notify normative wheeling tariffs for different transmission voltages up to 66 KV.
- State regulators to notify normative wheeling tariffs for accessing distribution networks.
- Respective regulators to notify norms for differential time-of-day pricing for

electrical energy at the bulk and retail levels.

- Identifying cross subsidies and replacing them with direct subsidies over time.
- States need to notify rural areas as required by the Electricity Act, 2003. Such notification could see the emergence of independent rural suppliers of electricity.
- Undertake an independent review of the APDRP programme in order to improve its functioning and impact on AT&C loss reduction.
- Develop up to 20,000 MW of coal based coastal thermal generation capacity by 2012. These plants can either fire domestic coal (moved by sea) or imported coal.

Nuclear Power

- An independent review of NPCIL's current construction costs and construction periods against international benchmarks
- Seek 20,000 MWe of additional nuclear power capacity under bi-lateral arrangements, based on a competitive power tariff, to be built over the next 10-12 years. Alternatively, India must seek nuclear fuel on competitive terms for a similar level of capacity to be built by NPCIL in the next 12-15 years

Coal Sector

- Pending the passage of the Coal Bill 2000, increase the number of players in coal mining through captive mining. Increase the flexibility of captive mines by permitting captive block holders to sell incidental coal surpluses during development and operation of the block to CIL or directly to currently linked end users; and allow group-captive mines. Set a target for the Ministry of Coal to achieve at least 50 mt of captive production by 2012.
- Amend Section 3 fo the coal mines (Nationalisation) Act, 1973 to facilitate offering of coal blocks to potential entrepreneurs through competitive bidding.
- Restructure CIL. One possibility could be dismantling of the holding company structure, extending autonomy to the individual coal companies. allowing these coal companies to compete with one another and reviving the lossmaking coal PSUs.
- Permit trading and marketing of coal by removing it from the list of essential commodities.
- Make available about 10 per cent of the domestic production through e-auctions open to traders and actual users.
- Promote additional thermal coal imports (through MMTC or any other body) under long term supply contracts similar to those followed by Japan. Starting with a commitment to import an additional 5 mt by 2006-07, negotiate up to 50 mt of thermal coal imports by 2012 at prices competitive with domestic coal. Such coal imports could feed coastal power plants. Further, the Ministry of Coal should encourage captive mines and/or equity coal in the source countries in support of such imports.
- Change grading and pricing of non-coking coal from the existing useful heat value (UHV) (based on excessively wide bands for grading coal on the basis of an obsolete empirical formula whose validity is in doubt) to the international practice of pricing coal based on gross calorific value (GCV). This is expected to encourage efficient use and promote use of washed coal.
- Amend the provisions of Contract Labour (Regulation & Abolition) Act, 1970 to facilitate offloading of certain activities in coal mining for improved economics of operations.
- Replace coal linkages with fuel supply agreements. As a step towards abolishing coal linkages completely,

these linkages could be made tradable in the first instance.

- Promote in situ coal gasification and tapping of coal bed methane.
- Rationalise rail freight rates for coal transport.
- Extend infrastructure status to the coal industry. Lower duties on capital goods imported for coalmines.
- Institute an independent regulatory mechanism for the coal sector.
- Review the royalty on coal and consider switching to an advalorem basis.

Petroleum and Natural Gas Sector

- Restructure the oil and gas CPSUs in order to promote effective competition.
- Review the current pricing of crude (both domestic and imported), natural gas and all its components, petroleum products and pipeline transportation and other services.
- Introduce price competition in all petroleum products. Impose universal service obligations by requiring a percentage of sales in notified areas but allow differential pricing in different markets to reflect cost of supply. States may choose to subsidize prices in remote areas.
- Bid out subsidies for LPG and kerosene.
- Encourage competing private participation in each element of the oil and gas industry (exploration and production, refining, marketing).
- Rationalise the tax and duty structure prevailing in the oil and gas sector
- Declare authorised end uses (as long as demand exceeds supply) for domestic natural gas and piped natural gas imports. Allow the market to determine the price of natural gas for these recognised end uses. LNG may be sold for any end-use and could compete with natural gas to meet any residual demand for the authorised end uses.
- Increase emphasis on acquiring equity oil and gas abroad. Develop capacity and structures that provide better assessment/control of commercial and political risks of such investments.
- Increase emphasis on transnational pipelines and LNG imports.
- Develop transportation and distribution assets in the oil and gas sector that provide services under common carrier principles applicable to natural monopolies.
- Modify the Petroleum and Natural Gas Regulatory Bill, 2004 to include regulation of upstream sector.
- Allow foreign operators to bring technology and investment to recover oil/gas from currently abandoned and/ or marginal fields on economic considerations.

Non-Conventional Energy Sources

- Switch incentives and support from the supply driven programmes to demand driven programmes and technologies
- Explore alternative subsidy structures that encourage utilities to integrate wind, small hydro, cogeneration etc. into their systems.
- Phase out capital subsidies linked to creation of renewable with subsidies linked to renewable energy generated.
- SERCs to mandate purchase of energy from renewable sources as per the Electricity Act..
- Improve coordination and synergise the various programmes of MNES with similar programmes of other Central ministries and state governments.

Annexure 10.1

SECTORAL COAL DEMAND/OFFTAKE - MTA of Tenth Plan (Coal Sector)

(in million tonnes)

		IX Plan	Tenth Plan					
Sl.	**Sector**	**2001-02**	**2002-03**	**2003-04**	**2004-05**		**2006-07**	
No.		**Actual**	**Actual**	**Prov.**	**BE**	**RE**	**Original Target**	**MTA Revised**
I	**Coking Coal**							
1	Steel	27.81	29.88	29.83	33.27	34.02	35.32	40.70
2	Coke Ovens	0.67	0.86	0.71	0.71	0.60	1.89	2.00
	Sub-Total Coking:	28.48	30.74	30.54	**33.98**	**34.62**	**37.21**	42.70
II	**Non-Coking**							
3	(i) Power Utilities (Gen. Req.)	248.80 (1.80)	252.78 (1.71)	268.13 (1.44)	279.52 (2.48)	285.19 (1.33)	317.14 (3.74)	317.00
	(ii) Power Utilities (stocks)							5.00
4	Cement	15.25	16.36	16.78	19.00	18.55	24.56	25.40
5	Steel DR	4.40	6.17	7.82	7.5	10.15	7.00	7.00
6	Railways		-				-	
7	Fertilisers	3.20	2.54	2.07	2.81	2.44	4.18	3.52
8	LTC/Soft Coke*						0.20	0.20
9	Cokeries/Coke oven (NLW)*						1.50	1.50
10	Export	0.02	0.01	0.04	0.02	0.02	0.10	0.10
11	Captive Power	17.02 (1.29)	19.04 (1.53)	22.14 (1.75)	24.9 (1.10)	24.75 (1.87)	28.26 (1.40)	28.26
12	BRK & Others	32.75 (0.51)	36.86 (0.01)	32.06 (0.00)	35 (0.00)	37.77 (0.00)	37.85 (0.10)	40.00
13	Colly. Consumpt.	1.79	1.48	1.33	1.46	1.33	2.50	2.50
	Sub-Total NonCoking:	**323.23** (3.60)	**335.24** (3.25)	350.37 (3.19)	**370.21** (3.58)	**380.20** (3.20)	**423.29** (5.24)	**430.48**
	Grand Total (I+II):	351.71 (3.60)	365.98 (3.25)	380.91 (3.19)	404.19 (3.58)	414.82 (3.20)	460.50 (5.24)	473.18

Import of Coking Coal	11.11	12.52	12.99	15.89	16.05	17.18	24.19
Import of Non-Coking Coal:	9.44	9.50	8.69	7.50	10.74	3.30	6.50
Power Sector	3.56	3.30	2.60	3.00	3.22	-	3.00
Cement Sector	5.88	3.66	3.18	4.00	7.52	3.30	3.00
Others		2.54	2.91	0.50			0.50
Sub-Total Non-Coking Coal:	9.44	9.50	8.69	7.50	10.74	3.30	6.50
Total Imports :	20.55	22.02	21.68	23.39	26.79	**20.48**	30.69

	2001-02	2002-03	2003-04	2004-05		2006-07	
	Actual	Provisional	Provisional	BE	RE	Original	MTA
Coal Based Power gen. (BU)	343.16	362.2	375.30	390.00	390.00	452.00	446.00
Cement Production (MT)	115.00	111.35	117.50	130.70		153.50	158.56
Hot Metal Prodn. (MT)	21.86	24.5	25.95	25.32		25.59	31.83

Annexure 10.2

COMPANYWISE COAL PRODUCTION - MTA of Tenth Plan (Coal Sector)

(in million tonnes)

Sl. No.	Company	IX PLAN 2001-02 Target	IX PLAN 2001-02 Actual	Tenth Plan 2002-03 Target	Tenth Plan 2002-03 Actual	Tenth Plan 2003-04 Target	Tenth Plan 2003-04 Actual	Tenth Plan 2004-05 BE	Tenth Plan 2004-05 RE	Tenth Plan 2006-07 Original Target	Tenth Plan 2006-07 MTA Revised
	CIL:										
1	**ECL**	28.50	28.55	29.00	27.18	29.00	28.00	29.00	29.40	31.00	34.50
2	**BCCL**	30.00	25.25	28.00	24.15	27.50	22.70	25.20	25.20	33.00	27.00
3	**CCL**	36.00	33.81	34.25	36.98	35.50	37.34	40.00	40.00	43.30	44.00
4	**NCL**	41.50	42.46	44.00	45.10	46.50	47.03	47.50	49.90	52.00	54.00
5	**WCL**	35.00	37.01	37.00	37.82	37.25	39.53	38.00	41.50	37.50	44.00
6	**SECL**	63.00	64.12	65.25	66.60	69.00	71.01	74.50	78.11	84.55	88.50
7	**MCL**	44.50	47.81	48.00	52.23	53.10	60.05	59.00	66.06	68.00	80.00
8	**NEC**	0.50	0.64	0.50	0.63	0.65	0.73	0.80	0.80	0.65	1.00
	Sub-Total CIL:	279.00	279.65	286.00	290.69	298.50	306.39	314.00	330.97	350.00	373.00
	Category:										
	Exisiting Mines	31.38	30.11	29.46	29.12	26.71	28.41	27.99	29.30	25.50	30.22
	Completed Projects	216.98	219.94	217.90	234.67	223.42	250.23	218.61	226.59	200.80	225.91
	Ongoing Projects	28.86	27.57	31.63	26.11	32.13	27.58	45.11	50.88	44.59	66.45
	New Projects	1.78	1.38	7.01	0.78	16.24	0.16	22.30	24.20	79.11	50.42
	Total:	279.00	279.00	286.00	290.68	298.50	306.38	314.01	330.97	350.00	373.00
9	**SCCL**	32.38	30.81	32.50	33.16	33.50	33.85	35.00	35.00	36.13	37.50
	Category:										
	Exisiting Mines	4.19	4.47	4.30	4.14	4.12	3.88	3.82	4.02	3.87	2.60
	Completed Projects	22.28	21.33	21.55	26.46	24.01	27.53	25.86	26.92	19.03	17.34
	Ongoing Projects	5.91	5.20	6.55	2.56	5.37	2.44	5.32	4.06	9.22	6.85
	New Projects	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	4.01	10.71
	Total:	32.38	31.00	32.50	33.16	33.50	33.85	35.00	35.00	36.13	37.50
10	**TISCO/IISCO /DVC**	7.60	7.73	7.60	7.46	7.85	7.45	7.45	7.45	7.64	*
11	**Captive**	3.75	4.46	5.50	5.51	5.20	7.61	8.20	7.70	6.73	*
12	**Others**		5.15	4.10	4.41	5.00	4.50	4.50	4.50	4.50	*21
All India Total:		322.73	327.80	335.70	341.23	350.05	359.80	369.15	385.62	405.00	431.50

Note: In the absence of revised projections the actual production achieved in 2003-04 has been considered for 2006-07 in case of others including TISCO/IISCO/DVC & Captive blocks etc.

Annexure 10.3

Companywise/Schemewise Outylay/Expenditure - MTA of Tenth Plan (Coal Sector)

(Rs. Crore)

Sl. No.	Company / Scheme	IX Plan 1997-02 Actual Exp.	X Plan Approved Outlay 2002-07	2002-03 Actual Exp.	2003-04 Actual Exp.	2004-05		Cumulative Expenditure 2002-05	Cumulative Exp. As % of Appd. X Plan Outlay	X Plan MTA Revised Outlay	Revised Outlay as % of Approved Outlay
						BE	RE				
I.	CIL										
1	ECL	650.10	1460.00	131.44	82.49	200.00	195.24	409.17	28.03	1363.17	93.37
2	BCCL	555.40	1300.00	55.39	71.91	200.00	237.57	364.87	28.07	995.39	76.57
3	CCL	973.93	1250.00	131.60	229.00	280.00	280.00	640.60	51.25	1620.00	129.60
4	NCL	2121.43	2750.00	432.08	329.03	635.00	354.27	1115.38	40.56	2325.00	84.55
5	WCL	1307.73	1435.00	145.01	158.43	200.00	200.00	503.44	35.08	977.85	68.14
6	SECL	1726.14	3520.00	153.34	186.00	400.00	270.00	609.34	17.31	1859.33	52.82
7	MCL	1233.70	2500.00	139.83	93.55	350.00	275.00	508.38	20.34	1650.00	66.00
8	NEC	63.76	45.00	2.25	2.26	4.00	3.00	7.51	16.69	15.51	34.47
9	Others (CIL/ DCC/IICM/ CMPDIL)		50.00	1.23	4.15	41.00	62.27	67.65	135.30	168.88	337.76
10.	VRS#				120.77			120.77			
	Total CIL	**8632.19**	**14310.00**	**1192.17**	**1277.59**	**2310.00**	**1877.35**	**4347.11**	**30.38**	**10975.13**	**76.70**
II.	**SCCL**	**935.79**	**2113.00**	**139.49**	**163.42**	**325.00**	**275.00**	**577.91**	**27.35**	**1550.00**	**73.36**
III.	**NLC**										
1	NLC (Mines)	2097.14	6125.84	259.13	80.80	237.63	177.00	516.93	8.44	2130.26	34.77
2	NLC (Power)	1055.30	8007.64	175.70	77.24	243.07	90.00	342.94	4.28	2992.91	37.38
Total NLC		**3152.44**	**14133.48**	**434.83**	**158.04**	480.70	**267.00**	**859.87**	**6.08**	**5123.17**	**36.25**
IV	**Central Sector Schemes**										
1	R&D/S&T	19.23	100.00	7.00	9.82	9.88	12.43	29.25	29.25	72.93	72.93
2	Coal Contr. Orgn.@			0.20	0.20	0.22	0.22	0.62			
3	EMSC	32.16	163.00	13.12	0.00	4.85	18.22	17.97	11.02	150.52	92.34
4	Regl./Proml. Expl.	140.07	275.80	17.50	36.20	51.84	43.00	96.70	35.06	261.55	94.83
5	Detailed Drilling in Non-CIL	65.23	70.66	12.53	15.06	12.83	22.50	50.09	70.89	93.84	132.80
6	RFRP*	6.28	0.00	0.06	0.00	0.00	0.00	0.06		0.00	
7	Rehabilitation Project**	7.24	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
8	VRS	490.93	425.06	107.02	0.00	103.50	103.5	210.52	49.53	425.06	100.00
9	IT	1.06	0.00	0.00	0.00	4.50	2.50	2.50		0.00	
10	North Eastern Council	122.34		0.00	0.00	21.00	21.00	22.33			
	Total Central Sector Schemes	**884.54**	**1034.52**	157.43	**61.28**	223.32	**210.00**	**428.71**	41.44	1003.90	97.04
Total MOC		13604.96	**31591.00**	**1923.92**	**1660.33**	3339.02	**2629.35**	6213.60	**19.67**	18652.20	**59.04**

* Not continuining in the X Plan

** Merged with EMSC in X Plan

@No outlay is provided in the x plan.

#No budgetry provision was made for VRS in 2003-04 due to which expenditore of 120.77 crore incured by CIL to IR is shown as plan expenditure of CIL.

Annexure 10.4

MID-TERM REVIEW OF TENTH PLAN (2002-07)
Physical Performance
Ministry of Petroleum & Natural Gas

Parameters	Tenth Plan	2002-03		2003-04		2004-05		Cumulative (3+5+7)	%age of Tenth Plan	2005-06	2006-07	Anticipated achievement Tenth Plan (8+10+11)	Anticipated achievement as % of Tenth Plan
	Target	Target	Actual	Target	Actual	Target	Likely			Target	Target		
	1	2	3	4	5	6	7	8	9	10	11	12	13
Consumption of POL (MMT)	120.4#	104.14	104.12	107.16	107.76	113.58	111.99	–	–	116.14	120.4	–	100.00
Crude oil Production (MMT)													
ONGC	130.02	25.90	26.00	25.99	26.06	26.17	26.18	78.23	60.2	26.19	25.56	129.98	99.97
OIL	18.70	3.50	2.95	3.60	3.00	3.21	3.22	9.16	49.0	3.85	4.00	17.01	90.96
PVT/JVCs	20.66	3.68	4.09	3.63	4.31	3.77	4.35	12.17	58.9	4.44	4.41	21.02	101.74
Total	**169.38**	**33.08**	**33.04**	**33.22**	**33.37**	**33.15**	**33.75**	**99.56**	**58.8**	**34.48**	**33.97**	168.01	99.19
Natural Gas Production (BCM)													
ONGC	112.10	23.91	24.24	23.13	23.58	22.13	22.12	69.95	62.4	21.47	20.82	112.24	100.12
OIL	12.61	2.19	1.74	2.34	1.88	2.06	1.97	5.68	45.0	2.81	2.85	11.34	89.93
PVT/JVCs	52.77	5.49	5.41	7.58	6.49	6.74	6.79	18.64	35.3	12.95	13.96	45.55	86.32
Total	177.48	**31.59**	**31.39**	**33.05**	**31.95**	**30.93**	**30.88**	**94.27**	**53.1**	**37.23**	**37.63**	169.13	95.30
Accretion to Hydrocarbon Reserves (MMT) *													
ONGC	562-577	121.7	128.10	134.55	104.78	148.40	NA	381.28	66.0-67.8	85.86	68.95	536.09	93-95
OIL	110-123.50	20.70	21.87	18.00	18.54	18.00	NA	58.41	47.2-53.1	30.65	30.65	119.71	97-121
Total NOC	672-700.50	142.40	149.97	152.55	123.32	166.40	NA	439.69	62.7-65.4	116.51	99.60	655.80	93.6-97.6
Pvt./JV Co.	113-213.50	NA	179.60	NA	225.00	NA	NA	NA	NA	NA	NA	NA	N.A.
Total	**785-914**	**142.4**	**329.57**	**152.55**	**348.32**	**NA**	NA	NA	NA	NA	NA	**>785-914**	>100.00

\# Targets for the terninal year of the Tenth Plan.

Note: Informantion on accretion to reserves for 2004-05, 2005-06 and 2006-07 in respect of private/JVs companies is not available.

NA- Not Available

Annexure 10.5

Refining Capacity

(in MMT as on 1st April)

Name of the Refinery	2003	2004	2005	2006	2007
1. IOC, Guwahati	1.00	1.00	1.00	1.00	1.00
2. IOC, Barauni	6.00	6.00	6.00	6.00	6.00
3. IOC, Gujarat	13.70	13.70	13.70	13.70	13.70
4. IOC, Haldia	4.60	6.00	6.00	6.00	6.00
5. IOC, Mathura	8.00	8.00	8.00	8.00	8.00
6. IOC, Digboi	0.65	0.65	0.65	0.65	0.65
7. IOC, Panipat	6.00	6.00	6.00	12.00	12.00
8. BPCL, Mumbai	6.90	6.90	12.00	12.00	12.00
9. HPCL, Mumbai	5.50	5.50	5.50	7.90	7.90
10. HPCL, Visakh	7.50	7.50	7.50	7.50	8.33
11. KRL, Kochi	7.50	7.50	7.50	7.50	7.50
12. CPCL, Manali	6.50	9.50	9.50	9.50	9.50
13. CPCL, Narimanam	1.00	1.00	1.00	1.00	1.00
14. BRPL, Bongaigaon	2.35	2.35	2.35	2.35	2.35
15. NRL, Numaligarh	3.00	3.00	3.00	3.00	3.00
16. MRPL, Mangalore (JV)	9.69	9.69	9.69	9.69	9.69
17. ONGC, Tatipaka	0.08	0.08	0.08	0.08	0.08
18. RPL, Jamnagar	27.00	33.00	33.00	33.00	33.00
Total	116.97	127.37	132.47	140.87	141.70

* indicates capacity addition as a result of Modernisation cum Expansion projects.

Urban Infrastructure

URBAN DEVELOPMENT

11.1 The Tenth Plan had, in the context of urban development, laid stress on improving the functional and financial autonomy of urban local bodies (ULBs), strengthening of their finances through smooth implementation of State Finance Commissions (SFC) awards, rationalisation of the property taxation system and levy of user charges. The Plan advocated broad-based urban sector reform measures and emphasised that public-private partnerships (PPP) should be brought on the urban agenda in order to improve the efficiency and delivery of services.

11.2 Although some states have made earnest efforts in this regard, the progress in these thrust areas is below expectations. Not much headway has been made in the area of urban reforms, which need to be brought on the agenda of urban governance. State governments have not given full effect to the recommendations of SFCs. State governments and ULBs have been generally reluctant to levy reasonable user charges. The property tax system is not only outdated but its coverage is far from adequate. As far as functional autonomy is concerned, most state governments have shied away from implementing several provisions of the Constitution (Seventy Fourth) Amendment Act, 1992, which envisaged a decentralised governance structure at the local level. Though PPP projects have been taken up in some cities, their impact has been limited because of a lack of properly designed PPP models and the absence of a regulatory framework to govern such arrangements.

STATUS OF URBAN INFRASTRUCTURE

11.3 The process of urbanisation has gathered considerable momentum over the last 50 years. The growth of population has put urban infrastructure and services under severe strain. Smaller cities have found it particularly difficult to cope with the increasing demands on services because of inadequate financial resources. Urban areas in India, present a grim picture with regard to availability of basic infrastructure.

- About 21 per cent of the urban population is living in squatter settlements, where access to basic services is extremely poor.
- Although 89 per cent of the urban population is reported to have access to safe drinking water but there are severe deficiencies with regard to equitable distribution of water.
- Nearly 46 per cent of urban households have water toilets, but only 36 per cent of the urban households are connected to the public sewerage system.
- Average per capita generation of waste is estimated at 0.4 kg per capita per day in cities ranging from 1 lakh to 50 lakh population and the garbage collection efficiency ranges between 50 to 90 per cent of the solid waste generated.
- City roads are inadequate for traffic requirements, leading to congestion and fast deterioration in quality of roads due to excess loads.

11.4 The Rakesh Mohan Committee on the investment requirements of infrastructure had estimated the annual requirement of funds (1996-2001) for providing infrastructure (water supply, sanitation and roads) to the urban population at Rs.28,298 crore. The annual requirement for the period 2001-2006 was estimated to be Rs.27,773 crore. During the Ninth Plan period, Rs.5,200.01 crore under the Central Plan and Rs.20,838.00 crore under states Plan were spent on housing and urban development. In the Tenth Plan, an outlay of Rs.11,510 crore as gross budgetary support (GBS) for the ministries of Urban Development and of Urban Employment and Poverty Alleviation) under Central Plan and Rs. 43138.67 crore under states Plan has been provided. This represents an increase of 121 per cent in Central Plan and 107 per cent in the state Plan over the Ninth Plan realisation but the present level of funding is not even tackling the fringes of the problem.

DEMOCRATIC DECENTRALISATION OF URBAN LOCAL BODIES

11.5 The Constitution (Seventy-Fourth) Amendment Act, 1992, aimed at decentralisation and creation of a democratic governance structure at the local level. Its objective was to redefine the relationship between the states and the municipal bodies, in order to firmly establish elected ULBs as the institutions of self-government (Article 243W).

11.6 The states have carried out the required amendments to the municipal laws and elections have been held in several states more than once under the supervision of State Election Commissions. The objective of political decentralisation has been accomplished to a substantial degree but the existing institutional framework for urban planning has not been realigned in accordance with the provisions of the Seventy-Fourth Amendment. Most state governments have shied away from implementing several provisions of the Act. The Twelfth Schedule (Article 243W) lists 18 functions to be transferred to the ULBs. However, only six states (Bihar, Chhattisgarh, Himachal Pradesh, Madhya Pradesh, Punjab and Tripura) have devolved all these functions. Only 21 states have set up District Planning Committees and only West Bengal and Maharashtra have established Metropolitan Planning Committees. Functional and financial autonomy of ULBs remains a distant dream.

EXPERIENCE OF STATE FINANCE COMMISSIONS

11.7 The effectiveness of the SFCs depends on the implementation of their recommendations by the respective states. The ultimate objective of the exercise should be the transfer of adequate level of state resources on a multi-year basis to ULBs in a manner that is free from procedural hassles and uncertainties. Importantly, there is a need for the transfers, based on the recommendations of SFC, to be linked to the degree of efficiency in raising resources, proper accounting and conformity to urban reforms.

11.8 However, experience shows that state governments have not fully complied with the recommendations of SFCs. Most SFCs have recommended a proportionate share of state tax and non- tax revenue to be devolved to the ULBs but the actual transfers are much less and uncertain. This has led to a precarious situation for the ULBs, which have also suffered because of the abolition by most state governments of octroi which was their main source of revenue.

URBAN GOVERNANCE

11.9 The devolution of functions to ULBs is incomplete and the financial resources with ULBs are inadequate. State governments are unwilling to provide autonomy to ULBs, the methods of property taxation are outdated and, in general, the attitude towards levy of user charges is indifferent.

11.10 A number of cities have involved the private sector in the provision of urban services. PPP projects, particularly in Tamil Nadu, Karnataka, Maharashtra, Andhra Pradesh and Gujarat have covered conservancy, sanitation, garbage collection/disposal, compost plant, street lighting, water supply, collection of local taxes, development and maintenance of gardens and parks, bus terminus, land development and market development etc. A majority of PPP initiatives are in water supply, sanitation and solid waste management. Lack of properly designed PPP models and the absence of a regulatory framework to govern such arrangements have inhibited the full utilisation of the PPP arrangements for urban development.

11.11 The Tenth Plan laid emphasis on transparency and right to information for both of which information technology (IT) can prove useful. Information technology can also bring about improvement in the service delivery mechanism and the revenue base of ULBs. Various municipalities have adopted e-Governance initiatives for property tax, grievances redressal, e-procurement, tap connection status, double accounting system, water charges, service tendering, birth/death certificates, building plan status, etc. The National Informatics Centre (NIC) has been instrumental in carrying out various e-Governance initiatives in most of the cases. Ministry of Urban Development is in process of preparing a National Mission Mode Project on e-Governance in Municipalities. The main objectives of the Mission are to improve efficiency and effectiveness in interaction between local government and its citizens and other stakeholders, improve quality of internal local government operations to support and stimulate good governance and bring about transparency and accountability in the governance of ULBs.

11.12 A scheme to generate city-level data and city maps - two of the most important tools of urban managers which are generally not available - derived from satellite imagery was to be implemented during the Tenth Plan. Digitised maps have not been generated from satellite data and little work has been done on ground-truth surveys. Similarly, basic urban data relating to settlements, slums, population, housing, transport, disposal of solid and liquid waste, water supply, sewage and sanitation, roads, drainage, street lights, parks and playgrounds, parking areas, etc. are lacking. A new scheme — National Urban Information System (NUIS) — proposed by the Ministry of Urban Development remains to be finalised.

11.13 The Tenth Plan acknowledged that there is a pressing need for capacity building of municipalities through training of elected and appointed officials and by restructuring of ULBs for efficient management of civic services. The public service element needs to be made more professional and accountable to the people. Community involvement not only results in effective implementation of the projects but also leads to better designing and substantial reduction in operational costs. 'Ward Committees and Area Sabhas' are ideal for participatory management. By making ward plans mandatory, the ward councillors become accountable, thus improving urban governance.

URBAN REFORMS

11.14 Given the emphasis on urban reforms in the Tenth Plan, an Urban Reforms Incentive Fund (URIF) was launched for providing incentive to state governments to carry out reforms in the following areas:

- Repeal of the Urban Land Ceiling and Regulation Act.
- Rationalisation of stamp duty in phases to bring it down to no more than 5 per cent by the end of the Tenth Plan period.
- Reform of rent control laws to stimulate private investment in rental Housing Schemes.
- Introduction of computerised process of registration.
- Reform of property tax so that it becomes a major source of revenue for ULBs, and arrangements for its effective implementation with collection efficiency of 85 per cent by the end of the Tenth Plan period.
- Levy of reasonable user charges, with full cost of operations and maintenance (O&M) being collected by the end of the Tenth Plan period.
- Introduction of double entry system of accounting.

11.15 Under URIF, 28 states/Union Territories have signed the Memoranda of Agreement (MoA) with the Ministry of Urban Employment and Poverty Alleviation. Of these, 20 have agreed to repeal the Urban Land Ceiling Act and rationalise the stamp duty, 22 States/UTs have agreed to reform the Rent Control Act, 27 States/UTs have agreed to computerise the registration process and levy of reasonable user charges. All 28 States/UTs have agreed to adopt the double entry system of accounting and reform the property tax. According to the URIF guidelines, the first instalment of assistance is released on the MoA being signed and subsequent releases are based on the achievement of the prescribed milestones. While Rs.188.15 crore was released as first instalment on signing MOA, an amount of Rs.68.18 crore only was released as second instalment which indicates that all the milestones have not been carried out in line with in the MoA.

REVIEW OF PLAN SCHEMES

Urban Water Supply & Sanitation

11.16 Safe drinking water supply and sanitation are basic human needs and are crucial for achieving the goal of "Health for All". The Tenth Plan envisaged the augmentation of water supply in urban areas in order to reach the prescribed norms, higher degree of reliability, assurance of water quality, a high standard of operation and management, accountability to customers and, in particular, special arrangements to meet the needs of the urban poor as well as levying and recovery of user charges to finance the maintenance functions and to facilitate further investment in the sector. These achievements are to a large extent, dependent on the willingness of the state governments and ULBs to restructure water supply organisations, levy reasonable water rates, take up reforms in billing, accounting and collection and become credit-worthy in order to have access to market funding.

FINANCIAL PERFORMANCE

11.17 The performance of the various water supply and sanitation schemes implemented by the Ministry of Urban Development, during first three years of the Tenth Plan has been given in Table 11.1.

11.18 Urban water supply and sanitation is being handled mostly under the state Plan, except for the Accelerated Urban Water Supply Programme (AUWSP), which is a centrally sponsored scheme (CSS) for small towns with population less than 20,000. There is no Central scheme or CSS in operation relating to sewerage/sewage treatment except under National River Conservation Plan (NRCP) which is meant for towns/cities located at the banks of important rivers. The Tenth Plan outlay for urban water supply and sanitation was Rs.18,749.20 crore (excluding the states of Arunachal Pradesh, Tamil Nadu, Uttaranchal and the Union Territory of Lakshadweep) under state/Union Territory Plans.

KEY ISSUES AND RECOMMENDED STRATEGY

11.19 Paying adequate attention to operation and maintenance (O&M) of the created assets could result in a 40-50 per cent improvement

Table 11.1
Performance of water supply and sanitation schemes in the Central Plan

(Rs crore)

Scheme	Tenth Plan outlay	Likely expenditure in first three years	% Expenditure
1. Solid waste management and drainage in selected Airfield towns	99.35	40.99	34
2. Accelerated Urban Water Supply Programme	900.00	403.51	46
3. Low Cost Sanitation Programme	200.00	40.00	20
4. National scheme for liberation of scavengers	460.00	95.22	18
Total	**1659.35**	**579.72**	**35**

in their useful life. There are a variety of reasons for the neglect of O&M: inappropriate system design, multiplicity of agencies and overlapping of responsibilities, inadequate training of personnel, lack of performance evaluation and monitoring, lack of operation manuals etc. The Ministry of Urban Development has brought out a manual on "Operations and Maintenance of Urban Water Supply System".

11.20 Several pilot studies have shown that water losses in distribution account for between 20 and 50 per cent of the total flow in the system, with the maximum leakage being caused in the house service connections. In India, the water supply is by and large intermittent (supply hours ranging from three hours to ten hours), and external pollution may get sucked into the system at the points of leak during non-supply hours (when the system is not under pressure), causing health hazards. A systematic approach to the reduction of wastage of water from leaks and preventive maintenance would obviate the need for augmentation and also help in increasing revenue.

11.21 The principal reason for the persistence of these problems is that the urban water supply and sanitation service providers are not financially viable. They cannot maintain the quality of services without large subsidies. Their inability to impose a reasonable user-charge, itself a reflection of political constraints, is the major obstacle to their becoming financially viable. In view of the pressure on budgetary resources, there is no alternative to making suppliers of these services charge more reasonable tariffs thus creating an environment in which they can access institutional finance with government budgetary support limited to meeting viability gap requirements

11.22 Two other problems with urban water supply and sanitation service providers are lack of autonomy and accountability. In many cases, their personnel also lack the necessary managerial skills. A shift to professionally managed financially viable bodies will help address these problems. Environmental degradation is also a problem. The exploitation of water resources is not sustainable at present.

SOLID WASTE MANAGEMENT

11.23 The management of urban solid waste is one of the most neglected areas of urban development in India. India produces about 42 million tons of urban solid waste annually. The current municipal solid waste generation is estimated to be approximately 0.4 kg per capita per day. There has been a decline in the standard of services in collection and disposal of household, industrial and hospital waste. In most cities, nearly half the solid waste remains unattended. Lack of financial resources, inadequate manpower, fragmentation of administrative responsibility, non-involvement of community and lack of awareness are major constraints in solid waste management. Considering the complexity of the problem, it is necessary to evolve a suitable national strategy even though its implementation can best be handled at the level of ULBs.

11.24 Bird hits are among the major causes of air crashes in the country. An Inter-Ministerial Joint Sub-Committee constituted by the Ministry of Defence recommended proper sanitation facilities, including solid waste management and drainage, to overcome the bird menace in the towns where Indian Air Force (IAF) airfields are located. A Central scheme has been formulated to cover ten selected IAF airfield towns at a cost of Rs.99.34 crore. The O&M of the scheme would be borne by the respective ULBs/state governments. An expenditure of Rs.99 lakh during 2003-04 and Rs.40 crore during 2004-05 was incurred.

11.25 In October 2000, the Ministry of Environment and Forests notified the Municipal Solid Wastes (Management and Handling) Rules, 2000, which lay down the procedures/ guidelines for collection, segregation, storage, transportation, processing, and disposal of municipal solid waste. The rules require that all cities should set up suitable waste treatment and disposal facilities by 31 December 2001.The rules also specify standards for compost quality, leachate control, and management and closure of landfill sites. The Ministry of Urban Development has also brought out a comprehensive manual on municipal solid waste management for the guidance of ULBs.

11.26 In view of the urgency and importance of solid waste management in urban areas, the Tenth Plan had suggested a new mission-mode state sector programme named 'Urban Sanitation Mission', with focus on setting up sanitary land-fills and composting plants for urban solid waste, and improvement of drainage in urban areas with special Central assistance, subject to availability of additional resources. However, no funds could be tied up so far. Therefore, under the proposed National Urban Renewal Mission and Urban Infrastructure Development Scheme, solid waste management has been accorded priority with focus on projectised approach.

Note: Further details relating to water supply and sanitation schemes are discussed in the chapter on Water Resources.

URBAN TRANSPORT

11.27 A good network of roads and an efficient mass urban transport system make a substantial contribution to the working efficiency of a large city for its economic and social development. However, there are no coherent urban transport plans in most cities and the urban transport infrastructure is grossly inadequate. According to the 2001 Census, there are 35 metropolitan cities with million plus population. Except for Mumbai, Kolkata and Delhi, none of the Indian cities has a Mass Rapid Transit System (MRTS).

11.28 The Delhi Metro Project is progressing according to schedule and is expected to be fully operational by March 2006. Other metropolitan cities are also in the process of preparing detailed project reports (DPRs) for a metro-rail system. In Kolkata, the State Govt. is considering an Elevated Mass Rapid Transit System (EMRTS), in Hyderabad, the State Govt. has got a DPR prepared for Metro system, and in Mumbai, a Master Plan for Metro system has been prepared and a 15 km long Varsova-Andheri-Ghatkopar corridor through BOOT is under consideration. However, it needs to be borne in mind that the metro-rail projects are highly capital intensive and require long gestation periods. There is one point of view that metro-rail projects can be commercially viable only in cities with skyscrapers.

11.29 The concept of Bus Rapid Transit (BRT) system has now been adopted worldwide. The BRT achieves reduced travel times through the use of transit-only lanes, signal priority, pre-paid fares and buses designed for easy boarding.

CENTRAL SECTOR SCHEME IN URBAN TRANSPORT

11.30 The only Central scheme under way since 1996 is the Delhi MRTS project executed by the Delhi Metro Rail Corporation (DMRC) Ltd. The revised cost of the Delhi Metro is Rs.10,571 crore. The requirement of funds during the Tenth Plan, estimated by the Ministry, was to the tune of Rs 8,927.65 crore. During the first two years of the Tenth Plan, an amount of Rs 1,050 crore was provided and Rs 3,339.30 crore was utilised, the additional funds being provided by means of supplementary budget by the Ministry of Finance. Further, in the Annual Plan of 2004-05, Rs 480 crore has been provided against the requirement of Rs.2,030 crore. There is a provision of Rs.200 crore for other schemes of Urban Transport in the Tenth Plan but there has been progress only in case of the Bangalore MRTS. While, the Bangalore MRTS has got the Planning Commission's 'in-principle' approval, the funding aspects and the role of the Government of India as an equity partner are yet to be finalised by the Ministry of Urban Development.

KEY ISSUES AND RECOMMENDED STRATEGY

11.31 In view of the poor urban transport facilities in Indian cities, there is an urgent need for a National Urban Transport Policy and road-rail network planning for improving urban connectivity. In developed countries, cities start planning and building an MRTS when they reach a population level of one million and start operating MRTS by the time they are two million strong. By that reckoning, all million plus cities should be either operating an MRTS or at least have one on their drawing

Box 11.1
Delhi Metro Rail System

- The Ministry of Urban Development is equal equity holder, alongwith GNCTD in Delhi MRTS project being executed by the Delhi Metro Rail Corporation (DMRC) Ltd.
- The Delhi Mass Rapid Transit System (MRTS) contemplates Metro Rail System in Delhi. Phase-I of this project consist of the following corridors:-
  1. Shahdara-Rithala
  2. Vishwavidyalaya-Central Secretariat
  3. Indraprastha-Dwarka-Dwarka Sub-city (i.e. Dwarka-Dwarka VI)
- The Phase-I of the project is scheduled to be completed by March 2006. The Shahadra-Rithala corridor has been commissioned on 31st March, 2004 and is fully operational. The Vishwavidyalaya-Kashmere Gate Section of the underground corridor from Vishwavidyalaya to Central Secretariat has been commissioned on 19th December, 2004. The targeted completion date for other sections is:
  1. Kashmere Gate-Central Sectt. (6.90 km.) - 30.09.2005
  2. Barakhamba Road-Kirti Nagar (8.41 km) - 30.09.2005
  3. Kirti Nagar-Dwarka (14.49 km) - 31.12.2005
  4. Indraprastha-Barakhamba Road (2.27 km) - 31.03.2006
  5. Dwarka-Dwarka Sub-city (6.50 km) - 31.03.2006
- The revised cost of Delhi Metro is estimated to be Rs.10571 crore, excluding cost of extension in Dwarka Sub-city of Rs.320 crore, funded by DDA.
- The Detailed Project report (DPR) for Phase II of Delhi MRTS has been prepared and the proposal is at present under consideration.

board. It is estimated that on an average, the elevated metro-rail costs Rs.100 crore/ km while the underground/underwater metro-rail costs Rs.275 crore/km. Therefore, viability and suitability factors should be kept in mind while selecting the modes of transportation for a city. The Ministry of Urban Development provides grant assistance of 40 per cent of the cost of studies for addressing traffic and transportation problems of a city. The Ministry of Urban Development is also in the process of formulating a National Urban Transport Policy to address various issues involved in urban transport.

11.32 States need to draw up urban transport plans for all million plus cities and state capitals, by studying various modes of public transport. City-specific projects including the BRT system and a rail-based urban transport system need to be critically evaluated along with other sustainable modes of transportation whereby the urban transport problems need to be considered by the planning agencies as an integral component for land use planning.

REVIEW OF OTHER URBAN DEVELOPMENT SCHEMES

11.33 The consolidated information regarding performance of housing and urban development sector in the states Plan and Central Plan is given in Annexure 11.1. The scheme-wise performance of the Ministry of Urban Development during first three years of the Tenth Plan is given in Annexure 11.2.

INTEGRATED DEVELOPMENT OF SMALL AND MEDIUM TOWNS

11.34 The CSS of Integrated Development of Small and Medium Towns (IDSMT) was

Box 11.2
Need for National Urban Transport Policy

There are divergent views on the use of metro-rail or bus rapid transit (BRT) system in the Indian context. It has been argued that road-based systems like buses/trams/electric trolley buses can optimally cater to traffic loads of up to 10,000–12,000 peak hour peak direction passenger trips (phpdt). Further, the rail-based transport system such as metro requires one-fifth energy per passenger km as compared to the road-based system and causes no air pollution. The rail-based system, it is argued, is more reliable, comfortable, safer and reduces journey time by between 50 per cent and 75 per cent as compared to the road-based system.

On the other hand, the modern BRT systems are also reported to be equally capable of carrying the same or higher number of passengers per hour per direction. The BRT system has been successful in many cities of the world like Bagota, Sao Paulo etc. Further, the cost of BRT system ranges from Rs.13-14 crore to Rs. 25 crore per km. as compared to Rs.275 crore per km for underground and Rs.100 crore per km for elevated metro rail system.

Hence, the Ministry of Urban Development needs to formulate a National Urban Transport Policy based on which the study/ project reports for introduction of metros or BRTs in large cities could be prepared by various state governments.

initiated in 1979–80 with the objective of improving the economic and physical infrastructure in small and medium towns so that they become capable of generating economic growth and employment and slow down migration to larger cities. The scheme is applicable to cities with population up to 500,000. The ratio of Central assistance to state assistance is 60:40 and there is a loan component of 20 to 40 per cent (depending on the size of the city) from financial institutions.

11.35 An outlay of Rs.1,304.65 crore was approved for the Tenth Plan to assist 925 new and on-going towns under IDSMT scheme. During the first three years of the Plan period, only 30 per cent (assuming full utilisation of 2004-05 allocations) of Tenth Plan allocation is expected to be utilised. In terms of physical achievements, 67 per cent towns (621 towns) are expected to be assisted during the same period. This thinning of resources has led to a lack of appreciable results on the ground.

MEGA CITY SCHEME

11.36 The Mega City Scheme, applicable to Mumbai, Kolkata, Chennai, Bangalore and Hyderabad, was initiated in 1993-94 with the objective of undertaking infrastructure development projects of city-wide/ regional significance. The projects cover a wide range of components like water supply and sewerage, roads and bridges, city transport, solid waste management etc. The Central Government and respective state government share 25 per cent each of the project cost with the balance 50 per cent being met through institutional finance.

11.37 An outlay of Rs.1,050 crore was approved for the Tenth Plan. During the first three years of the Plan period, 44 per cent (assuming full utilisation of 2004-05 allocations) of the Tenth Plan allocation is expected to be utilised. It is evident that the amount provided is grossly inadequate to take care of the problems of these cities. It has also been observed that the institutional finance is invariably short of the required 50 per cent share. There is need to re-evaluate the resource requirements, if any serious attempt is to be made to deal with the problems of mega cities.

NATIONAL CAPITAL REGION PLANNING BOARD

11.38 The National Capital Region Planning Board (NCRPB) was established in 1985 with a view to containing the pressure of population on Delhi and to attain balanced and harmonious development of the National Capital Territory (NCT) of Delhi and adjoining areas. An outlay of Rs.350 crore has been earmarked for this scheme in the Tenth Plan. During the first three years of the Plan, 46 per cent (assuming full utilisation of 2004-05 allocations) of Tenth Plan allocation is expected to be utilised. However, the objectives of arresting the migration to NCT Delhi and achieving the dispersal of economic activities are yet to be met.

RECOMMENDED STRATEGY FOR URBAN DEVELOPMENT

11.39 It is evident from the mid-term appraisal that the Tenth Plan strategy for urban development is reflected unevenly in the schemes under way and their level of funding does not meet the requirements of this sector and the enormous challenges it pose. The urban development sector has the following general deficiencies:

- The systems at the city level are not financially viable.
- Existing schemes are patchy and the allocated resources are grossly inadequate to the magnitude of the problems.
- Issues are not addressed in a *holistic* manner.
- There are many schemes with similar / overlapping objectives.

11.40 The following two-track strategy is recommended with the focus on urban reforms and e-governance:

- Convergence of urban development schemes
- National Urban Renewal Mission

CONVERGENCE OF URBAN DEVELOPMENT SCHEMES

11.41 A single comprehensive scheme - Urban Infrastructure Development Scheme (UIDS) - needs to be evolved for providing assistance for improving urban infrastructure. The proposed scheme should have the following features:

- Central sponsorship
- Financial assistance under the proposed scheme should be in the ratio 80:10:10 (Centre:state:financial institutions/own resources).
- Grants from the Government of India and state governments need to flow to a special revolving fund at the state level, with a stipulation that at least 25 per cent of such grants (Centre and state) released to ULBs should be ploughed back to this revolving fund for sustainable development.
- The allocations available under IDSMT, Mega City, City Challenge Fund, Pooled Finance Development Facility and AUWSP should be subsumed under the new scheme.
- Areas like, water supply, sanitation, drainage, sewerage and solid waste management, roads, street lighting, urban transport and other civic amenities will be covered under the new scheme.
- The state governments would execute Memoranda of Agreement (MoAs) with the Government of India and ensure that the reforms prescribed in the scheme are undertaken by the ULBs

11.42 The urban reforms that should be made conditional for eligibility for assistance under UIDs are:

- Implementation of decentralisation measures as envisaged in the Constitution (Seventy-Fourth Amendment) Act to establish elected ULBs as institutions of self-government.
- Adoption of modern, accrual-based double entry system of accounting in ULBs.
- Passage of a public disclosure law to ensure preparation of medium-term fiscal plans of ULBs and release of quarterly performance information to all stakeholders Passage of community participation law to institutionalise citizen participation and introducing the concept of the Area Sabha in urban areas
- Transferring all special agencies that deliver civic services in urban areas to

ULBs over a period of five years and creating accountability platforms for all urban civic service providers in transition

- Introduction of e-governance using IT applications like, Geographical Information System and Management Information System for various services provided by ULBs
- Reform of property tax with GIS, so that it becomes a major source of revenue for ULBs and arrangements for its effective implementation to ensure that collection efficiency reaches at least 85 per cent within the next five years. Complete revamping of the property tax system through detailed data gathering process, tracking and monitoring system
- Levy of reasonable user charges by ULBs with the objective of recovering the full cost of O&M within the next five years

NATIONAL URBAN RENEWAL MISSION

11.43 The impact of the growth of population on urban infrastructure and civic services has been adverse. For the cities to realise their full potential and become true engines of growth, it is necessary that focused attention is given to the improvement of urban infrastructure and, more importantly, to improving the institutional service delivery mechanism at the city level.

11.44 Sub-optimal structures continue to exist in cities partly because the landlords do not have any incentive of maintaining them, because of low rental income and partly on account of difficulty in evicting tenants. This hampers the rejuvenation of inner city areas. Transitional arrangements can be made to avoid hardship cases but zoning regulations should take into account the changing nature of inner city areas and permit their redevelopment, paving the way for urban renewal. In the developed countries, when an area is declared under law as an Urban Renewal or Urban Redevelopment Area, all land transactions and building activities within that area are stopped, land is requisitioned by the government and a general plan for reconstruction is prepared by the designated authority. The authority is empowered to move occupants from a renewal region on the condition that other suitable premises should be provided outside of other prospective renewal or redevelopment regions. However, in the Indian context, much more is needed than mere redevelopment of inner city.

11.45 The National Urban Renewal Mission (NURM) would be a reforms-driven, fast track, planned development of identified cities with focus on efficiency in urban infrastructure/ services delivery mechanism, community participation and accountability of ULBs towards citizens. The following broad framework is proposed for the Mission:

- Central sponsorship
- The sector-wise DPRs would be prepared by the identified cities enumerating projects for various components along with their priorities.
- The funding pattern would be 35:15:50 (between Centre, States/ULBs and financial institutions) for mega cities (>40 lakh population), 50:20:30 for cities with million plus but less than four million population and 80:10:10 for other cities.
- The grant assistance (both Central and state) would act as seed money to leverage additional resources from financial institutions/capital market. In addition, various PPP models with viability gap funding would also be explored to further supplement the resources. The scheme would be implemented through a designated state-level nodal agency.
- Every identified city would prepare planned urban perspective frameworks for a period of 20-25 years (with five-yearly updates) indicating policies, programmes and strategies of meeting fund requirements. This perspective plan would be followed by the preparation of Development Plans integrating land use with services, urban

transport and environment management.

- The menu of urban reforms would include both mandatory and optional items of reforms. The cities seeking assistance under NURM would have to undertake all the mandatory reforms within the prescribed time frame, even as they have the freedom to opt for any five items of reforms from the optional category. The state governments and the identified city would execute MOA with the Government of India and ensure that such reforms are actually undertaken. This tripartite MOA would be submitted along with the DPRs.
- Apart from the reforms listed under the UIDS, the mandatory reforms would include the following:
  - ➢ Drawing up PPP models for development, management and financing of urban infrastructure for different sizes of ULBs.
  - ➢ Introduction of independent regulators for urban services.
  - ➢ Rationalisation of stamp duty to bring it down to no more than 5 per cent within next five years.
  - ➢ Repeal of the Urban Land Ceiling and Regulation Act.
  - ➢ Reform of rent control laws to stimulate private investment in rental housing schemes.
  - ➢ Implementation of a system to improve the efficiency of drinking water supply on the basis of water audit.
- The five optional reforms would be chosen from among the following:
  - ➢ Revision of by-laws to streamline the approval process for construction of buildings, development of sites etc.
  - ➢ Simplification of the legal and procedural frameworks for conversion of agricultural land for non-agricultural purposes.
  - ➢ Introduction of Property Title Certification System in ULBs.
  - ➢ Earmarking at least 25 per cent of developed land in all housing projects (both public and private agencies) for the economically weaker sections (EWS)/low-income group (LIG) category with a system of cross subsidisation.
  - ➢ Introduction of a computerised process of registration of land and property.
  - ➢ Revision of by-laws to make rainwater harvesting mandatory in all buildings to come up in future.
  - ➢ Reuse of reclaimed water.
  - ➢ Adoption of water conservation measures.
  - ➢ Administrative reforms i.e. reduction in the establishment cost by voluntary retirement schemes, not filling up of posts falling vacant due to retirement etc. and achieving specified milestones in this regard.

URBAN HOUSING

11.46 Housing is a basic necessity as well as an important economic activity. The Housing and Habitat Policy of 1998 has specifically advocated that the government create a facilitating environment for growth of housing activity, rather than taking up the task of housing itself. In both rural and urban sectors, housing is largely a private sector activity. This is not to rule out the need for a high degree of involvement of the government and its agencies in meeting the housing needs of the urban poor. It has to be recognised that there is a need for massive expansion of social housing in towns and cities, paying particular attention to the needs of the slum dwellers.

11.47 The Working Group on Housing constituted for formulation of the Tenth Five Year Plan had observed that around 90 per cent of housing shortage pertained to the weaker sections. Therefore, there was a need to increase the supply of affordable housing to the economically weaker sections and the low-income category. The substantial thrust on housing manifested in facilitating measures including Reserve Bank of India regulations relating to priority sector lending, fiscal concessions and budgetary incentives, has started bearing fruit. The Housing and Urban Development Corporation (HUDCO) earmarks 55 per cent of its housing portfolio to weaker sections and low-income groups, with differential interest rates, higher loan component and longer repayment period. The Government of India provides equity support to HUDCO with a view to leveraging more funds from the market. Under the Two Million Housing programme of the Government of India, which was started in 1998-99, HUDCO has been entrusted with the responsibility of providing annual loan assistance for the construction of 6 lakh houses in rural areas and 4 lakh houses in urban areas. Till now, Government of India has been extending equity support to HUDCO which has been stopped since August, 2004 on declaration of HUDCO as Mini Ratna.

FINANCIAL PERFORMANCE

11.48 For the Tenth Plan, an outlay of Rs 1,000 crore was approved for providing equity support to HUDCO. During the first three years of the Plan, Rs.620.60 crore i.e. 62 per cent (assuming full utilisation of 2004-05 allocations) of Tenth Plan allocation is expected to be utilised. In terms of HUDCO's mandate of providing loan assistance to the extent of 55 per cent of its housing portfolio to EWS/LIG categories, the financial achievement during the first two years of the Tenth Plan has been only 24.29 per cent (in 2002-03) and 33.25 per cent (in 2003-04), which is far below the target. However, in physical terms/numbers, over 90 per cent of the loans under housing are going to EWS/LIG categories._Under the Two Million Housing Programme, 8.87 lakh dwelling units in the urban areas and 9.53 lakh dwelling units in the rural areas were sanctioned by HUDCO in the first two years of the Tenth Plan.

11.49 The CSS, Night Shelter Scheme, which is funded on the basis of 50:50 between Centre and the states, aims to provide construction of composite night shelters with community toilets and baths for urban shelter-less with 50 per cent subsidy from the Government of India and 50 per cent as contribution from implementing agencies or through HUDCO as loan. During the first three years of the Tenth Plan, Rs.8 crore i.e. 26 per cent (assuming full utilisation of 2004-05 allocations) of Tenth Plan allocation of Rs.30.97 crore is expected to be utilised under the scheme. This shows that the problem of urban shelterless and pavement dwellers has not been given the consideration it deserves. Since the land is a State subject, on the recommendation of the Ministry of UEPA, the scheme of Night Shelter has been transferred to State sector w.e.f. 2005-06.

ISSUES AND RECOMMENDED STRATEGY

11.50 In order to increase the proportion of household savings to be invested in the housing sector, as well as to provide houses to those who cannot afford to have their own, the promotion of rental housing by the private sector, public sector, as well as cooperatives and individuals needs encouragement. This requires changes in the existing laws relating to land ceiling, stamp duty, registration of land and properties as well as rent control laws. This would unleash investment in the housing sector on a large scale, resulting in a positive effect on employment generation as well.

11.51 For providing affordable housing to the 'urban poor', states need to earnestly address certain key issues. They need to adopt a three-pronged strategy involving easy availability of land and transfer of tenurial rights, cheap and easy access to credit and promoting low-cost building material and technology for construction of houses.

11.52 The various urban development authorities, which acquire and develop large tracts of land for the growth of the cities, should provide a major part of such land to meet the requirements of the EWS/LIG categories. At present, there is little evidence that these authorities - which are often the sole organisation for development of serviced land - are doing so. States need to formalise a system of earmarking at least 25 per cent of developed land in all housing projects (both public and private agencies) for EWS/LIG category with a system of cross subsidisation.

11.53 The mandate of providing credit for housing to EWS/LIG categories has, more or less, been confined to HUDCO whose performance has not been satisfactory. Much more needs to be done and other housing finance institutions must also supplement efforts that are being made in this sector. Similarly, not much serious efforts have been made to popularise low cost building material and technology for the construction of houses. State governments need to adopt a definite strategy regarding this in consultation with technical institutions.

11.54 Sometime back, 100 per cent foreign direct investment (FDI) was permitted for development of integrated townships but not much headway has been made in this regard. This has been mainly on account of the problems relating to land procurement. There is a need to ease the availability of land to check land prices, which have been high on account of restrictions on availability. More flexible zoning regulations to permit change of land use, easier subdivision regulations, and extension of trunk services to new areas/new townships, would reduce congestion and develop the cities in an orderly fashion. Innovative measures for land assembly/ land pooling, use of land as a resource to build up infrastructure and adoption of methods such as vacant land tax and transferable development rights (TDR) need to be studied and replicated wherever feasible. Further liberalisation in FDI for integrated township, housing and construction sector/real estate need to be examined in consultation with various stakeholders. The State Governments need to play proactive role in providing necessary clearances in a time bound manner to attract FDI.

SLUM DEVELOPMENT

11.55 The existence of slums in urban areas essentially reflects urban poverty and, despite the efforts to discourage slum dwellers, their number has been increasing. This puts tremendous pressure on urban basic services and infrastructure. Nearly 28 million persons lived in slums in 1981 accounting for 17.5 per cent of the urban population. In 1991 the number of persons living in slums increased to 45.7 million accounting for 21.5 per cent of the urban population. According to the Town and Country Planning Organisation (TCPO) Estimates 2001, the slum population number 61.82 million.

11.56 The National Slum Policy has not yet been finalised. There has, over the years, been a paradigm shift in the government's slum policy prescriptions. Originally, a 'slum free cities' policy was prescribed. However, looking at the social dimensions of the whole problem and the various economic activities carried out by the slum dwellers, this concept has given way to rehabilitation of slum dwellers. The rehabilitation involves either relocation or in-situ development of the slum areas. Most state governments and municipalities prefer in-situ development of slum areas. In the initial years of the slum development, the focus was on provision of infrastructure in slums through the National Slum Development Programme (NSDP) and now there is renewed stress on provision of shelter to urban slum dwellers through the Valmiki Ambedkar Awas Yojana (VAMBAY).

11.57 The Maharashtra Government has widely used the TDR concept to rehabilitate slum dwellers, which does not envisage any contribution either from slum dwellers or from the state government. On the other hand, in Karnataka, the beneficiary is required to make an upfront contribution. Further, some state governments provide credit either directly or through the ULBs and incentive in the form of interest subsidy to the beneficiary. Therefore, there is an urgent need to formulate a National Slum Policy with emphasis on similar action by states for state-specific situations.

FINANCIAL PERFORMANCE

11.58 VAMBAY was introduced in 2001-02 to meet the long-standing gap in programmes for slum-dwellers, viz. provision of a shelter or upgrading the existing shelter of people living below the poverty line in urban slums. Under VAMBAY, the Government of India provides 50 per cent subsidy while the States have the option of mobilising their matching portion of 50 per cent from other sources, such as their own budget provision, resources of local bodies, loans from other agencies, contributions from beneficiaries or non-government organisations (NGOs) etc. Under this scheme, 20 per cent of the total allocation is provided for sanitation and community toilets to be built for the urban poor and slum dwellers. During the first three years of the Tenth Plan, Rs.727.58 crore i.e. 36 per cent (assuming full utilisation of 04-05 allocations) of the Plan allocation of Rs.2,040 crore is expected to be utilised.

RECOMMENDED STRATEGY

- For integrated slum development, the existing schemes of NSDP, low cost sanitation and VAMBAY need to be integrated under one platform and financial institutions and/or private sector should be involved in this effort to the extent possible.
- The projectisation approach needs to be adopted so that emphasis is given to project-related schemes that are identified by the municipalities or the state governments in consultation with the slum dwellers. This would ensure that only viable projects are taken up and community participation is forthcoming. This would also ensure that the resources are put to optimum use. Considering the constraints on resources, prioritisation of various projects to be included in the slum development programme is necessary.
- To ensure that viable projects are identified, an authentic database and a clear-cut government policy on land where the slum dwellers are squatting (whether to provide tenurial rights/ ownership rights) need to be evolved.
- To provide sustainability to slum development/upgrading programmes, the contribution of beneficiaries has to be ensured and the involvement of public sector/private sector/financial institutions under the overall patronage of the state governments/Central government is necessary to enlarge the resource base. PPP models for such integrated housing and slum development programme need to be evolved.
- The issues of livelihood, infrastructure, education, health, environment and more importantly sanitation have to be addressed in a holistic manner. Such an approach is essential, as the relocation of slum dwellers to the far-off areas would prove to be counter-productive.

Note: Urban poverty has been discussed under the chapter on Poverty Elimination and Rural Employment.

THE WAY FORWARD

- Step up investments in urban infrastructure in a major way to bring our cities on par with those in the emerging economies of Asia. Intensify urban reform efforts on a substantial scale. Enhance Central assistance for urban development and link all such assistance with urban reforms to be undertaken by the states and ULBs.
- Encourage each city to prepare a perspective plan encompassing all aspects including water supply, sanitation, drainage, sewerage and urban transport. This is necessary to enable enhanced investment. Build a reliable database on urban infrastructure and services must be an integral part of the plan.
- Implement reforms in urban governance. These are needed for augmenting the resources of ULBs to undertake investment and for maintaining the assets that are created. The goal must be to set in motion a

virtuous cycle of urban growth leading to better resources, which are then used for improved infrastructure and further growth of the cities. Include, as part of the reforms measures for decentralisation, making the elected ULBs institutions of self-governance. In addition, the reforms must encompass, among other things, accounting reforms, enactment of laws for public disclosure and community participation, transfer of all civic services to ULBs, introduction of e-governance, reform of property tax and levy of reasonable user charges

- Design a two-track approach for Plan assistance with focus on urban reforms and e-governance.
  - On the first track, merge all schemes of the Government of India for urban infrastructure and civic amenities. In future, make normal levels of assistance available on a platform of reforms. Such allocations would be conditional on urban reforms being carried out by the state governments and the ULBs.
  - On the second track, take up the million plus cities, the capital city in every state and a small number of other cities that are of historical importance for a considerably enhanced level of Plan assistance through the National Urban Renewal Mission.
- Undertake reforms of urban land ceiling, rent control and stamp duty in order to unleash housing activity in the urban areas. For the urban poor, a three-pronged approach is needed, involving availability of land, cheap and easy credit and promotion of low cost building material and technology.
- Formulate a National Slum Policy. A single comprehensive Integrated Housing and Slum Development Programme should be evolved, merging the existing schemes of VAMBAY and NSDP.
- Formulate a National Urban Transport Policy and undertake road-rail network planning for improving connectivity.

Annexure 11.1
(Rs. in crore)

Performance of Housing and Urban Development in the states Plan

Sector	Ninth Plan		Tenth Plan	2002-03	2003-04	2004-05	2005-06
	Alloc.	Exp.	(outlay)	(actual)	(RE)	(BE)	(BE)
Housing including Indira Awas Yojana	8195.37	8051.14	14125.35	2093.75	2606.27	2942.34	NA
Urban Development	15179.83	12786.86	29013.32	3566.10	4794.45	5237.29	NA
Total	23375.20	20838.00	43138.67	5659.85	7400.72	8179.63	NA
Performance of Housing and Urban Development in the central Plan (GBS)							
Housing excluding Indira Awas Yojana **(M/o UEPA)**	1685.50	1394.37	4710.00	594.66	641.89	650.00	500.00
Urban Development							
(M/o UD)	3458.50	3805.64	6800.00	2126.41	2541.66	1900.00	2000.00
Total	5144.00	5200.01	11510.00	2721.07	3813.55	2550.00	2500.00

Annexure 11.2

Scheme-wise Outlays of Ministry of UD during first 3-years of the 10th Plan

(Rs. crore)

Sl No.	Scheme	10th Plan	AP(2002-03)		AP(2003-04)		AP(04-05)	First 3 years of 10th Plan		Balance (Rs Cr)
			Alloc	Exp.	Alloc	Exp.	Alloc	Amount	% utilisation	
A	**Urban Development**									
1	IDSMT	1304.65	105	86	100.0	108.1	200.00	394.57	30.24	888.4
2	Mega City	1050.0	125	119.9	120.0	196.7	220.00	536.59	51.10	436.7
3	NCR Planning Board	350.0	55	55.0	50.0	52.0	55.00	162.00	46.29	191.0
4	Mission Mode on IT	0.0	0	0.0	0.0	0.0	5.00	5.00		0.0
5	Urban Mapping	20.0	To be merged with NUIS Scheme							20.0
6	Research in Urban & Regional Plg.	15.0	8	0.0	1.0	0.9	1.00	1.93	12.87	12.1
B	**Urban Transport**									
7	I) DMRC-equity	420.0	172	172.0	190.0	337.30	200.00	709.30	168.88	-454.6
	ii) Land Acquisition/Sub Debt.	0.0	3	3.0	10.0	50.00	0.00	53.00		0.0
	iii) Pass Through Assistance (JBIC)	0.0	1	1347.0	680.0	1430.00	280.00	3057.00		0.0
	iv) Others	200.0	5	1.5	2.0	1.99	4.00	7.45	3.73	192.0
8	Equity to HUDCO for Urban Infrastructure.	100.0	5.0	5.0	5.0	5.00	5.00	15.00	15.00	85.0
9	Computerisation	16.0	3.0	3.0	0.0	0.00	0.00	3.00	18.63	16.0
C	**Water Supply & Sanitation***									
10	Extension of AUWSP to Small Towns	900.0	120.0	122.0	140.00	136.3	150.00	408.24	45.36	477.4
11	Low Cost Sanitation	200.0	This scheme was transferred to M/o UE&PA							
12	Solid Waste Management	99.4	0.0	0.0	5.00	1.0	40.00	40.99	41.26	57.4
13	Training in Public Health Engineering	10.0	1.1	1.1	1.82	1.61	1.25	3.96	39.60	5.5
14	Equity to HUDCO for Water Supply	100.0	20.0	20.0	5.00	5.0	5.00	30.00	30.00	85.0
D	**Public Works**									
15	General Pool Residential Accommodation	400.0	90.0	86.5	93.0	91.20	89.75	267.48	66.87	127.9
16	CPWD Training Institute	15.0	3.0	2.2	2.75	2.09	2.00	6.33	42.20	8.8
17	General Pool Office Accommodation	150.0	25.0	22.5	21.0	28.73	20.00	71.26	47.51	72.5
18	Modernisation/Compute. of CPWD	30.0	3.0	2.9	3.0	1.07	3.00	6.94	23.13	24.9

Sl No.	Scheme	10th Plan	AP(2002-03)		AP(2003-04)		AP(04-05)	First 3 years of 10th Plan		Balance (Rs Cr)
			Alloc	Exp.	Alloc	Exp.	Alloc	Amount	% utilisation	
E	**New Schemes**									
19	National Urban Information System	20.0	0.5	0.4	5.0	0.65	5.00	6.05	30.25	13.7
20	Pooled Finance Development Fund	400.0	0.5	0.0	0.5	0.00	10.00	10.00	2.50	390.0
21	City Challenge Fund	500.0	0.5	0.0	0.5	0.00	10.00	10.00	2.00	490.0
F	**N-E-Lump-sum Provision**	700.0	90.0	76.0	160.0	91.64	114.00	281.64	40.23	402.7
22	**Grand Total**	7000.00	835.60	2126.41	1595.57	2541.30	1420.00	6087.73	86.97	3542.40
23	**Total (Excluding DMRC- PTA)**	7000.00	834.60	779.41	915.57	1111.30	1140.00	3030.73	43.30	3637.4
24	**Total (Excluding Water Supply)**	5690.65	693.50	636.36	763.75	967.41	943.75	2547.54	44.77	3012.08

*Monitored by WR Division

Industry

12.1 The target of growth for industry in the Tenth Plan was put at 10 per cent per annum. This, it was believed, would be consistent with the goal of 8 per cent per annum growth of gross domestic product (GDP). Rapid industrial growth was expected to raise the share of industry in GDP, increase India's share in world exports of manufactured goods, bring about balanced industrial development and create the much-needed jobs for skilled workers. These objectives were to be achieved through a combination of policies, plans and projects.

PROGRESS IN THE TENTH PLAN

Raising the Share of Industry in GDP

12.2 The industrial sector in the first two years of the Plan has performed below expectations though in the third year i.e. 2004-05 the performance appears to have turned around with a growth rate of 7.8 per cent (advance estimate). This is below the growth rate of 8.9 per cent targeted in the Tenth Plan but it marks a distinct improvement over the performance in the first two years. Nevertheless, the average for the first three years is unlikely to exceed 7 per cent. This is much better than the average growth of 4.5 per cent in the Ninth Plan but it is well short of Plan target. The trends in capital formation in manufacturing and industrial investment intentions (as reflected in Industrial Entrepreneur's Memoranda, Letters of Intent and Direct Industrial Licenses) indicate an improved outlook for industrial growth in the remaining period of Tenth Plan.

Nonetheless, the share of manufacturing in GDP continues to stagnate in the range of 17 per cent as can be seen in Table 12.2.

Structure and Growth Pattern of the Manufacturing Sector

12.3 Within the manufacturing sector, registered units have historically contributed approximately 65 per cent of gross value added (GVA), with unregistered units accounting for the rest. However data problems preclude any meaningful assessment of the relative performance of the registered and unregistered sectors. The Annual Survey of Industries (ASI), which is the basic source of data for registered manufacturing, shows stagnation of GVA since 1997-98. Since this is considered implausible, the Central Statistical Organisation (CSO) has in recent years been using the much more limited Index of Industrial Production (IIP) to project growth of both the registered and unregistered sectors at 2-digit level for manufacturing. This major statistical weakness requires an urgent expert resolution for proper planning and analysis.

OUTPUT OF INDUSTRIAL SECTOR

12.4 The data available from the Index of Industrial Production shows that in the first two years of the Plan period, the manufacturing sector posted an annual average growth rate of 6.7 per cent in terms of output (Table 12.3).

12.5 As the table clearly shows, the performance has not been uniform across all segments. Three industrial groups - cotton textiles, wood and wood products and leather products - accounting for a weight of 9.3 per cent showed negative growth, while another three - beverages and tobacco products, paper and paper products, and transport equipment - posted an annual average growth of more than 10 per cent. The capital goods sector registered over 10 per cent growth rate in the first three years of the Tenth Plan. The growth rates

Table 12.1

	CAGR in Ninth Plan	2002-03	2003-04	2004-05 (advance estimate)
GDP	5.5	4.0	8.5	6.9
Agriculture, Forestry & Fishing	2.0	-7.0	9.6	1.1
Industry (Manufacturing)	4.5 (3.8)	6.6 (6.5)	6.6 (6.9)	7.8 (8.9)
Services	8.1	7.1	8.4	8.9

Source : CSO

realised are: 10.5 per cent in 2002-03, 13.6 per cent in 2003-04 and 11.8 per cent during April-February 2004-05, indicating a good overall outlook for industrial growth.

12.6 The recovery in the capital goods sector has been under way since May 2002 and has come after negative performance for more than a year. The demand for capital goods in the economy is on the rise because capacity is being created across a wide spectrum of manufacturing activity.

12.7 At the two-digit level of classification, the first eleven months (April-February) of 2004-05 saw machinery and equipment items growing at close to 20 per cent, which is a substantial improvement from 1.6 per cent growth in 2002-03 and 15.8 per cent in 2003-04. This reflects an increase in investment activity and physical capital formation in the economy. Basic chemicals and chemical products witnessed an increase in growth rate from 8.7 per cent in 2003-04 to 15.3 per cent in April-February 2004-05.

Capital Formation

12.8 After peaking in 1995-96, the rate of capital formation in manufacturing had been generally on a decline. During the first two years of the Tenth Plan period, however, there have been signs of a reversal of the trend, and the rate of capital formation has begun to increase. (Table 12. 4)

Industrial Investment Intentions

12.9 Industrial investment intentions, as reflected in Industrial Entrepreneurs Memoranda (IEM), Letters of Intent (LOI) and Direct Industrial Licences (DIL), increased significantly in 2003 and 2004 (Table 12.5).

12.10 The industry-wise distribution of investment intentions continues to reflect a

Table 12.2
Sectoral share in GDP (%)

	Agriculture,	Manufacturing	Secondary	Tertiary
1997-98	26.5	17.7	27.7	45.8
1998-99	26.4	17.0	27.0	46.6
1999-2000	25.0	16.7	26.7	48.3
2000-01	23.9	17.2	27.2	48.9
2001-02	24.1	16.9	26.6	49.3
2002-03	21.5	17.3	27.3	51.2
2003-04	21.7	17.0	26.9	51.4

Source: National Account Statistics, 2004

Table 12.3
Trends in the performance of industrial sub-sectors

Annual Growth Rate (Per Cent)

Industry Code	Industry Name	Weight in IIP	Compound Annual Growth Rate (CAGR) 1997-2002	2000-01	2001-02	2002-03	2003-04	April -February	
								2003-04	2004-05
20-21	Food Products	9.08	2.49	10.12	-1.68	11.0	-0.5	2.0	-0.6
22	Beverages & Tobacco	2.38	11.17	4.32	12.18	27.9	8.5	9.2	10
23	Cotton Textiles	5.52	0.29	2.91	-2.20	-2.7	-3.1	-3.9	7.3
24	Wool, Silk & Man-made Fibre Textiles (Except Cotton)	2.26	8.53	5.81	4.40	3.0	6.8	5.4	2.9
25	Jute Textiles	0.59	0.37	0.76	-5.86	8.3	-4.2	-4.6	3.3
26	Textiles Products	2.54	2.60	4.04	2.40	14.4	-3.2	-4.0	16.5
27	Wood & Wood Products	2.70	-6.79	2.86	-11.03	-17.6	6.8	7.3	-8.5
28	Paper & Paper Products	2.65	4.29	-9.14	2.99	6.8	15.6	15.8	8.5
29	Leather & Fur Products	1.14	8.07	10.70	5.93	-3.2	-3.9	-3.0	5.2
30	Chem. & Chem. Products	14.00	8.56	7.29	4.76	3.7	8.7	7.7	15.3
31	Rubber, Plastic, Petroleum	5.73	7.55	11.81	11.08	5.5	4.5	5.3	1.5
32	Non-metallic Mineral Products	4.39	8.89	-1.18	1.37	5.1	3.7	4.4	1.2
33	Basic Metals & Alloys	7.45	2.16	1.84	4.01	9.2	9.2	9.9	4.9
34	Metal Products & Parts	2.81	5.34	15.02	-9.59	6.4	3.7	2.1	6.6
35-36	Machinery & equipment	9.57	6.51	7.29	1.02	1.6	15.8	13.9	19.6
37	Transport equipment	3.98	6.40	-1.96	6.83	14.6	17.0	18.0	3.5
38	Other Manufacturing Industries	2.56	0.35	11.65	8.86	0.1	7.7	6.5	17.3
39	Manufacturing	79.36	5.27	5.33	2.86	6.0	7.4	7.3	8.7

Source: Central Statistical Organisation.

preference for textiles, metallurgical industries and chemicals other than fertilisers.

Exports of Manufactured Products

12.11 Export growth in 2002-03 and 2003-04 was broad based, with both commodity groups and manufactured goods depicting strong growth (Table 12.6).

12.12 The manufacturing sector, accounting as it does for close to three-fourths of exports, has continued to fuel export growth. During the first three years of the Tenth Plan period, exports of manufactured goods have registered a growth rate of 20 per cent per annum in dollar terms. The engineering goods sector has posted a remarkable export growth rate in excess of 30 per cent per annum. Major

Table 12.4
Gross Domestic Capital Formation and capital formation in manufacturing

Year	Capital Formation as % of GDP (at market price)				Capital formation in registered and unregistered manufacturing as % of respective GVA	
	GDCF at current price	Manufacturing GCF	Registered manufactuing	Unregistered manufacturing	Registered	Unregistered
1994-95	26.0	8.38	6.12	2.26	59.9	44.0
1995-96	26.9	13.53	9.48	4.04	87.8	73.4
1996-97	24.5	10.19	7.56	2.62	69.9	49.4
1997-98	24.6	9.29	7.22	2.06	73.2	38.5
1998-99	22.6	7.57	5.87	1.70	63.4	32.5
1999-00	25.3	7.75	6.39	1.36	72.4	27.4
2000-01	24.4	6.09	4.27	1.82	45.4	36.1
2001-02	23.1	5.03	3.74	1.28	40.5	26.8
2002-03 (P)	24.8	5.55	4.06	1.49	43.0	30.8
2003-04 (Q)	26.3	6.12	3.92	2.20	41.4	46.2

Source: CSO

traditional exports like textiles and readymade garments, gems and jewellery, chemicals and allied products have also registered a double-digit export growth rate.

12.13 Table 12.7 shows that India's share in world exports of manufactured products has improved from the level of 0.73 per cent in 2001 to 0.88 per cent in 2003. Industry segments which have performed particularly well are iron and steel, chemical products, machinery, transport equipment, automotive products and textiles. At the same time, the fact must not be ignored that India's share in the world export of manufactures is not commensurate with its potential and that some other developing countries have been able to increase their shares to much higher levels (Table 12.8).

Table 12.5
Industrial investment proposals

IEM			LOI/ DILs	
Year	No. of Proposals	Proposed investment (Rs crore)	No. of proposals	Proposed investment (Rs crore)
2001	2981	91,234	117	1,318
2002	3172	91,291	89	649
2003	3875	118,612	116	1395
2003*	3140	65,206	91	799
2004*	4148	219,307	77	2764

* January to October
Source: Economic Survey

Table 12.6
Composition of exports and growth rate

Commodity	Exports (in $ million) 2003-04 P	Share (%) of Exports				Growth rate (%) over previous year			
		2001-02	2002-03	2003-04 P	Average Ninth Plan	2001-02	2002-03	2003-04 P	Compound Annual Growth Rate in US $ (CAGR) Ninth Plan
I. Primary products	9746.4	16.3	16.3	16.5	15.4	0.5	21.5	11.9	-2.27
II. Manufactured goods	**47615.7**	76.1	76.3	75.0	77.4	-2.8	20.6	18.3	6.28
1. Leather and manufactures	2025.3	4.4	3.5	3.2	4.5	-1.8	-3.2	9.6	3.53
2. Chemicals and allied products	6005.6	9.3	9.6	9.5	9.1	1.1	23.4	19.3	8.69
2.1 Drugs, pharmaceutical and fine chemicals	3116.6	4.7	5.0	4.9	4.4	7.6	28.5	17.6	11.01
2.2 Others	2889.1	4.6	4.5	4.6	4.7	-4.7	18.2	21.1	6.58
3 Engineering goods	12213.0	15.9	17.1	19.2	14.9	2.0	29.8	35.2	6.99
4 Readymade garments	6088.4	11.4	13.0	13.9	10.8	-10.1	13.6	7.0	5.93
5 Textile yarn, fabrics, made-ups, etc.,	5510.5	10.2	11.6	12.6	9.9	-8.6	13.8	8.4	1.95
6 Handicrafts	11495.1	18.8	23.3	26.2	17.6	-3.1	24.1	12.5	7.76
6.1 Gems and jewellery	10509.7	16.7	20.6	24.0	15.3	-1.1	23.6	16.4	8.98
III. Petroleum products	**3518.5**	4.8	4.9	5.5	2.3	13.3	21.6	36.6	34.48
IV. Others	**2573.6**	2.7	2.3	4.1	2.0	-4.5	1.5	115.9	28.18
Total exports	**63454.1**	100	100	100	100	-1.6	20.3	20.4	5.54

Balanced Industrial Development

12.14 Several Centrally Sponsored Schemes and special area development packages, which were initiated in earlier Plans, were continued in the Tenth Plan period. In addition, new initiatives such as a special package for industrial development in Sikkim as well as packages for Jammu and Kashmir, Uttaranchal and Himachal Pradesh were launched. These special packages seem to have sparked off considerable investment activity in Uttaranchal and Himachal Pradesh within a short period of time, but this has not been the case in the north-east. A review of major schemes from previous Plans and those initiated in the Tenth Plan is provided in Annexure 12.1.

Creation of Jobs for Skilled Workers

12.15 Since employment data comes with a lag of two years, information on employment is available only for the first year of the Tenth Plan. The organised manufacturing sector accounts for approximately 23-24 per cent of total manpower in organised sector. The public sector's role as a provider of employment has steadily declined (Table 12.9). In the first half of the 1990s, the growth in employment by the private sector in industry offset the decline in employment in the public sector and total employment in the organised sector increased modestly. However, in the second half of the 1990s, the growth in employment in the private sector in 2001 and 2002 decelerated and there

Table 12.7
Share of India's exports in world exports of manufactured goods

	World Export and India's Export in $ million	1995	2001	2002	2003
Manufactured Goods - Total	World Export	3718846	4516543	4749458	5436591
	India's Export	22647	33115	37324	47996
	India's Share (%)	0.61	0.73	0.79	0.88
Iron and steel	World Export	154862	132129	143890	181130
	India's Export	941	1158	2153	2858
	India's Share (%)	0.61	0.88	1.50	1.58
Chemical products	World Export	485518	600707	666955	793685
	India's Export	2581	4785	5875	7336
	India's Share (%)	0.53	0.80	0.88	0.92
Machinery and transport equipment	World Export	1940502	2474111	2560050	2894068
	India's Export	2384	3809	4420	6128
	India's Share (%)	0.12	0.15	0.17	0.21
Automotive products	World Export	459187	569436	627929	723572
	India's Export	568	580	753	1318
	India's Share (%)	0.12	0.10	0.12	0.18
Office and telecom equipment	World Export	604731	836786	844825	933087
	India's Export	465	602	587	831
	India's Share (%)	0.08	0.07	0.07	0.09
Textiles	World Export	152319	146866	152758	169422
	India's Export	4358	5375	6028	6846
	India's Share (%)	2.86	3.66	3.95	4.04
Clothing	World Export	158353	194490	202310	225940
	India's Export	4110	5483	6037	6625
	India's Share (%)	2.60	2.82	2.98	2.93

Source: International Trade Statistics, WTO

was an absolute decline in terms of total numbers in 2001 or 2002.

12.16 The deceleration in new investment witnessed between 1996 and 2002 was the main reason for the stagnation and even decline in employment by the private sector in manufacturing industries during that period. The increase in employment resulting from whatever little new investment has come in has been offset by labour rationalisation in existing manufacturing units. Although probably an inevitable consequence of competitive pressures that may help increase competitiveness and also employment in the longer term, this is a matter of obvious concern. In an increasingly globalising world, the real employment opportunities are provided more

Table 12.8
Share of countries in world exports of manufactured goods

	1990	1995	2000	2003
China	1.85	3.36	4.68	7.30
Hong Kong, China	3.16	4.32	4.10	3.96
Korea, Republic of	2.53	3.08	3.30	3.26
Taipei, Chinese	2.59	2.82	3.01	2.60
Mexico	1.06	1.66	2.95	2.48
Singapore	1.57	2.66	2.51	2.22
Malaysia	0.66	1.48	1.68	1.42
Thailand	0.61	1.11	1.10	1.11
India	0.52	0.61	0.70	0.88
Philippines	0.23	0.37	0.74	0.65
Indonesia	0.38	0.62	0.75	0.58

Source: International Trade Statistics, WTO 2004

by upstream and downstream activities than by the modern manufacturing sector itself.

Plan Outlays and Expenditure in the Tenth Plan

12.17 The industry sector, including minerals and the village and small enterprises (VSE) components, spans 11 departments/ ministries. The Plan outlay for the sector is quite small, when compared to outlays for the social and infrastructure sectors. The sector is essentially policy driven and, to that extent, the shortfall in achieving growth targets can be attributed to virtually little progress made on major policy issues.

12.18 A summary of Plan outlay and expenditure on major schemes in the industry sector during the Tenth Plan and the first three Annual Plans (2002 to 2005) is given in Annexure 12.2.

12.19 In relation to the Tenth Plan outlay, the cumulative expenditure during the first three years has been 45 per cent for Department of Industrial Policy and Promotion (DIPP), 55 per cent for the Ministry of Textiles (MOT),

Table 12.9
Employment situation in organised manufacturing (in lakh)

	Manufacturing (Private sector)	Manufacturing (Public sector)	Total Employment in manufacturing	Employment (in public sector - Industry)	Employment (in private sector - Industry)	Total employment in organised sector
1991	44.81	18.52	**63.33**	190.57	76.77	267.34
1996	50.49	17.38	**67.87**	194.29	85.12	279.41
2000	50.85	15.31	**66.16**	193.14	86.46	279.60
2001	50.13	14.30	**64.33**	191.38	86.52	277.89
2002	48.68	13.50	**62.18**	187.73	84.32	272.06

Source: Economic Survey, 2003-04

40 per cent for Department of Heavy Industries (DHI), 63 per cent for Department of Consumer Affairs and 25 per cent for Ministry of Steel.

12.20 The Industrial Infrastructure Upgradation Scheme (IIUS), the flagship scheme of the DIPP has recorded expenditure of 31 per cent in the first three years of the Plan, while the Technology Upgradation and Modernisation Scheme (TUMS) has remained a non-starter. The progress of expenditure in the Integrated Leather Development Programme has been unsatisfactory, as its major component (Rs 290 crore) is still in the final stages of approval.

12.21 The major schemes implemented by the Ministry of Textiles are the Technology Upgradation Fund Scheme (TUFS), Cotton Technology Mission (CTM), Apparel Parks and Textile Centre Infrastructure Development Scheme (TCIDS). The expenditure on TUFS during the three years of the Plan period is 59 per cent of the Plan outlay. Expenditure on CTM is estimated at 64 per cent, on Apparel Park 46 per cent and on TCIDS 33 per cent. Expenditure on the Department of Heavy Industry's scheme, Support to Existing Public Sector Undertakings is 35 per cent. The progress of expenditure in respect of scheme Testing Facilities for Automobiles appears to be satisfactory. The consumer protection scheme of Department of Consumer Affairs (DCA) incurred over 43 per cent expenditure of the Department's Plan outlay in the first three years of the Plan period.

12.22 The WTO Agreement on Textiles and Clothing (ATC) has completed the transitional period for phasing out of quota regime with effect from 1.1.2005. This has unleashed competitive environment for developing countries like India to strengthen their position on inherent merit. In order to meet the emerging challenges, suitable measures including de-reservation of knitting and made up items have been devised in the National Textiles Policy which would provide an enabling environment to integrate domestic textiles sector with global markets. Subsequently special efforts would be required so as to implement long term goals for the emergence of India as an important global competitor in textiles.

POLICIES FOR FASTER INDUSTRIAL GROWTH

Industrialisation and Development

12.23 Given the low levels of industrial growth in the Ninth Plan period, there is some pessimism on whether the country can ever become a significant industrial power. The rapid growth of the tertiary sector has raised the question whether India should, in its development strategy, leapfrog from an agricultural to a service economy, skipping the middle phase of industrialisation. However, a number of factors need to be kept in mind when taking a view on the long-term prospects for India's manufacturing sector.

12.24 The manufacturing sector has shown some buoyancy in the Tenth Plan period, after languishing at less than 5 per cent growth during the Ninth Plan period, with the growth rate rising to 8.7 per cent in April-February 2004-05. Despite the steep reduction of tariffs and the elimination of quantitative restrictions, the much-feared flood of imports has not happened. On the other hand, India's exports of manufactures have been rising consistently at more than 20 per cent per annum over the past two years. Although handicapped by policy, procedural and infrastructure constraints, India has maintained its status as a competitive supplier to the world of such labour intensive products as apparel, footwear, jewellery, leather and textiles.

12.25 More significantly, the country has, in recent years, emerged as an important supplier of skill-intensive products such as auto components and pharmaceuticals. Some recent assessments suggest that India has the potential to share the top two positions with China in exports of apparel, leather, jewellery, pharmaceuticals, power transmission and distribution equipment, auto components, iron and steel, aluminium and speciality chemicals. In any case, it should be emphasised that no other developing country in Asia has achieved economic growth without a substantial industrial base (Table 12.10).

12.26 The Indian work force consists of labour at different levels of skills, with a large proportion in the unskilled category. A vibrant manufacturing sector is essential for providing job opportunities to this category. Rapid industrialisation is the sine qua non for any diversification of the labour force.

World Class Infrastructure

12.27 Improving the quality of infrastructure, especially infrastructure related to electric power and transport facilities, is a prerequisite for realising the potential for industrialisation. Transport infrastructure includes railways, roads, ports and airports. Comparative surveys such as those conducted by the World Competitiveness Yearbook 2003 clearly reflect the fact that such infrastructure is deficient in India compared to Malaysia, Thailand, China and Mexico. On a ten-point scale (0 for least favourable and 10 for most favourable), India scores 3.8 in infrastructure for distribution of goods and services. China scores 5.4 and Malaysia 8. In the case of infrastructure maintenance and development, India scores 2.3 as compared to 5.3 for China and 7.2 for Thailand.

12.28 While steps have been taken to increase investment in the physical infrastructure (for details see Chapter 9), a possible short-term strategy could be to develop six to eight special economic regions (SERs), where manufacturing industries could be encouraged to establish new units. The regions should be of large size (around 5,000 hectares each) and should have their own modern industrial townships in order to attract large-scale investment, including foreign direct investment (FDI). For such SERs to be successful, they must have world-class internal and peripheral infrastructure. The airport and sea-port serving the SER could be upgraded to provide world class services. Each of the SERs could be anchored around one or two big players.

Labour Laws

12.29 Both domestic and foreign investors cite rigidity of labour laws as one of the factors affecting the competitiveness of the manufacturing industry, especially the labour intensive sectors. Some of the labour laws may appear to improve the position of labour in the organised sector, but these may also reduce new employment in the organised sector by imposing labour rigidity, especially in the industries where scope for expanding employment is linked to export possibilities and competing producers in other countries benefit from greater labour flexibility.

12.30 A case in point is the poor performance of textiles and garment exports after the abolition of quota for textile exports with effect from 1.1.2005, exports of textiles and clothings were expected to sky rocket from India. Exports during January - March, 2005 from China are reported to have increased over 500 per cent . However, exports from are

Table 12.10
Manufacturing value added as %of GDP in Asian economies

Country	1985	1990	1995	2000
India	16.3	17.2	17.8	15.8
China	34.9	32.9	34.7	34.5
Indonesia	15.8	18.3	24.1	26.0
Malaysia	19.3	24.2	26.4	32.8
Singapore	23.3	27.1	24.7	26.5
Thailand	21.9	27.2	28.4	31.9

Source: World Development Report, various issues

India are said to have increased by about 1 per cent in value terms. The Industry has asserted that this insignificant growth of textiles and garments exports against the large potential is to a great extent owing to the rigidity in the prevalent labour regime. There is an urgent need to relax labour legislation.

12.31 Examples of provisions which impose rigidity are Chapter V-B of the Industrial Disputes Act, 1947 that requires companies with more than 100 workers to obtain state government's approval to retrench their work force, and the Contract Labour (Regulation & Abolition) Act, 1970, which restricts outsourcing of core activities.

12.32 These laws make it difficult for employers to respond flexibly to changes in demand when necessary and have the net effect of discouraging the growth of strong labour absorbing sectors. However, as discussed in the Chapter on Labour and Employment, there is as yet no consensus on labour reforms. Given the vital need for such reforms to foster industrial development, it is imperative that the search for consensus must continue. In the meantime, on the request of state governments, selective exemption from the applicability of the above two laws could be considered for special economic zones (SEZs) and export-oriented units (EOUs) and even in the larger SERs.

Indirect Taxes and Import Duties

12.33 Customs duty on raw materials, intermediate and capital goods raises the price of inputs for industrial products. As noted in the chapter on The International Context, there has been a significant reduction in customs duty on industrial products between 1991 and 2004, but the peak rate of 20 per cent (since reduced to 15 per cent in the Union Budget for 2005-06), which is also the minimum rate in most cases, is a drag on the efficiency of the Indian manufacturing industries. In order to improve the investment climate, particularly in the context of the Regional Trade Agreement with the ASEAN countries, it is important to shift to a three-rate structure consisting of 5 per cent, 8 per cent and 10 per cent as recommended by Kelkar Task Force on Indirect Taxes.

12.34 The combined incidence of indirect taxes at the Central and State levels is high, in comparison with that in many other countries. Cascading is generally avoided in Central excise because of the levy of CENVAT. However, State sales tax and similar levies like turnover tax, entry tax etc. do not provide for input tax credit, leading to cascading, overlapping and tax-on-tax situations. Effective tax rates vary widely across products and states. As a consequence, economic neutrality is affected and business decisions distorted. Growth, competitiveness and budgetary revenues also suffer.

12.35 The Central government and the Empowered Committee of State Finance Ministers have agreed to move towards state-level Value Added Taxation (VAT) by 1st April 2005, replacing state sales tax with two principal rates of 12.5 per cent and 4 per cent. This is a welcome development, even though there are serious design flaws in the suggested structure, which need to be addressed.

12.36 The proposed VAT does not extend to all indirect taxes on goods, as entry tax and octroi will continue. The concept of value addition has been substantially diluted by continuing the erstwhile statutory distinction between "inputs" and "final products", since any good can be either an input or a final product in the production and consumption chain. Input tax credit is not available in respect of inter-state sales and the road map for removal of Central sales tax and the mechanism of taxing inter-state transactions have not yet been spelt out. Many goods have been kept out of VAT, including petroleum products, which are basic to manufacturing and transport. No attempt is also being made to merge taxes on goods and services and replace them with a composite tax on consumption to rationalise the structure and make it economically neutral.

12.37 Put together, the combined incidence of Central and state VAT would be close to 30 per cent. It could be even higher if taxes that are going to be retained after VAT is introduced taken into account. High tax burden will keep prices high and dampen demand, particularly in the case of low-income consumers. To boost manufacturing, the combined effective rate of indirect taxes of the Central and state governments will have to be brought down to 20 per cent. As the Kelkar Task Force noted, this compares favourably with the standard VAT rates in the countries of the Organisation of Economic Cooperation and Development (OECD).

12.38 While customs duty and indirect taxes need to come down across the board to improve the competitiveness of Indian manufacturing industry, urgent attention needs to be given to products and tariff lines which suffer from an inverted duty structure (See Box 12.1).

Entry and Exit Barriers

12.39 One of the factors influencing the investment climate in industry is the ease with

Box 12.1
Inverted duty structure

(a) The IT/electronic products listed under the Information Technology Agreement (ITA)* will not attract any duty from 1st March 2005, in keeping with the commitment given by India in the World Trade Organisation (WTO). Many input parts and components of items listed in the ITA are already, or will become, duty free on that date, but several basic raw materials such as metals, plastics and chemicals outside the ITA framework will not, and this will create an inverted duty structure.

(b) The Indo-Thailand Free Trade Area (FTA) Agreement envisages the elimination of duty on 82 selected products in a time frame of two years, while the duty on some of the inputs remains unchanged. For instance, the duty on colour television sets has been reduced to 12.5 per cent on 1st September 2004, while the duty on some of the inputs has remained at 10-20 per cent. The inverted structure will be exacerbated if the duty on these inputs is not changed, because the duty on the finished product under the Indo-Thailand FTA is scheduled to go down to 6.25 per cent on 1st September 2005 and to zero on 1st September 2006. A similar problem has arisen for refrigerators/air conditioners where the duty on inputs has remained at 15-20 per cent while the duty on the finished product is being phased out.

(c) The indirect tax structure at the state level also adversely affects Indian manufacturers. Under Article 286(b) of the Constitution, states are not permitted to levy sales taxes on imports; such taxes are, thus, confined to domestically produced goods. Since the clause has not been amended, the bar will continue even after state-level VAT comes into force. Special additional duty (SAD) of 4 per cent, levied since 1998 on imported goods to compensate in an ad hoc manner for state consumption taxes on domestic products, was also withdrawn in 2004. Adverse effects are likely to be particularly acute for goods where there has been progressive lowering of tariff rates such as IT products and capital goods.

(d) When excise duty on personal computers (PCs) was eliminated on 2nd July 2004, without lowering the 16 per cent excise duty on some components, it became more advantageous to import PCs instead of buying them from domestic manufacturers. An attempt has been made to rectify this anomaly by imposing, on 26th July 2004, additional customs duty of 6 per cent on the CPU box and 7 per cent on the Full System. While this solved the problems of PC manufacturers, the manufacturers of some components, such as motherboard and monitors, which attract 16 per cent excise duty, have been adversely affected by the sale of parts from disassembled imported PCs.

* ITA covers computers, telecommunication products, semi-conductors, semi-conductor manufacturing equipment, software and scientific instruments.

which firms are able to enter into and exit from business activities. Recent investment climate assessment studies have noted excessive regulation of this activity, with a large number of Central and state-level clearances needing to be taken, particularly in power and mining projects. This not only delays projects inordinately but also creates avenues for corruption. Delays in obtaining these clearances are one of the main reasons for the poor realisation of approved foreign investments during the last 10 years. The cumbersome and long drawn out bankruptcy proceedings under outdated laws and the need to take the permission of the competent state authorities for retrenchment of employees, all of which delay exit procedures, are also a cause for concern. The study has noted that in general the proceedings take more than two years, and over 60 per cent of the liquidation cases before the High Courts are more than 10 years old.

12.40 In the case of the manufacturing sector, the main procedures that have to be complied with at the entry stage are at the State level. The delay is mainly on account of the fact that various bodies give clearances independently. Progress can be made in expediting the clearances if they are coordinated by a committee headed by a high level functionary like the Chief Minister. A similar procedure can be adopted for mining projects. In order to promote expeditious clearance, state governments should put a status report of clearance of applications for industrial and mining projects on their websites. At the Central level, the few clearances that are required for establishing manufacturing enterprises have become automatic. However, a single window clearance needs to be considered for mining projects.

12.41 In the case of exit barriers, Chapter V-B in the Industrial Disputes Act, 1947 is one of the problems to which a solution would depend upon the emergence of political consensus on the overall question of labour reforms. Progress could be made for resolving the problem of long drawn out company liquidation proceedings if the legal impediments to the creation of National Company Law Tribunal (NCLT), established by the Companies (Second Amendment) Act, 2002, are removed.

Other Policy Corrections/ Initiatives

12.42 A number of other problems of the manufacturing industry need to be addressed.

12.43 The policy of reserving certain items for manufacture by small-scale industrial units is one of the major constraints on the growth of industry. This policy was devised at a time when circumstances were very different. It has become an anachronism in the post-reform era and it prevents units from attaining economies of scale and preparing to stand up to global competition or even competition from domestic medium or large enterprises. It is indeed an anomalous situation that, following the elimination of import restrictions and falling levels of duty protection, the small-scale units in reserved sectors have to compete against foreign manufacturers (though they are still protected from competition from local medium and large enterprises) but they are not allowed to expand to meet growing competition. Over time, there has been a growing realisation that this policy is unsustainable and the government has been following a policy of reducing the number of items reserved for the small-scale sector. About 600 items are still on the list and there is a strong case for further and substantial de-reservation, especially in areas with export potential and where import competition is significant. It would be much better to adopt a promotional approach to small-scale industry, while eliminating protective policies such as reservation

12.44 The growth of industrial units that use non-coking coal, such as cement and sponge iron units, is severely constrained by the non-availability of adequate quantities of coal of the required grades. Coal shortages are likely to increase further as demand from the power sector is rising at a rate higher than that projected earlier. Pending the passage of amendments to the Coal Mines (Nationalisation) Act, 1973, interim measures need to be taken and have been spelt out in the chapter on Energy. Adequate supply of domestic natural gas/LNG at internationally competitive prices to fertilizer and steel units needs to be ensured. For this, the recommendations of the inter-ministerial group/group of ministers need to be expedited. The growth of the paper industry is constrained by the lack of land for plantations and by inadequate supply of fibre. Arrangements for growing fibre through initiatives such as Joint Forest Management (JFM) need to be considered seriously. (Details of JFM are dealt with in the chapter on Environment and Forests.)

12.45 India's large pool of engineers has made the country an attractive FDI destination. However, there has been a continuous decline in educational standards and only about 50,000 engineers out of the annual turnover of 400,000 are reported to be of internationally acceptable standard. It is necessary to take firm steps to stem the decline.

12.46 Another source of India's strength in manufacturing in particular has been the personnel trained in the Industrial Training Institutions (ITIs). Since industry is experiencing shortage of trained personnel, it has become necessary to take steps to increase the capacity for their training as well as improve the quality of training and make it demand driven.

12.47 The absence of a unified food processing law is a major impediment to the growth of the food processing industry. Today the food processing sector is subject to a variety of overlapping laws administered by different ministries. The provisions under these laws are often contradictory and make entrepreneurs potentially vulnerable to imprisonment. Though enforcement is poor, larger corporate groups are discouraged by the lack of clarity on these issues. A Group of Ministers (GOM) under the Minister of Agriculture is considering the draft of an Integrated Food Law, which has been placed on the website of the Ministry of Food Processing Industries and comments invited. The GOM will consider the revised draft law and it is only then that a government decision will be possible. This important reform is long overdue and needs to be introduced as early as possible.

12.48 The food processing industry can be sustained only by assured supply of quality agricultural produce, and the best arrangement for this is for industrial units to get involved in contract farming. The state-level Agricultural Produce Marketing Committee (APMC) Acts, which prohibit contract farming, are a major constraint in the development of the food processing industry. The Ministry of Agriculture has circulated a model legislation to replace the APMC Acts, but there has been little progress in substituting the existing legislation by the model Act.

Public Sector Enterprises

12.49 Public sector enterprises (PSEs) have made a significant contribution to the economic and industrial development of the nation. They have been instrumental in creating the necessary infrastructure, ensuring balanced regional development and generating employment opportunities.

12.50 According to the Public Enterprise Survey (2002-03), there are 240 Central public sector enterprises, of which 227 are operational and the remaining 13 are under construction. Out of the 227 operating units, 145 are engaged in manufacturing, while the remaining 82 are in the services sector. In 2002-03, 118 CPSEs earned profit amounting to Rs.43,085 crore (Rs.20,306 crore for non-petroleum and Rs.22,779 crore for petroleum CPSEs), while 107 incurred losses to the tune of Rs.10,944 crore and two just managed to break even.

12.51 Sick public sector undertakings (PSUs) were brought under the Sick Industrial Companies Act (SICA) in 1991. Between 1992 and 2004, 70 sick CPSEs were registered with the Board of Industrial and Financial Reconstruction (BIFR). Only three PSUs have been declared to be no longer sick. Though the BIFR recommended the winding up of 27 CPSEs, none of these could be wound up so far. During 2003 and 2004, four CPSUs were registered with BIFR.

12.52 The National Common Minimum Programme (NCMP) states:

'The UPA government is committed to a strong and effective public sector, whose social objectives are met by its commercial functioning. But for this, there is need for selectivity and a strategic focus. The UPA is pledged to devolve full managerial and commercial autonomy to successful, profit-making companies operating in a competitive environment. Generally profit making companies will not be privatised.'

'All privatisation will be considered on a transparent and consultative case-by-case basis. The UPA will retain existing "Navratna" companies in the public sector, while these companies raise resources from the capital market. While every effort will be made to modernise and restructure sick public sector companies and revive sick industry, chronically loss-making companies will either be sold-off, or closed, after all workers have got their legitimate dues and compensation. The UPA will induct private industry to turn around companies that have potential for revival.'

12.53 The Department of Public Enterprises has already set up an Ad-hoc Group of Experts to make recommendations on devolving full managerial and commercial autonomy to profit-making CPSEs. A Board for Reconstruction of Public Sector Enterprises (BRPSE) has also been constituted to advise on ways and means of strengthening the public sector enterprises by revival, restructuring, disinvestment, closure or sale and for making them autonomous and professional.

12.54 The policy on chronically sick enterprises is clear. They have to be sold off or closed after all workers have got their legitimate dues and compensation. In addition to the 27 CPSEs that the BIFR has recommended to be wound up, other chronically sick units must be identified for initiating winding up procedures. Some of the units have been referred to the BIFR, which continues to function in the absence of the constitution of the NCLT. Pending the establishment of the NCLT, the existing procedure of reference to BIFR would have to continue. Reference to the BIFR has caused long delays and the referred units have continued to incur losses. Breaking the stalemate on the repeal of SICA needs to be accorded priority.

12.55 In considering revival of other sick CPSEs, it is necessary to bear in mind the past experience of failed attempts to rehabilitate several undertakings despite repeated infusion of government funds. Chances of yet another failure must be minimised by putting in position adequate safeguards in the procedure for considering a sick CPSE for rehabilitation. To start with, the CPSE concerned must obtain a report from a professional consultant of repute recommending that it is revivable. If the administrative ministry or department considers turnaround to be technically feasible and commercially viable, it should seek the participation of financial institutions in the financial package for the revival. Project appraisal by financial institutions, which would be a pre-requisite for their agreement to participate, would provide a second opinion about the viability of the proposal for revival. In other words, the administrative Ministry should check whether the proposal for revival of a sick CPSE is bankable. The norm in developing a financial package must be that the government takes the responsibility for strengthening the equity base while the financial institutions provide the loans (without the need for government guarantee). The government may also have to bear the burden of waiver of interest and even the principal amount of outstanding loans, penalties and taxes. Bankability must be a pre-requisite before rehabilitation proposals of sick CPSEs can go forward.

12.56 In the course of developing the financial package for rehabilitation, private sector involvement should be sought through transparent means such as inviting expressions of interest. Such a step should be envisaged particularly in those cases in which it is felt that the CPSE would benefit from the technical, managerial and commercial expertise available in the private sector.

Industrial Subsidies

12.57 The WTO disciplines on domestic subsidies on industry are relatively benign. The level of subsidies cannot be raised once a tariff commitment has been made. Further, exports benefiting from these subsidies are liable to face countervailing duties if they cause injury to domestic industry in importing countries. Generally speaking, the WTO rules on industrial subsidies are not a major constraint on policy making. However, following the worldwide phase-out of quotas in textiles and clothing, the industrialised countries are not likely to miss any opportunity to put obstacles on imports from India and other efficient producing countries. This would make Indian textile exports particularly vulnerable on account of the subsidies under the TUFS. Therefore, it would be appropriate to phase out this scheme after the expiry of its present validity period on 31st March 2007.

12.58 As far as other schemes/practices are concerned, it is economic good sense rather than WTO disciplines that should guide the country's subsidy policy. Industrial subsidies generally do not make sense as they lead to misallocation of resources. A case can be made for subsidies if they result in positive externalities as in the case of support to industrial undertakings adopting environmentally sound practices. The Integrated Leather Development Scheme could be justified on this basis. A case could also be made on socio-economic considerations for assisting industries in geographically disadvantaged regions, as in the case of industrial subsidies for the North East region and J&K. However, for redressing geographical imbalance, preference should be given to removing locational disadvantages through the development of infrastructure rather than through subsidies. If subsidies have to be given, the superior option must be direct subsidies rather than exemption from direct or indirect taxes as these are highly distortionary.

12.59 Even where the subsidy can be justified on broad economic considerations or on socio-economic grounds, constant monitoring is needed to ensure that the objectives are being met. In case of the subsidies for the north-east region, the schemes can be said to be worthwhile only if there is substantial value added or if the employment generated is substantial, which is not always the case in manufacturing activities. For generating economic activity and employment on a substantial scale, it is necessary to consider expanding the North-East Industrial Policy (NEIP) to the services sector, information technology, construction, health care and tourism, as has been recommended by a report of the Tata Economic Consultancy Services, which carried out an impact evaluation study of the programme.

12.60 It is also necessary to take corrective steps with regard to the extension of the incentives for industry available to the North-East to Uttaranchal and Himachal Pradesh, as this step had adversely affected the industrial climate of the more advanced adjoining states. The scheme was not calibrated adequately to take into account the fact that Uttaranchal and Himachal Pradesh are not as disadvantaged geographically as the north-eastern states.

12.61 If a rational policy on industrial subsidies is followed, there would be little merit in running sick CPSEs for prolonged periods. It is for this reason that an economically rigorous policy has been suggested for the revival of sick CPSEs. Besides, the continuation of the cost plus approach in the pricing of urea defies economic logic. It is sought to be justified on the specious plea that it supports food security, but, clearly, what should be done to enable farmers to produce food is to supply inputs like fertilisers at the most economical price in the world rather than producing urea domestically at costs that are a multiple of the international parity price. Pricing of items like natural gas must eventually be done on the basis of international parity price as was envisaged in the Tenth Plan.

12.62 Apart from these reasons, fiscal constraints also dictate the need for moderation of subsidy practices in industry. Giving up the cost plus approach in the pricing of urea and closure/sale of sick CPSEs that cannot be revived will contribute substantially to the reduction of fiscal deficit, which is a threat to macroeconomic stability. Reduction of industrial subsidies is of paramount importance for the health of the national economy.

Intellectual Property Rights Regime

12.63 The adoption of a world-class intellectual property rights regime is a prerequisite for industrial development of any country. The Central government has been active in enacting laws complying with requirements of the WTO Agreement. The latest addition is the Patents Act, 1970, as amended by the Patents (Amendment) Ordinance, 2004. The amendment expands the scope of patentability to all fields of technology including food, drugs and pharmaceutical and agri-chemicals.

MINERAL SECTOR

Tenth Plan Objectives

12.64 The Tenth Plan aimed at faster development of an internationally competitive mining sector based on cost-effective mineral exploration and development using state-of-the-art exploration technologies. This was to be done through promotion of private investment in mineral exploration and creation of new mining capacities. The aim was to accelerate growth, keeping environment protection and conservation in mind and the need to encourage both foreign capital and technology was recognised. Other objectives of the Plan included the search for minerals in off-shore areas, intensification of mineral exploration activities with the state-of-the art-technology for building up of a mineral reserve-base, restructuring and modernisation of the Geological Survey of India (GSI), and adoption of the United Nations Framework Classification (UNFC).

Physical Performance

12.65 The mining and quarrying sector has a 10.5 per cent share in the overall Index of Industrial Production (IIP). Like the manufacturing sector, this sector too has posted a smart recovery during the first two years of the Tenth Plan as may be seen from Table 12.11.

Specific production achievements of some important minerals are impressive as can be seen fromTable 12.12.

12.66 Modernisation and upgradation of national and regional laboratories to provide high quality laboratory support was initiated in Geological Survey of India, in the terminal year of the Ninth Plan (1997-02) and continued in Annual Plans 2002-03 and 2003-04. However, progress in this area has been slow and special efforts are needed to be taken to complete the work in the Tenth Plan. The project of Establishment of Net and Portal in the GSI for connecting the regional offices with headquarters at Kolkata is in advanced stages of implementation.

12.67 Procurement of a sea-going research vessel in the Tenth Plan would enhance the performance of the GSI for carrying out bathymetric and magnetic surveys in off-shore areas, which is necessary for staking claim on the extended continental shelf zone up to 350 nautical miles under III Convention-United Nations Conference on the Laws of the Sea (UNCLOS). The procurement process for the research vessel needs to be speeded up.

12.68 Indian Bureau of Mines (IBM) has completed the preparation of the mineral maps along with forest overlays, in respect of Chhattisgarh, Orissa, Jharkhand, Bihar and Andhra Pradesh. Preparation of these overlays for all states needs to be completed in a time-bound manner in order to facilitate clearance of investment proposals in the sector.

12.69 Work taken up by the IBM to bring the National Mineral Inventory in line with the UNFC System has been progressing slowly. Completion of the work may help in attracting more private investment, both domestic and foreign, along with state-of-the-art-technology in the sector.

Table 12.11
Annual growth rates in Index of Industrial Production (per cent)

	Weight %	2001-02	2002-03	2003-04	2004-05 (April - Dec., 2004)
Overall IIP	100.0	2.7	5.7	7.0	8.4
Mining & Quarrying	10.5	1.2	5.8	5.2	4.8

Source: Economic Survey, 2004-05

Table 12.12
Physical performance of some Important minerals/ metals

Sl. no	Item	Unit	2001-02 Actual	2002-03 Actual	2003-04 Actual	2006-07 Projected
1.	Iron ore	Million tones	86.23	96.96	119.78	110.00
2.	Aluminium (primary)	Thousand Tonnes	633.75	689.04	816.50	*950.00
3.	Copper (cathodes-primary)	Thousand Tonnes	305.52	377.44	395.96	500.00
4.	Zinc (primary)	Thousand Tonnes	244.50	235.52	**254.55	*281.00
5.	Lead (primary)	Thousand Tonnes	37.20	39.67	**33.70	*91.80

* Projected by Working Group for the Tenth Plan (2002-07)
** Estimated

Outlays and Expenditure in the Tenth Plan

12.70 The total outlay approved in the Tenth Plan for the Ministry of Mines was Rs.8344.50 crore at 2001-02 prices, which was to be funded through internal and extra budgetary resources (IEBR) to the tune of Rs.7073.50 crore and gross budgetary support (GBS) of Rs.1271.00 crore. Details are given in Annexure 12.5a and 12.5b. The likely expenditure during the first four years of the Plan (Annual Plan 2002-03 actual, Annual Plan 2003-04 actual, Annual Plan 2004-05 anticipated expenditure and Annual Plan 2005-06 BE) is Rs.2172.75 crore (at 2001-02 prices), which accounts for 26.04 per cent of the approved Tenth Plan outlay. The main shortfall is in respect of National Aluminium Company Ltd. (NALCO) followed by the GSI.

Private Investment/ Foreign Direct Investment

12.71 A number of minerals, which were hitherto reserved for exploration and exploitation by the public sector, have been opened up to the private sector. So far, the Central government has approved as many as 188 reconnaissance permits, involving an area of 2,54,307.303 sq. km in Andhra Pradesh, Chhattisgarh, Gujarat, Haryana, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar Pradesh.

12.72 The Foreign Investment Promotion Board (FIPB) has granted 73 approvals for foreign direct investment (FDI) in the mining sector involving an investment of Rs.4,044 crore. There has been significant investor interest in respect of precious and high value minerals like diamond, gold, silver, the platinum group of metals, non ferrous minerals such as copper ore, lead and zinc ore, and strategic minerals/ores such as nickel, tungsten etc. However, there is no successful case of a reconnaissance permit being converted into a mining lease so far. Although the liberalisation of the sector is more than a decade old, the results have not been encouraging so far. This is mainly due to procedural delays in various clearances at the levels of both Central and state governments, especially in the case of mandatory environment clearance and inadequate infrastructure such as roads, ports and power in the mining areas. Procedures involved in various clearances for Reconnaissance Permit (RP), Prospecting Licence (PL) and Mining Lease (ML) are detailed in Box 12.2.

12.73 The procedural delays are generally much longer than the stipulated time indicated as per the Mineral Concession Rules (MCR), 1960. In this connection, a Committee was constituted under the chairmanship of Additional Secretary, Ministry of Mines to consider the policy and procedural matters relating to Reconnaissance Permit (RP) and Prospecting Licence (PL) in October, 2003. The Report is yet to be finalized. It is

Box -12.2

Procedures involved in various clearances for Reconnaissance Permit / Prospecting License / Mining Lease

Reconnaissance Permit (RP) — 6 months

- Site clearance
- Clearance for forest land / revenue land/private land
  - One time prior approval from Central government for 10 specified minerals
  - Clearance from defence/Directorate of Civil Aviation.
  - Grant of RP by the state government.

Prospecting License (PL) — 9 months

- Site clearance
- Clearance for forest land / revenue land/private land
  - One time prior approval from Central government for 10 specified minerals
  - Grant of PL by the state government.

Mining Lease (ML) — 12 Months

- Site clearance
- Clearance for forest land / revenue land/private land
- Public hearing in case area is more than 25 ha.
- Issue of letter of intent from state.
- One time prior approval from Central government in case of 10 specified minerals.
- Clearance from Foreign Investment Promotion Board (FIPB) for FDI cases as per Mineral Concession Rules 1960.
- Mine plan clearance from state/Central government (IBM)
- Approval of mine closure plan by IBM
- NOC from State Pollution Control Board
- Environmental Clearance from Ministry of Environment & Forests (MOEF).
- Forest clearance from MOEF.
- Issue of grant order by the state government
- Execution of ML.

necessary to ensure that the Report of the Committee is finalized quickly. To go into the whole gamut of questions relating to development of mineral sector including the requirements for the infrastructure, expeditious clearance from the environmental angle and other related issues, a high level committee needs to be established.

VILLAGE AND SMALL ENTERPRISE SECTOR

12.74 The village and small industries, including the small-scale industries, form a vital segment of Indian industry, contributing 92 percent of industrial employment in the country. It is estimated that more than 6.5 million persons are engaged in handloom weaving and allied activities, 6.2 million in handicrafts and 19.1 million in village and small enterprises. Women constitute a major segment of handicraft workers, and there are certain crafts, like embroidery, beadwork, appliqué, durries, shawls, cane, bamboo and mat weaving that are almost exclusively practised by women. Among handloom weavers, 65 percent are women and 32 percent belong to the scheduled castes/scheduled tribes (SC/ST). In sericulture, a large proportion of workers belong to the SC/ST categories and over 50 per cent are women.

12.75 The government has an array of programmes for assisting the VSE sector (Box 12.3).

Physical and Financial Performance

12.76 Annexure 12.3 provides details picture of the physical performance of the village and small enterprises sector while Annexure 12.4 details its financial performance.

Small Scale Industries

12.77 The small scale industries (SSIs) continue to be an important segment of Indian Industry in terms of output and employment. Despite the general constraints on industrial growth, the specific constraints on the VSE sector and increasing competition from domestic and foreign producers due to de-reservation and import liberalisation, the SSI sector outstripped the overall industrial growth in the country. Employment also continued to grow in the sector during the first three years of the Tenth Plan period.

Handlooms

12.78 Apart from continuing the ongoing schemes and programmes, the Tenth Plan launched new schemes such as the Bunkar Bima Yojana and Integrated Handloom Training Project

Powerloom

12.79 The contribution of the powerloom sector to the total cloth production in the country was about 63 per cent during 2002-03. A Powerloom Package was introduced in 2003-04, which enlarges the existing Technology Upgradation Fund Scheme (TUFS) to cover the modernisation of powerlooms, introduces a new Group Workshed Scheme in collaboration with the state governments to create a better working environment and obtain higher productivity; seeks improvement of other infrastructure facilities under the Textile Centre Infrastructure Development Scheme (TCIDS) and provides insurance cover to the powerloom workers against death, accident and disability under a Special Group Insurance Scheme.

Handicrafts

12.80 The handicrafts sector enjoys special significance in the country's economy, in terms of employment generation as well as foreign exchange earnings through exports. The Office of the Development Commissioner (Handicrafts) continued to implement six schemes – Babasaheb Ambedkar Hastshilp Vikas Yojana (AHVY); Design and Technology Upgradation; Export Promotion, Marketing Support and Services; Research and Development; Training and Extension; and Financial Assistance to State Handicrafts Development Corporations/State Apex Societies.

Box 12.3
Support provided to VSE sector during Tenth Plan

- Purchase and price preference for goods produced in the sector.
- Capital subsidy for technology upgradation and modernisation of small-scale industry (SSI) units.
- Exemption from payment of excise duty up to a turnover of Rs 1 crore or payment of excise at the concessional rate of 60 per cent of normal duty with CENVAT facility
- Collateral free credit facilities up to Rs.25 lakh per unit under the Credit Guarantee Fund Scheme.
- Marketing support for domestic as well as export market.
- Technical support to SSI units through technological upgradation of cluster units.
- Support for promotion and development of khadi and village industries through interest subsidy, revival of sick village industries/ revitalisation of KVI Institutions, training, technological modernisation etc.
- Under the Rural Employment Generation Programme (REGP), financial support to rural and village industries through margin money by banks and financial institution.
- Under the Prime Minister Rozgar Yojana (PMRY) financial assistance without collateral guarantee is provided to educated and uneducated youth to set up business/industrial ventures
- Under the National Programme for Rural Industrialisation, financial assistance is provided to fill up gaps in the development of clusters in rural areas.
- Capacity building support is provided in handicrafts, handlooms, sericulture, food processing and small scale sectoral schemes.

Table 12.13
Performance of the small scale industrial sector based on the Third Census of SSIs

YEAR	Number of units (in lakh) and Fixed Investment (Rs. crore)				Production (Rs. In crore)		Employment	Exports
	Registered	Unregistered	Total	(Rs. crore)	Current Prices	Constant Prices (At 1993-94 prices)	(lakh persons)	(Rs. crore)
1	2	3	4	5	6	7	8	9
2001-02	13.75 (4.96)	91.46 (3.93)	105.21 (4.07)	154349 (4.75)	282270 (8.03)	195613 (6.06)	249.09 (4.18)	71244 (2.07)
2002-03	14.68 (6.76)	94.81 (3.67)	109.49 (4.07)	162533 (5.30)	311993 (10.53)	210636 (7.68)	260.13 (4.43)	86013 (20.73)
2003-04 (P)	15.54 (5.86)	98.41 (3.79)	113.95 (4.07)	170726 (5.04)	351427 (12.64)	226581 (7.57)	271.36 (4.32)	N.A.

Note: Figures in brackets show the percentage growth over previous year.

12.81 Initiatives taken during the Tenth Plan are:

- Special Handicrafts Training Project (SHTP) to benefit 10,000 artisans/ weavers (out of which 2,200 would be trained for carpet weaving and 7,800 would be trained in crafts other than carpets through existing components of the Guru Shishya Parampara under the Design and Technology Upgradation Scheme and training for carpets and crafts other than carpets under AHVY).
- Workshed for Handicraft Artisans, which focuses on providing improved working conditions, with emphasis on a well-ventilated and healthy working environment for handicraft artisans. This is expected to lead to improved productivity. (This scheme is being implemented in Jammu and Kashmir).
- Bima Yojana for Handicrafts Artisans, which is to cover 200,000 weavers/ artisans under insurance cover during the Tenth Plan period. The scheme is being implemented in association with the Life Insurance Corporation of India and a total of 62,070 artisans were covered.
- Artisans' Credit Card (ACC) Scheme, which is meant to provide adequate and timely assistance to artisans in order to fulfil their working capital needs. A target of 200,000 cards was set for 2003-04 but only 16,500 cards were issued till 31st March 2004.
- Urban Haats, which were to provide permanent marketing outlets to the artisans' community from rural as well as urban areas. A provision for the establishment of 20 urban haats has been agreed to during the Tenth Plan. Urban haats have since been sanctioned/ approved in principle at Mysore (Karnataka), Dimapur (Assam), Puri and Konark (Orissa) and Pune (Maharashtra).

12.82 The physical and financial performance of the VSE sector has been given in Annexures 12.3 and 12.4. The VSE sector has, by and large, performed satisfactorily in terms of production, turnover, employment and exports. The performance of small-scale industries, village industries and the powerloom sector has been particularly noteworthy. In handlooms, production of cloth has come down due to competition with powerlooms.

Constraints on the VSE Sector

12.83 The VSE sector faces three major constraints – ceiling on investment in plant and machinery, difficulty in obtaining credit (both term loans and working capital) from financial institutions and the need to deal with a plethora of laws and multiple inspections under these laws.

12.84 Small-scale industries are defined in terms of units with investment in plant and machinery not exceeding Rupees one crore. The present limit was fixed in 1999 but in October, 2001, the limit was raised to Rupees five crore for hi-tech and certain export-oriented industries. In the competitive environment at present prevailing in the country with the reduction of trade barriers, it has become necessary to allow small-scale units to make higher investments in plant and machinery for effecting technological up-gradation. The time has come, therefore, to raise the limit to Rupees five crore for all small-scale units. In fact, the small-scale units must be allowed to grow further and graduate smoothly into medium enterprises for which some of the benefits may need to be scaled down. It is also necessary to enlarge the concept of small-scale units to cover not only manufacturing units but also those engaged in services. Thus we should be talking of small and medium enterprises (SMEs) rather than small-scale industries.

VSE Financing

12.85 Small-scale units as well as medium-sized units have been adversely affected by the virtual destruction of Development Financial Institutions (DFI) and their conversion into universal banks. At the same time the State Financial Corporations (SFCs) are in difficult times because of huge non-performing assets (NPAs). These institutions catered to the term loan needs of the small and medium enterprises (SMEs) in the past and their weakening has led to the source of term loans for the SMEs virtually drying up. The Small Industries Development Bank of India (SIDBI) is overstretched and does not have the network to meet the needs of the SMEs over the whole country.

12.86 Commercial banks are generally averse to dealing with SMEs because the transactions with them do not have the economies of scale that those with large units have. There is greater apprehension of the account being classified as a NPA if the repayment is delayed by 90 days in the case of term loan and if the account is not in order for the same period in the case of working capital. However, such delays are common among SSI units because their clients tend to delay clearance of their dues. All these factors have led to a situation in which adequate credit is not being made available to the VSE sector, thus seriously affecting the health of the units.

12.87 Over the past few years the Reserve Bank of India (RBI) has issued a number of guidelines on lending to small enterprises but these are not being adhered to. Some of the important guidelines are:

- Setting up of specialised SSI branches in each district (March 2000)
- Dispensing with the collateral security requirement for loans up to Rs.5 lakh (January 2002) and up to Rs.25 lakh for units with a good track record and financial position (November 2003)
- Fixing a time limit of two weeks for loans up to Rs.25,000 and four weeks for loans up to Rs.5 lakh for the disposal of loan applications (October 2002)
- Fixing self-targets for growth in advances to the SSI sector (June 2003)
- Enhancement of the composite loan limit from Rs.50 lakh to Rs.1 crore (October 2004)

12.88 However, the main grievance of the SMEs is that none of these guidelines is being observed. The commercial banks demand collateral security for both term loans and working capital. Only 175 of the country's 590 districts have specialised SSI branches. Bank personnel at the branch level are not fully aware of the various schemes and facilities available for the SMEs and the branch managers need to be trained in techno-economic appraisal of projects of small enterprises.

12.89 More than any other promotional programme, what the VSE sector needs is action for providing it with adequate term loans and working capital loans. The following action points could address the financing needs of the sector:

- The RBI should take steps to ensure that commercial banks comply with the guidelines issued for facilitating loans to SMEs.
- The reluctance of the public sector commercial banks to meet the credit requirements of the SMEs arises, to a large extent, from the lack of in-house capability for techno-economic project appraisal. It is necessary for them to consider strengthening such capability in the specialised SSI branches that must be opened in all districts. Regular training programmes must also be organised.
- All banks should be required to fix a target of a minimum 15 per cent growth in advances to SMEs over the previous year's achievement.
- Recourse to credit rating will also facilitate bank financing of SMEs. The Ministry of SSI has recently launched a performance and credit rating system for SSIs, which is being implemented through the National Small Scale Industries Corporation (NSIC). SIDBI is also in the process of setting up a specialised credit rating agency for SMEs. This needs to be expedited.

12.90 The artisanal and household units in the VSE sector cannot depend on commercial banks alone for meeting its financial needs. It is, therefore, necessary to strengthen the micro-finance institutions to address the needs of this sector and for the rural population in general.

Multiple Inspections

12.91 Small-scale units have to comply with 22 Central enactments. A survey conducted by the Federation of Indian Chambers of Commerce and Industry (FICCI) in October 2004 revealed that, on an average, a factory/establishment is subject to 37 inspections a year, with some factories facing 67 inspections in a single year, the maximum number of visits being those of the Environment Officer, State Pollution Board officials and the Labour Officer. Some of the inspectors have wide-ranging powers: 20 of them have powers of imprisonment, 12 for sealing the unit and 21 for stopping operations. The wide powers vested in the inspectors and the frequency of their visits has led to the phenomenon of Inspector Raj and proved to be a fertile ground for breeding corruption. There is a dire need to tackle this problem but there are no easy solutions as the enactments need to be enforced as well. A Committee has been constituted by the Department of Industrial Policy and Promotion under Member (Industry) in the Planning Commission to look into the gamut of problems in this area and suggest solution. This Committee would need to submit its report expeditiously in order to enable the Government to take a decision at the earliest. Determined action on the part of Central Government to reduce harassment by inspectors will lend credibility to the efforts and may persuade the State Governments to act similarly.

Other Initiatives

12.92 The handloom industry, which is in a weakened state, has tremendous potential for productive growth, given relatively modest investment and adequate institutional support. To help it realise its potential, the existing support institutions need to be geared up to the task and restructured, if necessary, or new institutions need to be built. This task should be given to an independent body that is capable of driving growth in the sector. A Steering Committee for Handlooms needs to be constituted to do the following:

- Take the industry from its present weak position to a position of strength by ensuring the linkage of the strong production base with contemporary market.
- Strengthen delivery mechanisms by introducing monitoring, performance evaluation and course correction of existing institutions
- Provide inputs for the policy formulation process.

THE WAY FORWARD

Fiscal Policy

- Reduce the cumulative incidence of indirect taxes and customs duties. The peak customs tariff needs to be brought down to 10 per cent and the simple average to even lower levels. The inefficient and distortion-riven system of cascading taxes needs to be changed to a full VAT system at both the Central and state levels. As recommended by the Kelkar Task Force, the total tax burden on most goods – by the Centre and the states – should be no more than 20 per cent.
- Rectify the inverted duty structure. It is imperative that urgent attention is paid to rationalisation of the inverted duty structure on certain specific segments.

Initiatives for Food Processing

- Enact an Integrated Food Law at the earliest. The absence of such a law is a major impediment to the growth of the food processing industry. A Group of Ministers is examining the issue.
- Amend the Agricultural Produce Marketing Committee (APMC) Acts to allow contract farming. This is

important for the growth of the food processing industry.

Labour Market Reforms

- Build a consensus on the need to amend labour laws to remove some of the rigidities that adversely affect the competitiveness of the Indian manufacturing industry and can also be a constraint on the expansion of employment in labour-intensive manufacturing activities. Till such time as a consensus emerges, selective exemption from the applicability of some of the laws could be considered for SEZs, EOUs and the proposed SERs.

Scarcity of Fuel And Feedstock

- Take steps to address the supply side constraints on the availability of adequate quantities of coal of the required grades for units that use non-coking coal. Coal should be removed from the Essential Commodities Act and the process of trading commenced in a non-disruptive way by permitting trading in imported coal and allowing existing coal linkages to be made transferable. Adequate supply of domestic natural gas/LNG at internationally competitive prices to fertilizer and steel units must be ensured. The recommendations of the inter-ministerial group need to be implemented at the earliest.
- Seriously consider initiatives like Joint Forest Management for growing fibre for use by the paper industry.

Exit and Entry Policy

- Address the problem of long drawn out liquidation procedures. Remove the legal impediments in the way of the of the National Company Law Tribunal (NCLT) established by the Companies (Second Amendment) Act, 2002.
- Mandate hosting on the relevant websites the status report on all pending investment proposals at both Central and State government levels.

Small Scale Sector

- Adopt a promotional approach to the SSI sector. There is growing realisation that the policy of reserving the manufacture of certain items exclusively for small-scale units is unsustainable and prevents them from attaining economies of scale and dealing with competition. Make further progress on dereservation in September 2005.
- Raise the ceiling on investment in plant and machinery to Rs.5 crore for SSIs. Allow small-scale industry to graduate smoothly into medium enterprises.
- Address the problem of multiple inspections and consequent harassment of small scale units. Expedite the recommendations of the Committee established for the purpose.
- Provide the SME sector with adequate term and working capital loans. Credit rating, capacity building in project appraisal and compliance with RBI instructions on collateral-free loans are some areas which merit consideration.

Skilled Manpower

- Take steps to stem the decline in the quality of education for engineers.
- Increase the capacity of ITIs for training, upgrade the quality of training and make it demand driven.

Industrial Subsidies

- Review the subsidy schemes for geographically disadvantaged states and adjust them in light of experience. Consider replacing differential taxation with direct subsidies.
- Conduct a rigorous scrutiny of the industrial subsidy scheme and consider phasing out, within the next two years, those which are not found to be justified in economic terms.

Public Sector Enterprises

- Make bankability a prerequisite for taking forward rehabilitation proposals of sick CPSEs. The norm in developing the financial package must be that the government takes the responsibility for strengthening the equity base while financial institutions provide the loan. Private sector involvement should be sought through transparent means, particularly in cases in which it is felt that the CPSE would benefit from the technical, managerial and commercial expertise available in the private sector.

Handloom Sector

- Constitute a Steering Committee for Handlooms to take the industry from its present weak position to a position of strength by ensuring the linkage of its strong production base with contemporary market, strengthening delivery mechanisms, performance evaluation and course correction in existing institutions. Such a committee will also provide inputs for policy formulation.

Mineral Sector

- Set up a high level committee to consider the whole gamut of questions related to development of mineral sector including procedural delays, requirement for infrastructure, expeditious clearance from the environmental angle and other related issues.

Annexure 12.1

Review of Important Tenth Plan Schemes

1. Technology Upgradation and Modernisation

The Technology Upgradation Fund Scheme (TUFS), operated by the Ministry of Textiles, provides capital and interest subsidy for the modernisation of the textile and jute industry. The amounts disbursed since the scheme was launched in 1999 have pulled in an investment of about Rs.15,000 crore so far and an additional investment of Rs, 1,44,000 crore is estimated to be needed to modernise the textile industry. According to the Ministry of Textiles, the Indian textile industry made a total investment of US$10 billion in the last five years against US$ 100 billion by the Chinese textile industry. Clearly, the investment activity in the textile industry falls far short of the desired levels, despite the generous incentives under the TUFS. The Ministry of Textiles has been considering deepening of the incentives in order to stimulate further investment. Labour laws are the main disincentive for investment in the textile and garment industry and this cannot be neutralised by giving generous financial benefits.

There is need to be cautious about increasing the subsidy element in the TUFS or for continuing the scheme for a long period.

A scheme of the Department of Industrial Policy and Promotion (DIPP) on Technology Upgradation and Modernisation of Indian industry, which originally envisaged 30 per cent capital subsidy or 10 per cent interest subsidy, with a provision of Rs.219 crore in the Tenth Plan, has not taken off so far. It is now proposed to merge the scheme with the Industrial Infrastructure Upgradation Scheme (IIUS).

The domestic leather sector enjoys distinct comparative advantages in the form of abundance of raw material, availability of vast skilled manpower and an existing export market. The sector's strong export potential underlines the need to take comprehensive measures to enhance India's share in global leather trade. The Working Group on the leather and leather goods industry has set a target of getting a 8-10 per cent share in global leather trade by 2010. Recognising the need for capital infusion and modernisation to bring efficiency and economy of scale in all segments along the value chain of the leather sector, an allocation of Rs.400 crore was made for the leather sector in the Tenth Plan.

Out of this outlay, Rs.290 crore is meant for the Integrated Leather Development Scheme (ILDS). A summarised position of the proposal with component-wise break up is given in Annex Table 12.1.1.

The scheme has not yet taken off due to inordinate delay in settling the issue of the

Annex Table 12.1.1

Component	Investment Grant (Rs. crore)			
	% Ceiling		Ceiling Amount	
	SSI	Non-SSI	SSI	Non-SSI
Modernisation of tanneries	30	20	0.28	0.35
Modernisation of footwear units	15	-	0.20	-
Modernisation of footwear component units	15	-	120	-
Modernisation of leather garments				
and goods	15	-	0.20	-
Implementation expenditure	-	-	-	-

interest subsidy element brought in by DIPP after the approval of the Expenditure Finance Committee (EFC) approval in 2003. This issue has recently been settled and government approval can be expected shortly. Unless this inordinate delay of more than two years is made up for, there is a real danger that India may not only fail to achieve the targets originally visualised but may also lose its existing share in world exports of leather and leather goods.

The remaining Rs.110 crore is earmarked for a separate sub scheme - comprising nine small budget activities for the improvement of infrastructure and skill development in the leather sector (Annex Table 12.1.2).

Annex Table 12.1.2

Sub Programme	Financial Outlay (Rs. Cr.)
Leather complexes (2)	50
Footwear Component Park (2)	20
Leather Goods Park	05
HRD Mission	10
INTECHMART	5
Saddlery Development	5
Global Benchmarks	5
Support to Rural Artisans	5
Non-leather Footwear Sector	5
Total	110

Under the scheme, a leather complex for a tannery at Nellore, Andhra Pradesh, a footwear complex in Tamil Nadu, two footwear component parks (in Chennai, Tamil Nadu and Agra, Uttar Pradesh) and a leather goods park at Kolkata (West Bengal) have already been approved.

The Tenth Plan also visualised the setting up of testing facilities in the automotive sector. This scheme, now called the National Automotive Testing and R&D Infrastructure Project (NATRIP), envisages an outlay of Rs.1,718 crore and is considered a major developmental effort which addresses the facilities gap in regulatory and developmental requirements of the automobile and auto component industry. New testing facilities in the northern and southern parts of the country are proposed to be created in order to meet the homologation, safety and environment regulations. The proposal also includes a world-class test track, which the country does not have. As a result, the automobile industry is forced to depend substantially on developed countries for product design, development and testing. It is claimed that such facilities have been developed in other countries largely with financial support from the government. An expenditure of approximately Rs.100 crore has already been incurred in upgrading existing facilities at the Automotive Research Association of India (ARAI), which has been funded through Plan support and cess in the first two years of the Plan.

2. Growth Centre Scheme

During the last two years, the number of functional growth centres has increased from 38 to 46. While Central assistance has increased from Rs.371 crore to Rs.494.61 crore, the contributions of the state government and other agencies has increased from Rs.689 crore to Rs.765.41 crore. The scheme has failed to evoke a significant response from potential entrepreneurs and industrialists. Some of the factors responsible for this are: slow release of funds by state governments, lack of mobilisation of resources from financial institutions and thin spread of resources over a large number of centres. An evaluation of the scheme by the Programme Evaluation Organisation (PEO) of the Planning Commission observes that the scheme has failed to achieve the objective of removing regional imbalance through setting up of small and medium scale units in industrially backward areas and recommended discontinuation of further financial support from the government.

3. Transport Subsidy Scheme

Launched in July 1971, this scheme aims at promoting industrialisation in hilly, remote and inaccessible areas. It provides subsidies ranging between 50 per cent and 90 per cent on transport cost incurred on the movement of raw material and finished goods from designated rail heads/ports up to private and public sector industrial units located in the north-eastern states, Himachal Pradesh, Jammu and Kashmir, Sikkim, the Darjeeling district of West Bengal, hill districts of Uttaranchal, Andaman and Nicobar Islands and Lakshadweep for the initial five years of operation. The validity period of the scheme has been extended up to 31 March 2007. Actual expenditure on the scheme was Rs.189 crore in 2002-03 and Rs.13.80 crore in 2003-04. The scheme needs to be rationalised by restructuring its coverage only to Darjeeling, Andaman and Nicobar and Lakshadweep islands, since separate special packages have been subsequently launched for other areas such as the North-East, Jammu and Kashmir, Sikkim, Himachal Pradesh and Uttaranchal.

4. North East Industrial Policy (NEIP)

Under the New Industrial Policy for promoting industrialisation in the seven north-eastern states, various concessions and fiscal incentives are offered as part of a package. These include: increased equity contribution of Rs.15 crore by the Government of India in Growth Centres, enhanced Government of India funding in Integrated Infrastructure Development Centres (IIDC) and 100 per cent exemption of excise duty and income tax for 10 years. Additionally, capital investment subsidy of 15 per cent, interest subsidy of 3 per cent on working capital loans and reimbursement of 100 per cent insurance premium are provided to new units as well as for expansion work of existing units under the Capital Investment Subsidy, Interest Subsidy and Comprehensive Insurance schemes of the Central government. The North Eastern Development Finance Corporation is the nodal agency for disbursement of subsidies.

Annex Table 12.1.3 gives details of the number of units assisted, the level of investment and the employment generated so far.

An impact evaluation study of the programme carried out by Tata Economic Consultancy Services (TECS) made the following observations:

- The investment scenario appears skewed, with Assam and Meghalaya accounting for almost 94 per cent of overall investment due to their resource base and Meghalaya's better power situation.
- Greenfield units accounted for 72 per cent of investment.
- No large investment has taken place as a result of the NEIP and 69 per cent of the units involve investment of up to Rs 1 crore.
- Excise duty exemption/refund constituted the single most significant element in the policy (tobacco and pan

Annex Table 12.1.3
Physical Impact of NEIP

State	No of units	Investment (Rs. Crore)	%age share	Employment (No.)
Assam	520	528.19	49.49	12422
Meghalaya	61	441.01	41.32	6056
Arunachal Pradesh	11	39.86	3.73	577
Tripura	34	31.58	2.96	665
Nagaland	46	19.64	1.84	439
Mizoram	4	4.00	0.37	300
Manipur	5	3.00	0.28	250
Total	681	1067.28	100.00	20709

masala units. are the highest recipients of such concessions). Transport subsidy is relevant to the region because of the difficult topography but its disbursement needs to be rationalised.

- Interest subsidy and capital investment subsidy have not evoked any significant response so far.

5. New Initiatives Taken in the Tenth Plan

The new initiatives taken in the Tenth Plan period include the special package for Sikkim under the Sikkim Industrial Policy, 2002 (announced on 23rd December 2002), the package for Jammu and Kashmir under the Industrial Policy of Jammu and Kashmir (announced on 14th June 2002) and the Package for Uttaranchal and Himachal Pradesh (announced on 7th January 2003). All the three packages include provision for capital investment subsidy, interest subsidy and comprehensive insurance subsidies. Apart from this, fiscal incentives like excise duty and income tax exemptions as well as increased contribution of Government of India equity of Rs.15 crore in Growth Centres are also available under these packages. The Jammu and Kashmir Development Financial Corporation (JKDFC) would be the nodal agency for implementation and pending its formation, the Jammu and Kashmir State Industrial Development Corporation (SIDCO) has been appointed as the interim nodal agency. While these packages have been initiated in the recent past and a clear picture of their impact is yet to emerge, an interim evaluation has brought out the fact that there has been a significant favourable impact on industrialisation in Jammu and Kashmir, Himachal Pradesh and Uttaranchal.

In Himachal Pradesh, 3,472 projects are in various stages of implementation. The overall investment in these active proposals amounts to Rs.7,397 crore and they are expected to generate employment for 1,27,504 persons. In Uttaranchal, 1,150 projects - involving investment of Rs.8,600 crore and potential employment generation of 73,000 jobs - are in various stages of implementation. In Jammu and Kashmir, 253 projects - entailing investment of Rs.1609 crore and potential employment for 18,856 persons - are in various stages implementation.

While these states are, no doubt, benefiting from the various incentives being extended to them, there have been complaints that this has led to flight of capital from Punjab, Haryana, Rajasthan and Uttar Pradesh, which adjoin these states, as some units are relocating to Himachal Pradesh and Uttaranchal only to be able to get the benefit of excise duty exemption and that there is little additional investment in the rest of the country. The northeastern region has also been affected adversely, as the entrepreneurs are finding it more attractive to locate their units in Uttaranchal and Himachal Pradesh.

6. Industrial Infrastructure Upgradation Scheme (IIUS)

The DIPP had initiated the Industrial Infrastructure Upgradation Scheme (IIUS) in the Tenth Plan to enhance the competitiveness of domestic industry by providing quality infrastructure through public-private partnership approach in selected functional clusters/locations. Common facilities for transport, road, water, power, gas/fuel supply, effluent treatment, solid waste disposal would

Annex Box 12.1.1
Special features IIUS

- Development of quality industrial infrastructure through the public-private Partnership approach
- Selection of clusters based on number of units, persons employed, output/export potential and growth potential etc.
- Appraisal of projects by financial institutions.
- User driven and implementation by Special Purpose Vehicle

Benefits: Increased productivity, lower cost of production, improved product quality, increased exports and additional employment generation.

be created under the scheme. Assistance for product design, information and communication technology support and similar facilities would also be provided.

The selection of clusters will be done on the basis of number of units, persons employed, value of output, value of export/export potential, comparative advantage, economies of scale, growth potential and the nature of critical gaps in infrastructure etc. The projects to be taken up under the scheme are appraised by professional and independent agencies.

A special feature of this scheme is that it will be implemented through Special Purpose Vehicles (SPV) at the individual cluster level, in order to ensure that the infrastructure development/upgradation is user-driven. This arrangement will also ensure the creation and sustainability of useful assets through a revenue generation model. The scheme is expected to enhance competitiveness of domestic industry through increased productivity, lower cost of production, improved product quality, increase in global market share and additional employment generation.

The IIUS scheme envisages developing 30-35 clusters in the Tenth Plan period. The scheme generated keen interest among industry associations and 88 project proposals were received from various state governments, of which 17 have been approved. Many industry associations have said that the scheme should be strengthened, made more comprehensive and broad based to include a technology upgradation component also.

7. Intellectual Property Rights (IPR)

Government has taken a number of measures to modernise Intellectual Property offices with a view to making the system responsive to the changing requirements and giving it user orientation. The major components of modernisation initiatives include review of existing procedures and development of new user-friendly procedures, computerizing the procedure for grant of intellectual property rights, networking of offices, activities connected with human resource development, training of officers, infrastructure development, awareness and outreach activities.

As part of the project for modernisation of IP offices, all Patent Offices were modernised and operationalised. The Trade Marks Registry in Mumbai was also modernized. Modern office buildings in Delhi, Kolkata, Chennai and Mumbai to house integrated IP offices of patents, designs, trademarks and geographical indications are in final stages of completion and are expected to be made operational in the last quarter of 2004-05 (for Delhi and Kolkata) and Chennai and Mumbai in 2005-06. Comprehensive computerization of operations is also being done along with enhancing human resource capabilities of IP offices. The office has a website namely, www.ipindia.nic.in where

Annex Box 12.1.2
Cluster proposals approved

1.	Auto cluster, Vijaywada	2.	Auto Cluster, Pune
3.	Pharma Cluster Hyderabad	4.	Steel Cluster, Jajpur
5.	Chemical Cluster Ankleshwar	6.	Chemical cluster, Vapi
7.	Machine Tools, Bangalore	8.	Coir cluster, Allepey
9.	Auto Cluster, Pitampura	10.	Textile cluster, Tirupur
11.	Textile Cluster, Ludhiana	12.	Cereals Cluster, Madurai
13.	Gems and Jewellery, Surat	14.	Auto Cluster, Chennai
15.	Marble Cluster, Kishangarh	16.	Foundry Industrial Cluster, Belguam
17.	Woolen Blankets and Furnishings Cluster, Panipat.		

Annex Box 12.1.3
Textile cluster, Tirupur-PPP example

Profile	: India's leading cotton knitwear centre with exports of Rs.6000 crore. A target for doubling exports in five years has been set.
No. of units	: 4000
Employment	: 2.5 lakh (of which women are 1 lakh)
Infrastructure constraints	: water supply, road network, waste water treatment, R & D centre.
Project	: Supply of 185 mld water, CETP, R & D Centre, Working women's hostel etc.
SPV	: New Tirupur Area Development Corporation Ltd.
Cost	: Rs.1023 cr.
Funding	: Equity Rs.372.70 crore Grant (IIUS) Rs.50 crore Debt Rs.622.80 crore Subordinate debt Rs.86.50 crore
Salient features	• Public-private partnership approach. • First water and sanitation project with private participation. • Commercial model of project components through 'willingness to pay' approach for user industries.

all laws and rules are available. Recognising the critical importance of awareness of IP systems for scientific and business community, IP offices have been undertaking awareness generation programmes and assisting other organisations in similar activities.

Under the project on modernisation of Patent Offices, online search facilities were established; CD-ROMs of patent databases of UK, USA and European Patent Office were acquired; manual of patent office procedure and practices prepared to ensure uniformity in operation; digitization of over 1,00,000 patent record completed, etc. These steps resulted in significant improvement in performance of the office and the office achieved around four times increase in number of applications examined (from 2,824 in 1999-2000 to 10,709 in 2003-04).

Under the modernisation project, backlog of about 450,000 trademark applications pending at various stages were liquidated at all stages except contest case. Online linkage of all branch offices was established and all branches are receiving applications and issuing allocation numbers on the same day. Pre-examination activities such as creation of physical file, data entry, codification and scanning of device marks etc. are being done on the very day of receipt of application. The examination of new applications is being taken up within two weeks. Accepted Trademark applications are being published in CD Journal since July, 2004 and paper publication of Trademarks Journal has been discontinued. Across the counter renewal and post registration requests in clear cases is done instantaneously. Computerized Public Search facility has been made functional at all TMR offices/ Time being taken for processing of trademark applications at varying stages is substantially less compared to statutory upper time limits.

Annexure 12.2

Plan Outlays And Expenditure Under Major Sectors/Heads Of Development During Tenth Plan
(At current prices)

(Rs. Crores)

Sl. No.	Major Schemes pertaining to Industry Division	Tenth Plan Outlay (2002-07)	Annual Plan (2002-03) Actual Expend.	Annual Plan (2003-04) Actual Expend.	Annual Plan (2004-05) RE	Annual Plan (2005-06) BE	**Total of four years in Tenth Plan**	**%age of col. (8) to col. (4)**
	D/o Industrial Policy & Promotion	2000	**273.48**	232.92	400	550	**1456.4**	72.82
1	Upgradation of Industrial Clusters Scheme	675	0	37.5	175	275	487.5	72.22
2	Indian Leather Dev. Programme (ILDP)	400	1.5	0.59	9	75	86.09	21.52
3	Technology Upgradation/ Modernisation Scheme	219	0	0	0.32	0	0.32	0.15
4	Support to Autonomous Institutions	209	45.82	40.31	24.2	37.77	148.1	70.86
5	Transport Subsidy	100	109	13.8	27	5	154.8	154.8
6	North East Packages including incentives	210	20.68	5.83	40.28	55.03	121.62	57.91
	Ministry of Textiles*	3580	**602.54**	631.87	750	1150	**3134.41**	**87.55**
1	Cotton Technology Mission	150	30	30	35	80	175	116.67
2	Apparel Park	75	0	10.14	25	100	135.14	180.19
3	Infrastructural Development	75	0	10.93	15	100	125.93	167.91
4	TUFS	1270	202.59	248.97	294	450	1195.56	94.14
5	NIFT	110	13.73	23	25	12.78	74.51	67.74
	Department of Heavy Industry	**2062.59**	**272.59**	265.27	**282.4**	804.87	**1625.13**	78.79
1	Support to Existing PSUs on Project Basis	269.25	240.23	237.89	243.03	551.17	1272.32	472.54
2	Lump Sum Provision for AMR	1507.09	3.02	0	5	7	15.02	1
3	Testing Facilities for Automobile	150	25	20	29	181	255	170
4	Others	136.25	4.34	7.38	5.37	65.7	82.79	60.76
	Department of Fertilisers	**5900**	**699.12**	**436.49**	**443.63**	1017.3	**2596.54**	**44.01**
1	Support to Existing PSUs on Project Basis	3300	289.56	206.17	262.42	457.26	1215.41	36.83
2	Support to Existing Co-operatives on Project Basis	2490	388.76	203.82	158.5	542	1293.08	51.93
3	Others	110	20.8	26.5	22.71	18.04	88.05	80.05
	Department of Chemicals & Petrochemicals	3044	45.82	47	60	106.1	258.92	8.51
1	Support to Existing PSUs on Project Basis	2784.03	19.2	17.03	20.2	41	97.43	3.5
2	Support to Auronomous Bodies on Project Basis	170.07	23.47	23.13	25.33	55.45	127.38	74.9
3	Others	89.9	3.15	6.84	14.47	9.65	34.11	37.94
	Department of Consumer Affairs	55	**6.99**	8.26	**19.55**	107.94	**142.74**	**259.53**
1	Consumer Protection	15.5	2.85	3.1	8.59	96	110.54	713.16
2	Others	39.5	4.14	5.16	10.96	11.94	32.2	81.52
	Ministry of Steel (Support to PSUs)#	11044	**434.34**	699.45	1134.72	2466.12	**4734.63**	42.87
	Department of Public Enterprises	50	**8.67**	8.81	**26.5**	30	**73.98**	147.96

*including VSE components #including Mineral industry components

Annexure 12.3

Physical performance of the VSE sector (sub-sector wise)

S. No	Industry/Sub-sector	Unit	Tenth Plan targets 2006-07 terminal year	2002-03 Actual	2003-04		2004-05	
					Target	Anticipated Achieve-ment	Target	Achieve-ment up to Nov.04
	2	3	4	5	6	7	8	
I	**Production**							
1	Small Scale Ind.	Rs. crore	566404	311993	330000	351133	429548	358000
2	Khadi Cloth	Rs. crore	750	443	474.75	451.93	511.61	425
3	Village Industries	Rs. crore	12500	8126.30	9377.10	9263.98	10886.45	8000
4	Coir Fibre	000 tons	435	353.70	410	364	400	280
5	Handloom Cloth	Mill Sqm	10000	5980	6200	5518	5500	2628
6	Powerloom Cloth	Mill Sqm	132821	24360	25406	26800	30000	25000
7	Raw Silk	MT	26450	16319	19900	15842	17920	N.A.
8	Handicrafts	Rs. crore	47204	19565	20356	20356	26774	16058
9	Raw wool	Mill. Kg.	49	52.10	53.60	53.00	55.10	50.00
II	**Employment**							
1	Small Scale Ind.	Lakh Persons	237	261.38	209.03	203.97	217.80	210
2	Khadi & Village Ind.	-do-	89.50	66.45	71.38	71.17	76.82	72
3	Coir Industries	-do-	6.50	5.78	5.98	5.86	6.06	6
4	Handlooms	-do-	120	120	120	120	120	120
5	Powerlooms	-do-	45	42.50	Not fixed	Not fixed	Not fixed	52
6	Sericulture	-do-	60.03	56.00	57.50	56.50	58.40	55
7	Handicrafts	-do-	67.70	60. 16	62	61.96	63.81	63
8	Wool Development (Unorganised Sector)	-do-	7	5.5	5.5	5.5	5.5	5.5
III	**Exports**							
1	Small Scale Ind.	Rs. crore	120000	86013		N.A.	93653	N.A.
2	Coir Industry	Rs. crore	700	352	500	407.50	560	N.A.
3	Silk	Rs.crore	4050	2130	2556	2523	2940	N.A.
4	Handicrafts	Rs. crore	17000	10934	11604	12765	14900	5972

Annexure 12.4

Financial performance of the VSE sector (sub-sector wise)

(Rs. crore)

S. No	Industry/ Sub Sector	Tenth Plan Outlay	2002-03		2003-04		2004-05
			Outlay	Expenditure	Outlay	Expenditure	Outlay
I.	Min of SSI						
1	SIDO	1992.00	306.85	249.30	298.31	294.27	315.55
2	NSIC	564.00 (IEBR-384)	117.00 (IEBR-85)	97.26 (IEBR-71.61)	90.00 (IEBR-50)	72.41 (IEBR-34.28)	102.00 (IEBR-62)
3	Other Sch.	28.00	11.15	8.58	11.69	7.22	10.45
	Total of SSI	2584.00 (IEBR-384)	435.00 (IEBR-85)	355.14 (IEBR-71.61)	400.00 (IEBR-50)	373.90 (IEBR-34.28)	428.00 (IEBR-62)
II.	Min of ARI						
4	KVI	2080.00	392.00	340.55	392.00	423.60	437.00
5	Coir	115.00	18.00	13.77	18.00	14.52	18.00
6	PMRY	755.00	169.00	168.10	169.00	167.83	182.50
7	NPRI		1.00	0.00	1.00	0.18	0.50
	Total of ARI	2950.00	580.00	522.42	580.00	606.13	638.00
III.	Textiles(VSE)						
8	Handlooms	625.00	140.00	130.66	156.77	137.27	154.56
9	Powerlooms	60.00	12.00	4.52	14.00	8.47	12.28
10	Handicrafts	425.00	88.00	64.98	103.55	64.32	103.00
11	Sericulture	450.00	87.50	90.59	92.68	89.68	102.46
12	Wool	40.00	8.00	6.29	13.00	10.00	12.00
	Total of Textiles (VSE)	1600.00	335.50	297.04	380.00	323.58	384.30
IV.	Total of FPI	650.00	75.00	72.99	75.00	65.00	110.00
	Total of VSE	7784.00 (IEBR-384)	1425.50 (IEBR-85)	1247.59 (IEBR-71.61)	1435.00 (IEBR-50)	1368.61 (IEBR-34.28)	1560.30 (IEBR-62)

Annexure 12.5a

Comparison of Plan Outlays and Expenditure Under Major Sectors/Heads of Development During Ninth and Tenth Plan Periods for Central Plan

SUBJECT DIVISION - INDUSTRY AND MINREALS

Rs. crore at 2001-02 prices

Sectors/Heads of Department	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	A.P. 2002-03 (Actual Expend.)	A.P. 2003-04 (Actual Expend.)	A.P. 2004-05 (RE)	2005-06 (BE)	Total of four years in Tenth Plan	%age of col.9 to col.4
	Plan Outlay	**Reali-sation**							
1	2	3	4	5	6	7	8	9	10
Ministry of Mines	7753.96	4725.72	8344.50*	786.08	462.01	349.25	575.41	2172.75	26.04

* Excluding outlay Rs.1113.5 crores for HZL since disinvested

Annexure 12.5b

Comparison Of Plan Outlays And Expenditure Under Major Sectors/Heads Of Development During Ninth And Tenth Plan Periods For Central Plan

SUBEJCT DIVISION INDUSTRY AND MINREALS (Rs. crore at current prices)

Sectors/ Heads of Department	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	A.P. 2002-03 (Actual Expend.)	A.P. 2003-04 (Actual Expend.)	A.P. 2004-05 (RE)	2005-06 (BE)	Total of four years in Tenth Plan	% age of col.9 to col.4
	Plan Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10
Ministry of Mines	7753.96	4725.72	8344.50*	815.16	494.26	396.05	685.14	2390.61	28.65

* Excluding outlay Rs.1113.5 crores for HZL since disinvested

Comparison of Plan Outlays and Expenditure Under Major Sectors/Heads of Development During Ninth and Tenth Plan Periods for States And UTs

SUBEJCT DIVISION- INDUSTRY&MINERALS (Rs. crore at 2001-02 prices)

Sectors/Heads of Department	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	A.P. 2002-03 (Actual Expend.)	A.P. 2003-04 BE	A.P. 2004-05 (RE) BE	AP2005-06 BE	Total of four years in Tenth Plan	% age of col.9 to col.4
	Plan Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10
STATES	1208.71	413.99	1039.94	150.92	136.33	215.45	N.A.		
UNION TERRITORIES	0	0	0	0.46	0.00	0.00	N.A.		
TOTAL	1208.71	413.99	1039.94	151.38	136.33	215.45	N.A.		

Comparison Of Plan Outlays And Expenditure Under Major Sectors/Heads Of Development During Ninth And Tenth Plan Periods For States And UTs

SUBEJCT DIVISION-INDUSTRY&MINERALS (Rs. crores at current prices)

Sectors/Heads of Department	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	A.P. 2002-03 (Actual Expend.)	A.P. 2003-04 BE	A.P. 2004-05 (RE) BE	AP 2005-06 BE	Total of four years in Tenth Plan	%age of col.9 to col.4
	Plan Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10
STATES	1208.71	413.99	1039.94	156.5	145.85	244.32	N.A.		
UNION TERRITORIES	0	0	0	0.48	0	0	N.A.		
TOTAL	1208.71	413.99	1039.94	156.98	145.85	244.32	N.A.		

Tourism Sector

13.1 The Tenth Five-Year Plan recognises the vast employment generating potential of tourism and the role it can play in furthering the Plan's socio-economic objectives. The travel and tourism sector creates more jobs per million rupees of investment than any other sector of the economy. More importantly, this employment is generated rapidly at a relatively low cost across a wide spectrum of skills.

13.2 The Tenth Plan has assessed the employment in the travel and tourism sector (both domestic and international) to be 25 million, and set a target of creating 3.6 million jobs a year However, since the jobs span a number of services, notably hotels, restaurants and transport, it is difficult to estimate the direct and indirect effects of tourism on employment and the income of local households. The Ministry of Tourism is making efforts to establish a Tourism Satellite Accounts (TSA) system to measure such impact.

13.3 India's share in international tourist arrivals was 0.34 per cent in 2002 and increased to 0.40 per cent during 2003. The trend has been maintained in 2004, when international tourist arrivals touched 3.37 million, an increase of 23.5 per cent over arrivals in 2003. The Tenth Plan aims to enhance India's share of international arrivals to at least 0.62 per cent by 2007 and the prospects of achieving this target appear to be good. Domestic tourism is estimated to be much higher than international tourism and has also been rising rapidly.

PROGRESS IN THE TENTH PLAN

13.4 Recognising the potential of tourism as an engine of economic growth, the allocation to this sector was increased from 0.27 per cent of total gross budgetary support in the Ninth Plan to 0.71 per cent in the Tenth Plan. The Central Plan outlay for the sector for the Tenth Plan has been increased to Rs.2,900 crore from Rs.595 crore in the Ninth Plan. In addition, substantial investments are planned for road, rail and air transport, urban infrastructure and in the culture sector. A statement showing scheme-wise approved Plan outlay and expenditure for 2002-03 and 2003-04, the Budget Estimates and Revised Estimates for 2004-05 and Budget Estimates for 2005-06 is given in Annexure 13.1.

13.5 Plan expenditure on development of the tourism sector by states/Union Territories in the Ninth Plan was Rs.1108.72 crore against an outlay of Rs.1687.30 crore. In view of the importance of the sector, the Tenth Plan allocations for states/Union Territories were increased to Rs.4602.44 crore. Actual expenditure at current prices during 2002-03 was Rs.323.36 crore, which significantly increased to Rs.502.37 crore in 2003-04 and then to Rs.568.57 crore in the Budget Estimates for 2004-05. Details of Plan allocations and expenditure by state/Union Territories for the Ninth and Tenth Plans (at constant prices 2001-02) are given in Annexure 13.2.

STRATEGIC OBJECTIVES FOR TENTH PLAN

13.6 The Tenth Plan's vision for tourism development is to be achieved through the following five key strategic objectives:

- Positioning tourism as a national priority.
- Enhancing India's competitiveness as a tourism destination.
- Improving and expanding product development.
- Creating world class infrastructure.
- Drawing up effective marketing plans and programmes.

POSITIONING TOURISM AS A NATIONAL PRIORITY

13.7 In order to give greater impetus to the development and promotion of tourism, the Ministry of Tourism constituted a National Tourism Advisory Council (NTAC) in 2002. The State Tourism Ministers' Conference, in September 2002, discussed the need for putting tourism in the Concurrent List of the Constitution, rationalisation of taxes on hotels and tourist vehicles, completion of all projects pending from the earlier Plans and active coordination between different agencies at the Central and state levels. All but eight states - Tamil Nadu, Karnataka, Andhra Pradesh, Kerala, Maharashtra, Punjab, Haryana and Jammu and Kashmir - have agreed to the inclusion of tourism in the Concurrent List. The dissenting states have argued that major components of the tourism sector are presently in the State List and inclusion of the sector in the Concurrent List would reduce the autonomy of states.

ENHANCING INDIA'S COMPETITIVENESS AS A TOURIST DESTINATION

13.8 India's competitiveness as a tourist destination is affected by the high cost of air travel. The inadequate number of international flights allowed into the country in the bilateral civil aviation agreements puts a constraint on the availability of air seats for international tourists and leads to an increase in the air fares compared to fares for other destinations. For the last two years, an open skies policy has been declared on an ad hoc basis in the five winter months in order to make more seats available for the traditional rush season. However, this is not an adequate response since airlines are not able to plan addition to capacity on a long-term basis. In order to make India a major tourist destination, facilities and services at airports, which have been rated by tourists as between poor and average, are to be improved. Presently, Indian airports lag behind in international standards in many respects. Domestic air travel is also expensive compared to neighbouring countries. Central excise duty and high rate of state sales tax - average 25 per cent - on aviation turbine fuel (ATF) constitute 30 percent of operating cost of domestic flights in India. There is need for notifying ATF as a "delared good" attracting only a uniform central sales tax of 4 per cent to reduce the cost of domestic air travel.

13.9 Hotel tariff in India is also very high because municipal bodies auction land for building hotels, which makes it difficult for hoteliers to construct budget hotels. Taxes, such as luxury tax at the state level, also increase the cost of hotel accommodation. High taxation, differential rates of taxes in various states on tourist vehicles, entry tax, and parking charges at each state/destination push up the cost of tourist transport - another key segment of the sector - and also subject the tourists to avoidable harassment because the vehicle needs to stop at each state border to pay the taxes. Tourist Trade Associations estimate that all these factors make India more expensive by 25 per cent to 30 per cent as compared with other tourist destinations in the region.

13.10 To provide for the safety and security of tourists, Andhra Pradesh, Goa, Kerala, Jammu and Kashmir, Rajasthan, Himachal Pradesh, Maharashtra, Uttar Pradesh and Delhi have deployed trained and motivated police force at tourist places. The Centre has taken up with state governments the issue of enactment of a Tourist Trade Act, to conserve and preserve tourist areas and for the approval of persons/agencies/institutions dealing with travel and tourism trade offering quality services. Revised guidelines for tourist guides, travel agents, tour operators and tourist transport operators have been issued to prevent harassment of tourists.

13.11 Hotel management and catering education programmes assume special importance in view of the modernisation and expansion of the country's hospitality industry. Currently, there are 24 Institutes of Hotel Management and six Food Craft Institutes which follow the curriculum of the National Council of Hotel Management and Catering Technology (NCHMCT). The Indian Institute of Travel and Tourism Management (IITTM) at Gwalior caters to the requirement of professionals in the travel and tourism sector. The National Institute of Water Sports at Goa and the Indian Institute of Skiing and Mountaineering at Gulmarg are premier institutes meeting the needs for upgrading the skills of service providers in adventure and water sports. In order to break new ground in culinary arts, the Ministry of Tourism is setting up an Advanced Institute of Culinary Arts as a joint venture with private academic institutions.

13.12 A new scheme on Capacity Building for Service Providers, launched in the Tenth Plan, provides training, through one to five day modules, to persons who are working in the unorganised sectors, and others who come into contact with a large number of tourists, like those working in small hotels, roadside eating places, dhabas, ticketing agents, travel agencies, police personnel etc. The training covers cooking techniques, basic nutrition values, nutrition preservation, etiquette, basic tourism awareness, communication skills, behaviour skills, first aid and also energy conservation. The scheme has provided the basic framework for a countrywide training programme in human resource development for various groups of service providers in the tourism industry.

IMPROVING AND EXPANDING PRODUCT DEVELOPMENT

13.13 The major beneficiaries of tourism development are private sector agencies like tour operators, hotels, transport operators, restaurants etc. There is need for higher levels of participation by the private sector in all stages of tourism development. The Ministry of Tourism has issued guidelines for the privatisation of assets created with Central financial assistance like accommodation units, wayside amenities etc for better management and maintenance. The Ministry has also introduced a scheme for private participation in revenue generating projects with 25 per cent equity from the government. The scheme of the Ministry of Finance for viability gap funding for supporting public-private partnerships in infrastructure covers, inter alia, support for convention centres. The feasibility of covering budget hotel accommodation under the scheme is being considered.

13.14 It is evident from the increased activity in the development of hotels and resorts along the wildlife circuits that the tourism sector is responding to the increasing demand for eco-tourism. India has a significant number of wildlife sanctuaries and national parks and they provide a great opportunity for expanding the tourism market. The Ministry of Tourism formulated a policy on eco-tourism in 1998 involving a selective approach, scientific planning, effective control and continuous monitoring. The cardinal principles of the policy are:

- Involve the local community in tourism activities.
- Identify and attempt to minimise the likely conflicts between use of resources for tourism and livelihood of local inhabitants.
- The form and scale of tourism development should be in harmony with the environment and socio-cultural characteristics of the local community
- It should be planned as a part of the overall area development strategy, guided by an integrated land-use plan and be associated with commensurate expansion of public services.

13.15 Operational guidelines for the implementation of the policy by the states and the tourism trade are also in place. The Central government has also set up a National Committee on Eco-Tourism and Mountains to work out details of managing the fragile eco-system and to consider programmes for development of eco-tourism in the country. The Committee needs to give priority to the eco-systems, which are coming under pressure from growing population and nature-related factors like lower rainfall (See Box 13.1).

13.16 Health tourism is another area with a high potential for growth. Health tourism is non-seasonal and the average length of stay of a person is long, depending upon the medical procedure involved. The low cost of medical treatment,

Box 13.1
Effect of water scarcity on the Keoladeo National Park

The Keoladeo National Park at Bharatpur, spread over an area of 29 sq. km, is among the world's renowned wetlands and has been accorded the status of a Ramsar Wetland and World Heritage Site. Since it is covered by three major eco-systems – wetland, grassland and woodland – the park is home to a variety of animals and bird species as well as plants, around 370 species of birds and 375 species of flowering plants at last count. However, the survival of this wetland depends on assured water availability from July to November. A steady reduction in the availability of water due to various reasons like decreased rainfall and degradation of watershed, to name just two reasons, has resulted in the wetlands and grasslands being invaded by an obnoxious weed, leading to degradation of the habitat.

high level of expertise and varied systems of medicine of India are factors that can lead to an increasing share of health tourists in the total tourist arrivals. The southern states, especially Kerala, have developed health tourism as one of the products for promotion of tourism.

13.17 The Archaeological Survey of India (ASI) looks after the heritage sites that are major tourist attractions. For the integrated development of heritage sites, the Ministry of Tourism has taken up a large number of projects during the Tenth Plan period involving upgrading of facilities in the most popular sites in close co-ordination with the ASI. Action Plans are being formulated with the active involvement of state governments for developing popular heritage sites outside the purview of the ASI through public-private partnerships. Public sector and private sector organisations are being encouraged to adopt some of the well-known heritage sites under the ASI for maintenance under the National Cultural Fund (See Box 13.2). ASI levies entry charges to each heritage site. In order to make lesser-known heritage sites also attractive in a region, a scheme should be introduced to facilitate tourists to visit the maximum number of heritage sites with concessional entry charges.

CREATION OF WORLD-CLASS INFRASTRUCTURE

13.18 In order to develop and facilitate tourism, it is as necessary to improve the general physical infrastructure and not just tourism-specific infrastructure. Of the 1,310 tourism projects which were carried forward into the Tenth Plan, only 740 projects remained to be completed at the end of 2003-04. In the

Box 13.2
Monuments adopted by private and public sector organisations

Sponsoring agency	National monument
Aga Khan Foundation & Oberoi Group of Hotels	Humayun Tomb, New Delhi
Apeejay Surendra Hotels	Jantar Mantar, New Delhi
Pune Municipal Corporation	Shaniwarwada, Pune
Indian Hotels Company Ltd. (Tata Group)	Taj Mahal, Agra
Indian Oil Corporation	Qutab Minar, (New Delhi) Hampi (Karnataka) Sun Temple, Konark (Orissa) Kanheri Caves (Maharashtra) Khajuraho monuments (Madhya Pradesh)

Tenth Plan the pre-existing tourism infrastructure schemes were merged into two major schemes – Integrated Development of Tourism Circuits and Product Infrastructure and Destination Development. The projects are now fully funded by the Government of India and the state governments have to provide mainly land and the external infrastructure. They also have to assume the responsibility for the maintenance of the assets created.

13.19 Under the scheme of Integrated Development of Tourist Circuits, six tourism circuits are to be identified on an annual basis (one in each zone) for development to international levels. Funds to a maximum of Rs 8 crore per circuit is made available to the state governments for implementation based on the project proposals. Since a circuit consists of a minimum of three destinations, the amount available is found to be inadequate and the Ministry of Tourism is considering enhancing the funding. The objective of the scheme is to provide all infrastructure facilities required by the tourists within the identified circuits. Activities include improvement of surroundings, landscaping, fencing, development of parks, illumination, water management, besides the provision of budget accommodation, wayside amenities, signages, reception centres, and refurbishment of monuments. The scheme envisages convergence of resources and expertise through coordinated action with other departments, the states and the private sector. During the first two years of the Plan, 24 circuits have been selected and more circuits are being identified region-wise in consultation with the state governments.

13.20 The focus of the Product/Infrastructure and Destination Development Scheme is to improve existing products and developing new products to international levels in identified destinations. Funds to a maximum of Rs 5 crore per destination is made available to state governments for implementation based on the project proposals. The Ministry of Tourism is considering enhancing the funding, since the present allocation of funds has been found to be inadequate to meet the development needs. Activities carried out are similar to those in the Integrated Development of Tourism Circuits scheme. New emerging areas like rural tourism, heritage tourism, eco-tourism, health tourism and wildlife tourism get priority under this scheme. Development work was taken up at 12 destinations during 2002-03, and at 41 in 2003-04.

13.21 A new scheme of Tourism Infrastructure Development Fund is under consideration to improve the infrastructure at various destinations. The north-eastern region has been given an allocation of 10 per cent of the Annual Plan outlay and the activities in this region are covered under both these schemes. A Jammu and Kashmir package to revive tourism activities in the state was introduced in 2003-04. A small outlay has been provided for computerisation to improve the use of information technology in the tourism administration at the state level.

13.22 Support in the form of grant is provided to large revenue generating projects through the Tourism Finance Corporation, State Industrial Development Corporation, Industrial Development Bank of India and the State Financial Corporations under the scheme of Assistance to Large Revenue Generating Projects. Projects sanctioned in the Tenth Plan so far include introduction of the Karnataka luxury train, establishment of a Convention Centre at Surajkund (Haryana), erection of a passenger ropeway at Kodaikanal (Tamil Nadu) and development of Marina at Bolghatty Island, Kochi (Kerala).

13.23 Some improvement of the road infrastructure has been accomplished through the Golden Quadrilateral and North-South and East-West projects covering the National Highways. However, the connectivity of tourist destinations and circuits and cultural/heritage sites has not yet been given priority. Many of the tourist destinations are away from National Highways and lack road connectivity of the desired standard. Out of the 26 World Heritage Sites in the country, 20 sites deserve improved road connectivity to attract tourist traffic. All these sites should be connected with nearest National Highway by declaring the connecting state or district roads as national highways. Shabby urban infrastructure in tourist destinations such as Agra, Bodh Gaya and Varanasi also deters the growth of tourism. An integrated plan, including special tourist trains, needs to be prepared for improving the connectivity and urban infrastructure in Buddhist sites, which have potential to attract large international tourist traffic from East and South East Asia.

13.24 Hotel accommodation remains a vital area of concern. Though accommodation infrastructure has grown from 8,000 rooms to 85,481 rooms in the last 30 years, according to the World Tourism and Travel Council estimates, India needs 1,60,000 rooms to accommodate the projected tourist arrival of 5.89 million by 2010 and 3,00,000 rooms by 2020 to meet the projected tourist arrivals of 8.90 million. China, Thailand and Malaysia have a higher number of rooms (See Box 13.3). The number of hotels set up under the budget category increased from 890 hotels with 35,888 rooms in 1999 to 1,285 hotels with 50,306 rooms in 2003. The additional demand for budget rooms for the next five years is placed at 50,000. The high cost of land and multiple requirements of permissions/clearances make establishing hotels a costly and cumbersome proposition. A number of fiscal incentives and concessions have been granted in order to encourage the expansion of available accommodation in general, and of budget hotels in particular.

13.25 The critical constraint for building hotels is the availability of land. The Ministry of Tourism has proposed to the state governments to identify hotel sites and make them available to entrepreneurs on suitable terms, perhaps on long-term lease. It has also approached the Ministry of Railways to identify and provide sites for setting up budget hotels. Expansion of hotel rooms on the scale required involves massive investment. For example, construction of 160,000 rooms by 2010, at an average cost of Rs.30 lakh per room would involve an investment of Rs.48,000 crore over the next five years. States wishing to attract such investment, with all its other favourable impacts, should be willing to make special efforts to allocate land.

Box 13.3
Country-wise comparison of number of hotel rooms in 2002

China	8,97,206
Thailand	*3,20,565
Malaysia	*1,30,757
India	85,481
Singapore	35,989

Source: World Tourism Organisation
* For 2001

13.26 The Ministry of Tourism had also initiated a scheme of Paying Guest Accommodation in pursuance of the National Action Plan for Tourism in 1992. The idea behind the scheme was to supplement the availability of accommodation and provide both domestic and international tourists affordable and hygienic places to stay. The scheme was transferred to the state governments in 1995. The scheme has not taken off except in a few states and the Ministry is considering its revival to meet the shortage in budget accommodation.

REVIVAL OF TOURISM IN JAMMU AND KASHMIR

13.27 After more than a decade of decline in tourism in Jammu and Kashmir, a revival trend was observed in 2003. The Central government introduced a package to assist the tourst-related service providers in the state. Hotels, guesthouses, shikara owners, and pony-wallahs are eligible for soft loans through banks at an interest rate of 4 per cent. The Ministry of Tourism subsidises the banks the difference between prime lending rate and this concessional rate of interest. The construction of the Indian Institute of Skiing and Mountaineering at Gulmarg has been revived and is expected to be completed by 2005 as a Central sector scheme. Construction of the Institute of Hotel Management has also been revived and is likely to be completed by 2005. As a follow up of the Prime Minister's announcement of a reconstruction plan for the state in November 2004, funds have been earmarked in the Annual Plan for 2005-06 of the Ministry of Tourism for tourism projects.

THE WAY FORWARD

- Set up budget hotels in order to maintain India's competitiveness as a tourist destination. To speed up the creation of additional rooms it is necessary to:
  - increase the supply of land by making available sites on Central government land (e.g. cantonment and railway land) and state-owned land for construction of hotels;
  - relax the municipal and zone restrictions;
  - facilitate identification of hotel sites and their allocation by state governments to deserving entrepreneurs with facilities for speedy single window clearances through various governmental bodies;
  - recognise and approve residential lodges and inns in cities such as Delhi, Agra and Jaipur;
  - approve and register paying guest arrangements; and
  - consider basing the luxury tax on the actual room rent charged rather than on rack rates.
- Develop the major airports at New Delhi and Mumbai into world-class airports. Upgrade other international airports as well, in order to meet the requirement for growth of international and domestic traffic at the rate of 12 per cent per annum.
- Increase the number of international flights, which are currently affected by the restrictive bilateral regime. The present ad-hoc arrangement, in which an open-skies policy is introduced during the rush tourist period every year, militates against long-term planning by airlines and the cost of travel remains high.
- Bring down sales tax on ATF, currently ranging from 4 per cent to 36 per cent in various states, to a uniform level of 4 per cent by notifying ATF as a 'declared good' attracting only Central sales tax. ATF constitutes 30 per cent of the operating cost for domestic flights and one-third of its cost is on account of taxes.
- Take up work relating to road connectivity of 20 world heritage sites and other places of tourist importance identified by the Ministry of Tourism. This involves the improvement of State Highways and District Roads and should be undertaken during the Tenth Plan period after notifying the State Highways and District Roads as National Highways.
- Put in place a policy for national level tourist vehicle registration with provision for free movement, without taxes at entry and exit points for hassle-free movement and lower cost for the tourists.
- Introduce a scheme under which tourists can pay concessional entry charges if they visit a number of heritage sites during their trip. Open up hitherto undeveloped archaeological sites for development and maintenance through public-private partnerships
- Modernise and update the curricula of institutes offering courses in Hotel Management/Catering Technology/ Tourism. This must be done in addition to initiating large-scale Master Trainers and Training of Trainers Programmes and exposing existing trainers to the changes in the hospitality industry through refresher courses.
- Prepare an integrated plan for improving the connectivity and urban infrastructure in Buddhist sites, which have potential to attract large international tourist traffic from East and South East Asia. The plan, to be prepared by the Ministry of Tourism in collaboration with the concerned state governments, should include proposals for special trains like the Palace on Wheels and the Deccan Odyssey through public private partnership arrangements.

Annexure 13.1

Scheme-wise approved Plan outlay and expenditure of the Ministry of Tourism for 2002-03, 2003-04, 2004-05 and Budget Estimates for 2005-06

(Rs in crore)

S. No.	Name of the Scheme	Annual Plan (2002-03) BE	Actual expen-diture 2002-03	Annual Plan (2003-04) BE	Actual Expenditure (2003-04) RE	Annual Plan (2004-05) BE	Annual Plan (2004-05) RE	Annual Plan (2005-06) BE
I	CENTRAL SECTOR SCHEMES (CS)							
1.1	Externally Aided Projects	7.50	7.50	5.00	5.00	10.00	10.00	14.00
1.2	Assistance to IHMs/FCIs/ETC.	5.00	5.50	17.50	17.50	25.00	25.00	30.00
1.3	Capacity Building for Service Providers	1.50	1.64	2.00	2.00	3.00	3.00	15.00
1.4	Overseas Promotion & Publicity	34.00	36.36	56.00	56.00	90.00	90.00	140.00
1.5	Domestic Promotion and Publicity including Hospitality	6.00	8.29	12.00	12.00	14.00	14.00	70.00
1.6	Incentive to Accommodation Infrastructure	2.00	2.00	10.00	10.00	10.00	10.00	10.00
1.7	Building for IISM at Gulmarg, Kashmir	-	-	-	0.50	6.00	6.00	6.00
	Ongoing 9th Plan schemes	36.50	10.40	-	-	-	-	-
1.8	Total - CS Schemes (1.1 - 1.7)	92.50	97.38	102.50	103.00	158.00	158.00	338.00
II	CENTRALLY SPONSORED SCHEMES (CSS)							
2.1	Computerization and Information Technology	6.00	6.00	9.00	9.00	17.00	17.00	20.00**
2.2	Market Research including 20 years' Perspective Plan	3.50	4.00	3.00	3.00	3.00	3.00	-***
2.3	Integrated Development of Tourist Circuits	41.50	46.92	60.00	77.50	85.00	85.00	***-
2.4	Product/Infrastructure and Destination Development	43.00	48.95	100.00	100.00	140.00	140.00	359.00
2.5	Assistance for Large Revenue Generating Projects	6.00	6.00	18.00	18.00	18.00	18.00	30.00**
	Ongoing 9th Plan schemes	35.00	42.79	-	-	-	-	-
2.6	Revival of Tourism in J&K	-	-	-	7.00	9.00	9.00	-@
2.7	Tourism Infrastructure Development Fund	-		-	-	20.00*	20.00*	10.00*
2.8	**Total - CSS Scheme (2.1 - 27)**	135.00	**154.66**	190.00	**214.50**	**292.00**	**292.00**	**369.00**
2.9	**Total CS & CSS Schemes (1.8 +2.8**	227.50	**252.04**	292.50	**317.50**	**450.00**	**450.00**	707.00
III	10% lump sum provision for North East Region & Sikkim							
	- Capital	17.50	-	22.50	22.50	35.00	35.00	-
	- Revenue	5.00	-	10.00	10.00	15.00	15.00	-
3.1	Total - N- E Region & Sikkim	22.50	-	32.50	32.50	50.00	50.00	79.00
3.2	**GRAND TOTAL (2.9 + 3.1)**	250.00	**252.04**	325.00	**350.00**	500.00	**500.00**	786.00

*New Scheme announced in 2003-04. ** Scheme included as CS. *** Merged with Product/Infrastructure and Destination Development Scheme. @ Provision for J&K package earmarked in the allocation for Product/Infrastructure and Destination Development Scheme.*

Annexure 13.2

Comparison of Plan outlays and expenditure under tourism during the Ninth and Tenth Plan periods for Central and state Plan

(Rs. crore at 2001-02 prices)

Sector	Ninth Plan (1997-2002)		Tenth Plan Outlay (2002-07)	2002-03 (Actual expen-diture)	2003-04 (Actual expen-diture)	2004-05 (RE)	2005-06 (BE)	Total of four years in Tenth Plan	% age Col (9) to Col.(4)
	Plan Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10
CENTRAL PLAN									
Ministry of Tourism									
Tourism	595.00	589.22	2900	241.08	322.16	440.91	660.12	1669.27	57.6
STATE / UT PLAN									
States and UTs									
Tourism	1687.30	1108.72	4602.44	311.83	469.59	501.38	-	*1282.80	27.9

* For first three years.

Environment and Forests

14.1 The Tenth Plan had recognized that environmental sustainability "is not an option but an imperative". Clean air, pure water, conservation of forests and wild life and generation of greenery are the essentials for a healthy environment. Prevention of degradation of land, controlling floods and droughts, preventing desertification, conservation of fragile eco-system, prevention of deforestation, conserving bio-diversity and mitigating water and air pollution all present challenges for planners and policy makers.

14.2 The Tenth plan, while emphasizing the need for balanced and sustainable economic development along with sustainability of the environment for healthy living, also established the following quantitative targets for the Environment and Forest sector:

- Increase in forest and tree cover to 25 per cent by 2007 and 33 per cent by 2012 as against the baseline cover of 23.03 per cent in 2001.
- Cleaning of major polluted rivers by 2007 and other notified stretches by 2012.

14.3 However, in spite of 1.1 million hectares (ha) being covered under afforestation programmes annually, the total forest cover remains inadequate, which is largely on account of inadequate resources made available.

14.4 Though the National River Conservation Programme has covered 157 towns along the polluted stretches of 31 rivers in 18 States, 1234 million litres per day (MLD) of sewage treatment capacity had been created till October 2004 and the figure is likely to increase to 1588 MLD by the end of the Tenth Plan, which will be 30 per cent of the required 5331 MLD. The water quality in most of the rivers has reasonably improved. The Biological Oxygen Demand (BOD), a cardinal measure of presence of sewage in water, is within the prescribed standard at most major cities along the Ganges. However, the water quality of Yamuna at Delhi remains well below the standard, and given the large increase in the population of Delhi and other cities along the river, significant additional resources are needed to address this problem.

14.5 Air and Water quality monitoring programmes are confined to a limited number of towns and cities mainly on account of limited resources. The results invariably show higher level of suspended particulate matter in the air than standard norms, which again is largely attributed to the natural dust augmented by fly ash from the thermal power plants and other industrial emission. The level of sulphur dioxide has stabilized well within limit and nitrogen dioxide level in major metro areas is now within the standards. Efforts for conservation of mangroves, coral reefs, bio-diversity etc. need to be intensified. Enhanced efforts also need to be made for development of lakes and wetlands.

PROGRESS IN TENTH PLAN

14.6 The Tenth Plan outlay for programmes related to environmental concerns, forestry development, wild life protection, river and lake conservation and animal welfare was Rs.5,945 crores. Of this, Rs.1,200 crore was earmarked for the environment sector, Rs.2,100 crore for forestry and eco-development, Rs.800 crore for wildlife protection and Rs.1,670 crore for river and lake conservation, and Rs.175 crore for animal welfare

14.7 Table 14.1 provides Central Sector scheme-wise data on Ninth Plan realization and outlays and expenditure at 2001-02 prices, incurred in the first three years of Tenth Plan.

The expenditure during the first two years (2002-03 and 2003-04) was Rs.1,746.57 crore and the revised estimates for 2004-05 put expenditure at Rs.925.93 crore. Thus, it is expected that 45 per cent of the outlay would be utilized during the first three years if the current year's outlay is fully utilized, leaving a balance of 55 per cent of outlay to be utilized in the remaining two years. This represents 91.2 per cent of the BEs for the first three years. The financial performance was, therefore, below expectation in relation to BEs. A comparative picture of State- level outlays and expenditure for the Ninth Plan and Tenth Plan at 2001-02 prices is given in **Annexure 14.1 and 14.2.**

Air and Water

14.8 The Central Pollution Control Board (CPCB) has been monitoring the quality of water in rivers and lakes and in the coastal belts in 870 locations. A total of 86 polluted stretches have been identified and action plans for improving the water quality are being prepared. The ambient air quality, including significant parameters like benzene and poly aromatic hydrocarbons has been measured at 315 locations in 113 cities/towns. The level of suspended particulate matter (SPM) has been found to be high in most of the metro-cities as well as in some Class-I cities. The annual average value of SPM ranges between 200 mg/m^3 and 600 mg/m^3 as against standard norms of 360 mg./m^3. Particular attention needs to be given to 72 non-attainment cities, which are perpetually above standard norms. However, interventions for SPM are difficult for India, on account of high levels of suspended natural dust. Other parameters like levels of sulphur dioxide, nitrogen dioxide etc. have stabilized within the norms in all metro areas. Sanitation status reports on Class-I and II towns have been prepared and it was found that only 38 per cent of the sewage water is treated while the remaining is discharged without any treatment. Additional resources are necessary to cover the balance and the likely increase on account of increase in urban population along the rivers.

14.9 The CPCB also prepares action plans for pollution control, which is implemented by the State Pollution Control Boards

Table 14.1
Expenditure in Ninth and Tenth Five Year Plans (Central Sector)

(in Rs Crore at 2001-02 prices)

Sector	Ninth Plan		Tenth Plan Outlay (2002-07)	2002-03 Actual	2003-04 Actual	2004-05 RE	2005-06 BE	Total of four years in Tenth Plan	per-centage of Col. (9) to Col. (4)
	Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10
F and WL	1089.82	924.29	1600.00	235.57	179.98	238.96	218.90	873.42	54.59
NAEB*	686.54	496.13	1300.00	180.59	182.52	236.02	269.46	868.59	66.81
Animal Welfare	20.00	4.01	175.00	14.04	11.12	12.35	15.96	53.47	30.55
NRCD#	989.60	783.46	1670.00	285.04	228.54	280.32	356.93	1150.83	68.91
Environment	1103.37	677.59	1200.00	198.96	143.32	158.28	175.87	676.43	56.37
Lumpsum for North East		60.00			86.89			86.89	
Total	3889.33	2945.48	5945.00	914.20	832.37	925.93	1037.13	3709.63	62.40

*National Afforestation and Eco-development Board.
#National River Conservation Directorate

(SPCBs). Some State Boards are quite competent and active while others need to be activated and strengthened. The CPCB should also undertake following activities on priority basis:

- Setting up of facilities for auto monitoring of air qualities in cities and towns with population of one million and above during the next 2-3 years.
- Bio-monitoring/bio mapping of rivers.
- Enzymatic removal of traces of aromatic compounds from drinking water
- Inspections of Gen-sets manufacturing facilities.
- Efficiency tests of auto-claves for treating bio-medical waste by spore testing.
- Evolving microbiological standards for sewage treatment Plants.
- Formulation of strategy for management of e-wastes and waste-batteries.
- Developing models of Eco-cities.
- Developing models of de-centralized cost-effective sewage treatment facilities for smaller communities.
- Implementation of Plastic Waste Rules.
- Performance evaluation of Common Effluent Treatment Plants (CETPs).
- Setting up of facilities for monitoring of asbestos fibres.

Environmental Clearance

14.10 The process of environmental clearance of various development projects frequently takes a long time due to process deficiencies and inadequate due diligence by project proponents; leading to time and cost over-runs. The revision of the existing Environmental Clearance Process by the Ministry of Environment and Forests in consultation with stake-holders including States is at an advanced stage.

National Environment Policy

14.11 Similarly, formulation of a new National Environment Policy is also in an advanced stage, after consultation with all stake-holders including the private sector, non-government organizations (NGOs) and educational institutions.

Coastal Regulation Zone

14.12 Action on the report of the Committee under Dr. M.S. Swaminathan to review Coastal Regulation Zone Notification 1991, submitted in February 2005, should be finalized at the earliest.

Bio-medical Waste Management

14.13 The Bio-medical Waste (Management and Handling) Rules, 1998, were amended in 2003 to further streamline the management of bio-medical waste, but their implementation needs to be made effective.

Eco-club

14.14 The environmental education and awareness programme should be expanded throughout the country, with special attention to rural areas. The coverage of rural schools coverage under the Eco-club programme should be expanded.

Kyoto Protocol

14.15 Following its ratification by Russia, the Kyoto Protocol has come into force from 16 February 2005. Although, the Designated National Authority (DNA) for the host country's endorsement of proposals seeking benefits under the Clean Development Mechanism (CDM) has been established and a National Action Plan for operationalising CDM in India has been put in place, wide publicity needs to be given to these facilities so that industry can avail trading opportunities. Since this is a new concept and the procedure for availing of the CDM benefit rather complicated, the beneficiaries and the supporting mechanism (NGOs, banks and financial institutions, insurance agencies, civil societies, etc.) need to know the mechanism to be followed for project identification and formulation, baseline definition, quantification of emission reductions, international marketing, etc. A series of CDM capacity Building Workshops, involving the stakeholders, should be organized at national, regional and State levels in association with industry associations and NGOs. All necessary steps must be taken to attract CDM benefit from the countries with obligation to reduce emissions to or below 1990 levels.

Taj Protection Mission

14.16 Under the orders dated 4-9-1996 of the Supreme Court of India in writ petition (civil) 13381/84, Planning Commission has agreed to share equally, with the Government of Uttar Pradesh the estimated cost of RS. 600 crores for various schemes relating to the protection of the Taj Mahal. The Government of India released Rs.130 crore during the Ninth Plan and a provision for the balance of Rs.170 crore was made for the Tenth Plan.

14.17 According to information available with Planning Commission, various works involving a total cost of Rs.220.21 crore were undertaken in the first phase of the project.

Box 14.1
Kyoto Protocol

The challenge of climate change is a global one. The Government of India has demonstrated its continuing commitments to global efforts to address the issue of climate change by acceding to the Kyoto protocol of the United Nations Framework Convention on Climate Change (UNFCCC).

Although the countries of the developing world are more vulnerable to climate change, their contribution to the green house problem bas been relatively smaller than that of the developed ones. Historically, developed countries have been responsible for more than 60 per cent of green house gases (GHGs) added in the last 100 years. According to UNFCCC, since the largest share of historical and current global emission of GHGs has originated in developed countries, they are required to take the lead combating these emissions, which are also the main causes of global warming.

Under UNFCCC and its Kyoto protocol, several innovative mechanisms are available for enabling countries to meet their targets of GHGs emission in the first commitment period 2008-2012 at lowest cost. These mechanisms are market based and called "cooperative implementation mechanism".

One of these mechanisms is known as Clean Development Mechanism (CDM) in which the government or a company in one of the developed nations with a GHG reduction target can invest in a project developed by an entity in a developing country. "Unilateral CDM" project by which an entity in a developing country may also invest in a CDM Project and sell the CER are also entitled to the CDM mechanism. The investors receive certified emission reduction (CERs) verified by an independent operational entity. The CERs can be credited towards the investor's target. The developing nations called "Host Countries (HC)" have to set up a process of approval of these projects. The Host Country's approval ensures that the project meets sustainable development criteria decided by the government of that country.

India is emerging as a leader among developing nations in adopting climate change measures. A portfolio of 71 projects with a projected investment of Rs.6000 crore has been endorsed for the consideration of the Multi-lateral Executive Board. Potential benefit from carbon trading is likely to progressively increase as the first commitment period comes nearer. Although there are many initial bottlenecks in bringing CDM effectively in the developing world, such as the complexity and ambiguity regarding the baseline of the CDM projects, additionality criteria for qualifying CDM benefits, the present low price of CERs and higher transactions cost in obtaining Executive Boards's approval etc., these are expected to improve as the market progressively settles.

These related to improvement in electric supply at Agra, and in the surrounding rural areas including Fatehpur Sikri, water supply, construction of a barrage, solid waste management, storm water drainage system, construction of a bye-pass and improvement of master plan of roads at Agra city etc. The second phase, comprising of six projects at an estimated cost of Rs.220.10 crore, was also approved by Expenditure Finance Committee (EFC) in 2001. However, this was subsequently modified in a review meeting and the cost reduced to Rs.90.23 crore.

14.18 The Planning Commission wanted the impact of the implementation of these two phases to be evaluated before the third phase - comprising seven projects at a cost of Rs.240.78 crore – is taken up. However, no such evaluation has been conducted so far and the implementation of the third phase of the project was initiated by the state Govt. without the necessary approval of the Government of India, which has not released the necessary funds.

Centre for Excellence

14.19 In order to strengthen awareness, research and training in the priorities areas of environmental science and management, a Centre for Excellence scheme was started in 1983. So far, 9 Centres for Excellence have been set up/supported in various areas of environmental science and management. Some of them are: the Centre for Environment Education (CEE), Ahmedabad, CPR Environmental Education Center, Chennai, Salim Ali Center for Ornithology and Natural History, Coimbatore, Centre for Ecological Sciences at Indian Institute of Science, Bangalore. Since the Centres for Excellence supported by Ministry of Environment & Forests are fairly well established and self sustained, any further support to such centers should be programme based.

Hazardous Waste Management

14.20 A total of 13,011 units spread over 373 districts are generating close to 4.4 million tonnes of hazardous wastes. Maharashtra, Gujarat and Tamil Nadu account for over 63 per cent of the total hazardous wastes generated in the country. According to Hazardous Wastes (Managemernt and Handling) Rules, 1989/2000 and 2003, all hazardous wastes are required to be treated and disposed off in the manner prescribed. In the absence of common disposal facilities in the country, small scale units generating hazardous waste have been granted permission to store their wastes temporarily in a secure, lined pit/facility within their premises. It was decided to focus on setting up of 15 common TSDFs (Treatment, Storage and Disposal Facilities) in the Tenth Plan period for the safe management of industrial hazardous waste. Five TSDFs have already been commissioned and are working satisfactorily. Four more are in an advanced stage of commissioning in West Bengal, Karnataka, Haryana and Punjab.

Ganga Action Plan

14.21 The cleaning of the Ganga river, which started about 20 years ago, remains an unfinished task. Under the Ganga Action Plan Phase-I, pollution abatement works were taken up in 1985 in 25 Class-I towns in Uttar Pradesh, Bihar and West Bengal and sewage treatment capacity of 865 MLD was created. Though this phase has been declared complete on 31st March, 2000 at a total cost of Rs.451.70 crore, only about 35 per cent of the pollution load of the river Ganga has been tackled. Nevertheless, the BOD levels at major cities located on the Ganga are within the standard.

14.22 The Ganga Action Plan Phase-II, approved in 1993 for pollution abatement in Ganga's tributaries (Yamuna, Damodar and Gomti), was merged with National River Conservation Plan (NRCP) in 1996 and it covers pollution abatement works in 95 towns located along the River Ganga and its tributaries in seven States. It is estimated that another 30 per cent of the pollution load of Ganga would be covered on completion of on-going works under the NRCP. However, there will still be a gap of nearly 35 per cent of the pollution load to be addressed in future.

14.23 Though fairly large capacity has been created under the Ganga Action Plan/NRCP for sewage treatment, there are no precise estimates on the capacity being operated satisfactorily. Taking a proper inventory of the assets created under various River Action Plans and ascertaining the state of their operation is essential. An independent evaluation would be useful for such stock taking. The latest MIS report of November 2004 indicates a reasonable improvement in quality of Ganga water.

Pollution in River Yamuna

14.24 Pollution in the Yamuna is a matter of grave concern. The 22 km stretch in Delhi, between Wazirabad and Okhla, is critically polluted. The average Bio-chemical Oxygen Demand (BOD) of the river is about 25 mg per litre as against the desirable standard of maximum 3 mg per litre. The Dissolved Oxygen (DO) in the stretch is generally 'Nil' as against the minimum of 5 mg per litre. Generation of waste water in Delhi is presently about 3,300 MLD while even the planned treatment capacity is 2,335 MLD. The Sewage treatment Plants (STPs) in Delhi cannot handle the entire discharge load and even the capacity created is not fully utilized. The Nazafgarh drain is responsible for nearly 70 per cent of the pollution load, but adequate tapping facilities have not been created along it and a substantial part of the sewage is discharged untreated. The increased load of sewerage discharge in the Yamuna is causing serious concern as the water is below the required quality at Delhi and to some extent beyond Agra. Adequate treatment capacity needs to be created and utilization of the full capacity must be ensured to cleanse the River. Additional funds are needed to create additional sewage treatment capacity both for the current shortfall and for projected increase in urban population.

Physical Progress of NRCP and NLCP

14.25 Close to 421 MLD of sewage treatment plant capacities have been created in 2002-03 and 2003-04 under the NRCP. Three major river cleaning projects have been sanctioned in 2003-04: Gomti River in Uttar Pradesh costing Rs.263.04 crore; Musi River at Hyderabad costing Rs.344.08 crore; and Pamba River in Kerala costing Rs.18.44 crore. The Externally Aided Project (EAP) of the Yamuna River Action Plan-II with Rs.624 crore assistance from the Japan Bank of International Cooperation (JBIC) was also approved. The Indian Institute of Technology (IIT), Roorkee completed a review of additional proposals for inclusion in National River Conservation Plan (NRCP) for Tenth and Eleventh Plans.

14.26 Many States are not able to provide funds for Operation and Maintenance (O&M) costs for sewage treatment plants and CETPs created under the NRCP. Shortage of power to run these plants is another constraint. Under the circumstances, innovative methods like treating domestic/industrial waste first with micro-organisms to tackle the pollution problem at source followed by conventional treatment in sewage treatment plants/CETPs could be considered to reduce power consumption. Simultaneously, state government should ensure timely payment of electricity bills to avoid disconnection of power supply

14.27 Rejuvenation works of three lakes out of 23 proposals approved have been completed under National Lake Conservation Plan (NLCP). Five conservation projects for Nainital and other lakes in Uttaraanchal costing Rs.65 cr. were approved. Planning Commission granted 'in principle' approval for the Dal Lake conservation project in Jammu and Kashmir at a Cost of Rs.237 crore in July 2004. The Ministry of Environment and Forests accorded Expenditure Finance Committee (EFC) approval on 2nd March, 2005. Further steps should be taken to expedite the process of implementation.

14.28 The process of approval for both river conservation and lake conservation programmes is slow partly because State Governments take a long time to prepare detailed project reports and other documents and partly because of lack of priorities to be worked out by the participating States. Water Quality Assessment Authority (WQAA), a joint body of the MOEF, and the Ministry of Water Resources has now institutionalized the process of project identification and prioritization by the States. This process needs to be expedited both for NRCP and NLCP.

Public Private Partnership (PPP)

14.29 The state government must ensure efficient operation and maintenance of such assets to make them effective. Public Private Partnership (PPP) efforts could be considered to bring improvements in the scheme. While the government will make the investment in creating assets, the responsibility for operation and maintenance could be entrusted to private agencies. The necessary revenue could either be generated with appropriate user charges levied on the households in the command area or leasing out vacant land for conversion into Public Park. Improving the finances of the urban local bodies (ULBs) through collection of appropriate user charges and other measures is essential for the sustainability of the programme. This may call for greater coordination between the municipal bodies and the environmental departments of the state government. The Ministry of Environment & Forests should coordinate with Ministry of Urban Development and a proper policy framework should be put in place. It may be necessary to link the Central assistance to a reforms platform meant for improving urban governance.

River Water Quality

14.30 River water quality parameters like BOD, DO, total coliform, faecal coliform etc. should be monitored for all the rivers covered under the NRCP and regular assessment made on whether river water quality is getting restored to Bathing Class standards as prescribed for projects under the programme. Currently, the monitoring is being done at a few places along major rivers. Although some improvement in water quality has been achieved, the results are not up to the required standards, primarily due to increased sewage inflow. Installation of effluent treatment plants and Water quality monitoring need to be stepped up at all the major habitations along the rivers covered under the NRCP.

14.31 Harvesting of rainwater, de-silting existing ponds and other initiatives have been suggested to improve the availability of drinking water. Successful implementation and operation of projects on cleaning of rivers, lakes and other water bodies would go a long way in providing clean sources of drinking water.

Wetlands

14.32 A large number of wetlands can provide livelihood to millions of people residing in the periphery. An Effective action plan needs to be worked out both for conservation of such wetlands and their use for livelihood programme.

Bio-diversity Act

14.33 Under the Biological Diversity Act, 2002, a National Biodiversity Authority at Chennai and respective State Biodiversity Boards at State capitals have been established. Now it is time to ensure effective implementation of the act; which restricts the transfer of biological resources or of traditional knowledge without the permission of the Authority. In additional, Biodiversity heritage sites are protected under the Act. The Constitution of Biodiversity Management Committees at the local level needs to be completed at the earliest and care should be taken to establish Biodiversity Funds at all levels; which would support the activities of Biodiversity Management Committees.

Forestry

14.34 The combined outlay of the Centre and States in forestry and wildlife for the Tenth Plan is Rs.14,344.34 crore. These resources need to be judiciously used to maximize to increase in forest & tree cover. Programmes are initiated to launch a national mission on Bamboo Technology and Trade Development, a national mission on Bio-diesel and introduction of community forest development by Panchayati Raj Institutions. Problems of gregarious flowering of Muli Bamboo will be addressed and peoples' involovement ensured for greeeing areas and rationalising forest laws. Urban development Planning has to have inbuilt greening programme and forest development plan will be integrated with tribal development Projects for ensuring development of fringe villages.

Table 14.2
Forest cover Estimates from 1987

Year of SFR*	Data Period	Forest/tree cover (sq. km)	per cent of geographical area**	Dense forest (per cent)
1987	81-83	6,40,819	19.49	59.06
1989	85-87	6,38,804	19.43	60.27
1991	87-89	6,39,364	19.45	60.31
1993	89-91	6,39,386	19.45	60.30
1995	91-93	6,38,879	19.43	60.27
1997	93-95	6,33,397	19.27	57.98
1999	96-98	6,37,293	19.39	59.21
2001				
Forest	98-2000	6,75,538	20.55	61.70
Tree cover@	2000-01	81,472	02.48	
Total 2001		7,57,010	23.03	

*SFR State of Forest Report.
** Geographical area (32,87,263 sq km); @ Assessment attempted for the first time.

State Of Forests Report

14.35 The Forest Survey of India (FSI) undertakes the assessment of forest cover based on digital interpretation of satellite imageries and ground verification on a two-year cycle. The State of Forests Report of 2001 was published in early 2003 and indicated a forest/ tree cover of 23.03 per cent. Estimates of the forest/ tree cover of the country since 1987 are as follows:

14.36 The difference between the forest cover of 1999 and 2001 appears to be the result of the application of more advanced technology (fully digital analysis and at higher scale) in the assessment of forest cover. A comparable assessment of change in forest cover since 2001 has not been possible as the *State of Forest Report (SFR)* 2003, which was expected by December 2004 - two years after *State of Forest Report 2001*, is still being processed. However, a preliminary estimate of *State of Forest Report* 2003 provided by the Ministry of Environment & Forests suggests the forest and tree cover to have marginally increased to 23.68 per cent. At this rate it will not be possible to achieve the target of 25 per cent forest cover by 2007 and 33 per cent by 2012.

Joint Forest Management (JFM)

14.37 Joint Forest Management (JFM) strategy for management of forests with participation of communities was started in 1990. It involves empowering communities to plan and implement forest protection and conservation programmes. Sharing of benefits is the basis of participation and mechanisms differ from State to State. Participation of women and poorer sections of society has to be ensured. Andhra Pradesh, Madhya Pradesh and Chhatishgarh have been able to demonstrate benefits of sharing forest resources through empowerment of communities.

14.38 Joint Forest Management (JFM) is one of the thrust areas of the Tenth Plan and communities in all the 1.73 lakh villages situated near forests were to be involved in managing them. Twenty-eight States have adopted JFM so far. Till January 2004, 17.33 million ha forest area had been brought under 84,632 JFM committees.

14.39 It will not be possible to meet the target of 33 per cent forest cover by 2012 unless the Ministry of Environment & Forests streamlines the procedure to bring all forest fringe villages under the ambit of the JFM scheme. Ministry of Environment & Forests provides assistance for afforestation activities through JFM under the centrally sponsored scheme, National Afforestation Programme (NAP), which includes formation of new JFMCs as one of its components. However, this strategy is not adopted in some other afforestation programmes of the states. JFM needs to be adopted for all afforestation programmes in addition to the NAP. Community participation in afforestation with right on the produce will help increasing forest cover and generating income for the participants. The design of the programme may be reviewed to ensure democratic participation of the communities, proper linkage with PRIs and to generate a sense of responsible ownership among the communities over the forest resources.

Non-timber Forest Produce (NTFP) Including Medicinal Plants

14.40 Non-timber forest produce (NTFP) has emerged as a potentially significant source of income of the tribal people. Under the 73rd amendment of the Constitution, NTFP has been allocated to the PRIs. Sustainable management of this resource, with the development of value addition chains, will improve the income of the PRIs as well as that of the primary collectors. Medicinal plants constitute an important component of NTFP. Use of medicinal value of wild plants caters to the rural health needs of most of the forest dwellers. While the Department of AYUSH in the Ministry of Health and Family Welfare deals with the cultivation and propagation of medicinal plants in modern medicines, conservation of wild resources for ensuring availability of seed stock/mother tissues for nurseries and harvesting of available wild material on a sustainable basis should be the primary concern of forest management.

Tribals And Forest Villages

14.41 Ministry of Environment & Forests has issued guidelines for converting the forest villages into revenue villages. It is important to ensure that, along with this, specific development programmes are undertaken for economic upliftment of the tribals and other people living in forest villages. Such plans should be treated as an activity ancillary to the forest management and allocation should be made accordingly.

Wildlife and Biodiversity Conservation

14.42 Development of Sanctuaries and National Parks, is a Centrally Sponsored Scheme under which Central assistance is provided to 269 out of 592 protected areas.

14.43 However, delay in preparation of management plans has impeded the progress of the scheme. Only 207 protected areas are reported to have approved management plans. There has not been much success in relocation of habitations from the protected areas. Issues like religious events, traditional rights and practices, man-animal conflict, among other things, need to be addressed while preparing the management plans.

14.44 Considering that Central assistance is limited, an evaluation of its impact on habitat development needs to be done before it is continued. The grants for development works should be given for new protected areas, linking them to the formulation of management plans.

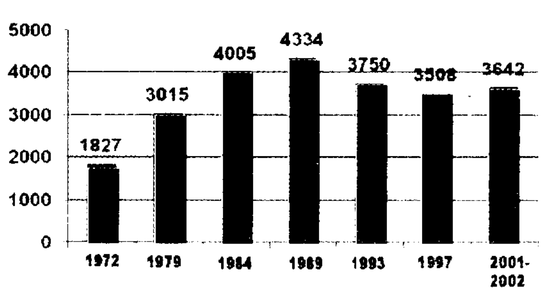
14.45 The livelihood concerns has led to diversion of release of water from Panchana Dam creating serious problem for the Keoladev National Park in Bharatpur. This has consequently reduced the sanctuaries main tourist attraction.

14.46 The National Board for Wildlife in its meeting held on 17th March 2005 has decided to constitute a Task Force on trans-boundary Protected Areas for identification of ecosystems along the international borders. The task force will comprise representatives of the concerned state governments and reputed international NGOs with whom collaboration is envisaged.

14.47 The Board also decided on an action plan for protection of Gyps vulture by phasing out of the veterinary medicine, diclofenac, believed to be the principal cause of large scale mortality of Indian vultures, within next six months on a priority basis. It also decided to continue with the present ban on the export of captive bred exotic birds.

14.48 **Project Tiger:** Project Tiger is a Centrally Sponsored Scheme launched in 1973. At present there are 28 tiger reserves in the country covering an area of 37,761 sq. km. Project Tiger was expected to address the problem of extinction of the tiger. The population of tigers in the country, including those in the reserves, is estimated to have increased to 3,642 in 2001-02 from 1,827 in 1973. However, recent controversies about non-sighting of the animals in sanctuaries like Sariska and Ranthambore have raised widespread concerns. The matter was discussed at the meeting of the National Board for Wildlife on 17th March 2005 and it was decided to constitute a task force to review the management of tiger reserves and submit a report within three months. Close monitoring of the status of tiger population must be made a concurrent activity in protected areas. The precise status of wildlife populations needs to be established and the monitoring system strengthened.

Population of Tigers in the Country



RESEARCH AND EDUCATION

14.49 **Indian Council of Forestry Research and Education :** The Indian Council of Forestry Research and Education (ICFRE), with its network of eight National Institutes and three advanced centers, caters to the forestry research needs of the country's different eco-climatic zones. The Council has established planting stock improvement programmes all over the country in close co-operation with State Governments. Other thrust areas are the utilization of forest produce, development of appropriate agro-forestry systems and their extension. As the forestry research program predominantly caters to the Government sector, budgetary support to ICFRE may have to be continued. However, the Institution should generate resources through consultancy and other technical services and progressively reduce its dependence on Government grants.

14.50 **Indian Plywood Industries Research And Training Institute (IPIRTI):** The Indian Plywood Industries Research and Training Institute (IPIRTI) has taken up applied research and training for manufacture of plywood, panels and other engineered/reconstituted products from ligno-cellulosic materials. It has established a bamboo development cell for popularizing bamboo as a raw material for wood products. The Institute needs to concentrate on developing processes and technology, preferably in association with industry, and disseminate the know-how among prospective entrepreneurs. It must take pro-active initiatives for transferring technology from the laboratory to commercial level and assist the industry in popularizing the products using new technologies.

14.51 **State Forest Service Colleges and Rangers' Training Institutes:** Educational Institutes like the State Forest Service Colleges and Rangers' Training Institutes are under-utilized due to progressive reduction in the intake of forestry personnel in the States. These institutions should be utilized for in-service refresher training programme of forestry personnel as well as for running courses for the private sector.

RESOURCE ASSESSMENT AND INFORMATION BASE

14.52 The FSI's biennial forest cover assessments are based mainly on digital interpretation of satellite imageries. The report

Table-14.3
Revised Outlays - Tenth Plan

(in Rs. Crore)

		Revised Tenth Plan Outlay (Recommended)	
Sub-Sector	**Original Tenth Plan Outlay**	**At current price**	**At 2001-2002 Prices**
Environment	1200.00	1120.24	987.87
Nrcd	1670.00	2123.00	1872.13
Forestry	800.00	1390.00	1225.75
Wildlife	800.00	760.48	670.62
Naeb	1300.00	1400.00	1234.57
Animal Welfare	175.00	100.00	88.18
Grand Total	**5945.00**	**6893.72**	**6079.12**

presents forest cover data for dense and open forests up to district level. A national database on the forestry sector needs to be created with a national forest management information system integrated with those of the States to ensure effective monitoring of the programme with universal access for all stakeholders.

Animal Welfare

14.53 The animal welfare scheme was transferred to Ministry of Environment & Forests from the Ministry of Statistics and Programme Implementation in the Tenth Plan period, with an outlay of Rs.175 crore. The schemes relating to the control of the population of stray animals, ambulance services to animals in distress, relief of animals during natural calamities and shelter houses for the animals are implemented in association with state level animal welfare societies and NGOs. A scheme for relocation of monkeys from urban areas was mooted in 2002-03, which has not been implemented yet by the concerned local bodies. The National Institute of Animal Welfare in Balabhgarh, Haryana needs to be made functional. The allocation for animal welfare programmes has been revised downwards from Rs.175 crore to Rs.100 crore due to reduced requirements from the State agencies and NGOs and downward revision in cost estimates of buildings for the NIAW.

Revised Allocations

14.54 Allocation for various programmes were revised or recommended for revision during the Tenth Plan. A revised outlay of Rs.1,825 crore has been recommended for NRCP against the original Tenth Plan outlay of Rs.1,417 crore in order to accommodate new projects such as Yamuna Action Plan-II, Gomti Action Plan, Musi River Project, to name a few, which were not envisaged when the Plan was formulated. A step-up of Rs.45 crore over the Tenth Plan outlay of Rs.220 crore for the NLCP has been recommended in order to provide for 100 per cent Government of India funding for Dal lake project.

14.55 In the forestry sector, a step-up has been provided for the National Afforestation Programme (NAP), the Directorate of Forestry Education and Project Elephant. A provision of Rs.85 crore has been recommended for a new scheme for Management of Gregarious Flowering of Bamboo. Adequate provision has also been recommended for another new scheme for afforestation through PRIs, suggested in the National Common Minimum Programme. Sector-wise details of Tenth Plan outlays and revised outlays recommended are given in Table 14.3.

THE WAY FORWARD

- Conduct a series of CDM capacity Building Workshops at national, regional and State levels for popularizing the mechanism among stakeholders.
- Take an inventory of the assets created under various river action plans and their operational status.
- Link the Central assistance under the scheme to a reforms driven program for improving urban governance for efficient operation of treatment facilities created.
- Motivate the states to adopt JFM for all afforestation programmes in addition to the CSS National Afforestation Programme.
- Encourage sustainable management of Non Timber Forest Produce (NTFP) resources for improving the income of the primary collectors by development of value addition chains .
- Ensure that, apart from converting the forest villages into revenue villages, specific development programmes are undertaken for economic upliftment of the tribals and other people living in forest villages
- Undertake an evaluation of the impact of the central assistance provided regularly to the sanctuaries for development of habitats and link it with management plans preparation.
- Make close monitoring of the status of tiger population and habitats a concurrent activity in project tiger areas.
- Establish a national database on the forestry sector linking with the States for effective monitoring of the forestry related programmes
- Make the proposed National Institute of Animal Welfare in Balabhgarh, Haryana, fully functional.
  - Following steps are proposed to trigger increase in the tree cover by establishing linkage of tree growing with the livelihood and economic growth in the country.
- **National Mission on Bamboo Technology and Trade Development:** Bamboo plays an important role in the rural economy. The National Mission on Bamboo Technology and Trade Development should be implemented for value added high volume products, which will benefit income generation in the rural base and substitute wood products. The programme should facilitate setting up of primary and secondary processing units for value addition of bamboo through adoption of appropriate technology.
- **National Bio-Diesel Mission:** Production of bio-diesel from non-edible oil can help in reclaiming large areas of waste land, create rural employment opportunities, substitute imported petroleum diesel and create greeneries entitled for carbon trading under Kyoto protocol. Efforts should be made for early implementation of the National Mission on Bio-diesel mooted by Planning Commission and expand the same to cover 20per cent of the diesel requirement of the country.
- **Afforestation through Panchayats:** To achieve the target of 33per cent coverage by 2012, greening of 28.87 million hectares area outside govt. forests, public lands, private lands, community lands and farmlands need to be targeted. In this context, it is proposed to revive the Social Forestry movement for development of common property resources at the village level. It is proposed to take up afforestation of 50 ha in each of the 2,34,676 village Panchayats in 31 States and UTs in addition to the traditional councils of Meghalaya, through social forestry wings of the States. A suitable project will be developed and launched involving resources for employment generation and development of land

resources. An outlay of Rs.500 crore is proposed for the remaining period of the tenth five-year Plan. Pending the introduction of a programme adequately backed by a Policy, no financial outlay has been earmarked for the year 2005-06.

- **Gregarious flowering of Muli Bamboo in North East:** The Ministry of Environment & Forests has proposed an action Plan of Rs.105 crore to deal with the problem of gregarious flowering of Muli Bamboo in the North East which is likely to occur shortly. The amount is to be utilized for extraction of bamboo before flowering, regeneration of flowered areas, rodent control and arrangements for strengthening Public Distribution System in view of expected rodent menace. Considering that the imminent decay of flowered bamboo has its impact in the forest areas, the action plan should be implemented in the forestry sector. Therefore, an additional allocation of Rs.84.8 crore has been made for the activities envisaged in the Action Plan during the Tenth Plan period.
- Create an enabling environment for people's involvement in growing trees. The following problems need to be addressed in this context:
  - Ensure that the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) is operationalised and that the funds available for Compensatory Afforestation under Forest (Conservation) Act are put to effective use.
  - The general perception that afforestation done outside the government forest lands will be either taken over or subjected to management plans for its exploitation under Forest (Conservation) Act, needs to be dispelled as this discourages efforts to increase the area under afforestation.
  - Ministry of Environment & Forests has issued guidelines for rationalization of the forest species felling and transit rules. As the State governments are to take action in this regard, it is essential to sensitize them, especially those where social forestry has significant scope.
  - Promote short rotation crops and fast growing species for farm forestry and in non-forestry areas to help increase income generation of the farmers as these forest produce are in demand for industrial use. Government forestlands should be used for conservation oriented ecologically suitable species.
- Ensure that urban Development Planning has an inbuilt component of greening. Greening efforts in cities like New Delhi, Bangalore etc. are examples of environmental and aesthetic considerations integrated in landscape development.
- Integrated and harmonious forest development programmes could be taken up on the lines of the Integrated Tribal Development Projects in order to ensure rational development planning in villages in the vicinity of forests including protected areas.

Annexure 14.1

Ecology and Environment (in Rs Crore at 2001-02 prices)

Sl. No.	States / UTs	Ninth Plan (1997-2002)		Tenth Plan Outlay	2002-03 Actual	2003-04 RE	2004-05 BE	2005-06 BE	Total of 3 years in Tenth Plan	per-centage of Col 10 to Col (5)
		Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10	11
1	Andhra Pradesh	3.45	10.29	6.20	0.00	0.01	0.00		0.01	0.19
2	Arunachal Pradesh	0.65	0.48	0.42	0.10	0.09	1.46		1.65	393.75
3	Assam	5.81	2.86	0.65	0.03	0.14	0.13		0.27	41.97
4	Bihar	6.45	0.17	0.00	0.00	0.00	0.00		0.00	0.00
5	Chhatisgarh	0.00	0.57	7.83	0.71	1.17	1.10		2.98	38.11
6	Goa	1.99	0.86	3.00	0.95	0.92	2.06		3.86	128.60
7	Gujarat	33.55	30.30	27.66	1.63	4.71	3.92		10.26	37.08
8	Haryana	7.25	5.86	2.83	0.43	0.67	0.66		1.76	62.20
9	Himachal Pradesh	1.41	1.71	0.50	0.48	0.22	0.04		0.73	146.16
10	J and K	37.72	19.04	36.19	0.00	0.00	1.55		1.55	4.28
11	Jharkhand	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
12	Karnataka	19.36	15.05	12.85	6.15	11.10	8.25		19.34	150.51
13	Kerala	96.79	31.00	0.00	0.00	0.00	0.00		6.15	0.00
14	Madhya Pradesh	259.19	254.83	51.12	5.00	34.35	32.53		66.88	130.83
15	Maharashtra	5.61	6.89	12.00	0.00	0.00	0.00		49.97	416.45
16	Manipur	2.32	3.41	4.95	0.72	0.93	1.59		3.24	65.50
17	Meghalaya	3.61	2.50	2.75	0.32	0.47	0.49		1.28	46.44
18	Mizoram	0.41	0.34	0.19	0.04	0.04	0.04		0.11	58.55
19	Nagaland	1.29	0.25	1.00	0.05	2.38	0.04		2.48	247.59
20	Orissa	76.41	58.23	20.30	14.51	2.39	0.11		17.02	83.83
21	Punjab	9.15	3.79	5.72	0.21	0.07	0.75		1.03	17.96
22	Rajasthan	26.80	11.81	4.64	0.01	0.11	0.11		0.23	5.05
23	Sikkim	3.87	1.64	5.00	0.28	0.33	0.26		0.87	17.44
24	Tamilnadu	64.52	16.00	113.05	0.49	0.72	0.73		1.94	1.72
25	Tripura	1.29	0.15	4.46	0.07	0.07	0.11		0.25	4.91
26	Uttar Pradesh	2637.50	826.85	2355.25	14.42	0.74	36.84		52.00	46.00
27	Uttranchal	0.00	0.48	59.02	0.01	4.67	4.41		9.09	15.40
28	West Bengal	63.34	79.93	16.88	18.26	0.48	2.21		20.95	124.11
	Total (States)	**3369.75**	**1385.29**	**2754.46**	**109.77**	**66.78**	**99.38**		**275.93**	**11.72**
29	A and N Islands	3.87	0.32		0.07	0.09	0.00		0.16	0.27
30	Chandigarh	0.88	6.64	2.70	0.23	0.41	0.85		1.48	8.79
31	D and N Haveli	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
32	Daman and Diu	0.00	0.10	0.00	0.00	0.00	0.00		0.00	0.00
33	Delhi	144.34	41.21	48.00	2.34	2.81	4.72		7.06	14.70
34	Lakshadweep	0.00	1.40	4.00	0.22	0.46	0.35		1.03	25.72
35	Pondicherry	1.29	**1.75**	1.76	0.38	0.41	0.40		1.18	66.99
	Total (UTs)	**150.39**	**51.42**	**56.46**	**3.22**	**4.18**	**6.31**		**13.72**	**28.58**
	Total (States + UTs)	3520.14	1436.71	2810.92	113.00	70.96	**105.69**		**289.65**	10.30

Annexure 14.2

Forestry and Wildlife (in Rs Crore at 2001-02 prices)

Sl. No.	States / UTs	Ninth Plan (1997-2002)		Tenth Plan Outlay	2002-03 Actual	2003-04 RE	2004-05 BE	2005-06 BE	Total of 3 years in Tenth Plan	per-centage of Col 10 to Col (5)
		Outlay	Reali-sation							
1	2	3	4	5	6	7	8	9	10	11
1	Andhra Pradesh	231.40	454.24	1237.79	57.84	219.26	264.91		542.01	43.79
2	Arunachal Pradesh	87.25	170.58	77.00	9.57	11.12	9.15		29.84	38.76
3	Assam	245.19	170.13	77.36	26.36	26.01	22.71		75.09	97.06
4	Bihar	347.72	61.39	45.14	5.15	5.38	12.91		23.44	51.92
5	Chhatisgarh	0.00	37.94	327.18	46.49	65.53	61.72		173.74	53.10
6	Goa	21.94	14.29	25.00	3.47	4.53	5.76		13.76	55.02
7	Gujarat	1036.26	919.40	936.34	89.37	158.91	131.92		380.21	40.61
8	Haryana	282.23	186.40	127.33	26.43	32.72	54.76		113.91	89.46
9	Himachal Pradesh	471.03	368.17	423.77	69.03	42.77	43.49		155.29	36.65
10	J and K	450.50	244.60	363.58	53.79	61.07	39.92		154.78	42.57
11	Jharkhand	0.00	82.00	462.77	67.24	84.13	94.37		245.74	53.10
12	Karnataka	451.67	518.89	733.96	84.16	104.53	79.07		267.77	36.48
13	Kerala	181.96	276.00	175.00	43.69	50.14	35.27		129.11	73.77
14	Madhya Pradesh	576.96	504.82	352.75	94.96	106.95	121.33		323.24	91.63
15	Maharashtra	631.82	415.66	682.79	12.42	36.50	0.00		48.91	7.16
16	Manipur	53.43	19.82	17.44	4.77	3.24	4.34		12.35	70.83
17	Meghalaya	129.69	42.00	52.50	5.44	5.14	14.09		24.68	47.00
18	Mizoram	52.34	29.52	28.46	5.74	5.94	6.79		18.47	64.89
19	Nagaland	65.81	20.98	22.50	2.55	2.04	2.46		7.06	31.36
20	Orissa	158.41	133.62	694.46	18.68	3.92	1.43		24.03	3.46
21	Punjab	314.57	342.02	280.75	41.66	77.57	69.08		188.30	67.07
22	Rajasthan	709.58	493.33	1153.20	4.13	14.49	83.99		102.61	8.90
23	Sikkim	51.62	26.70	35.00	6.60	5.28	6.13		18.01	51.47
24	Tamilnadu	774.29	630.47	1348.10	108.93	98.77	83.11		290.81	21.57
25	Tripura	35.27	31.61	48.35	7.47	7.88	6.28		21.63	44.73
26	Uttar Pradesh	838.82	634.77	1208.00	54.01	49.06	62.40		165.47	13.70
27	Uttranchal	0.00	105.73	206.93	82.33	0.69	43.37		126.39	61.08
28	West Bengal	221.72	196.10	164.43	10.01	6.97	17.12		34.10	20.74
	Total (States)	**8421.25**	**7131.18**	**11307.88**	**1042.29**	**1290.52**	**1377.90**		**3710.72**	**32.82**
29	A and N Island	78.72	51.62	72.43	10.19	10.28	9.70		30.17	41.66
30	Chandigarh	6.46	19.98	17.33	4.33	4.29	3.88		12.50	72.13
31	D and N Haveli	19.10	11.57	12.00	3.24	2.78	2.72		8.74	72.87
32	Daman and Diu	2.88	1.69	2.78	0.25	0.30	0.33		0.88	31.66
33	Delhi	45.17	29.62	26.00	37.73	3.04	3.70		44.47	171.03
34	Lakshadweep	0.00	1.03	0.92	0.19	0.19	0.22		0.60	65.04
35	Pondicherry	7.21	5.50	5.00	0.88	1.12	1.10		3.10	61.99
	Total (UTs)	159.54	121.02	136.46	56.82	21.99	21.66		100.47	73.62
	Total (States + UTs)	8580.79	7252.20	11444.34	1099.11	1312.52	1399.56		3811.19	33.30

Financing the Plan

15.1 The size of the Central sector Plan was expected to be 6.44 per cent of GDP and that of the State sector Plan 4.69 per cent. Resources realized are of the order of 5.36 per cent and 3.64 per cent respectively. In respect of both the Centre and the States, realization has been short of the targeted level by around 1 per cent . Although Plan expenditure was lower than targeted, dependence on borrowing has been higher than planned at the Central and the State level. It is evident also that States have been under greater stress for Plan financing, due to shortfall in anticipated tax sharing from the Central government, drain on budgetary resources attributable to the power sector deficit and the need to meet fiscal reform targets laid down legislatively or in agreements entered into with the Central government and multilateral agencies.

15.2 The Tenth Plan had targeted a public sector outlay of Rs.15,92,300 crores at 2001-02 prices. This was 67.4 per cent higher than Ninth Plan realizations. Of this Rs.15,25,639 crores had been allocated sector-wise in Central, State and UT Plans. In the case of the Centre, the unallocated component was targeted to be raised through internal and extra-budgetary resources (IEBR) of Central public sector undertakings (CPSUs). In the case of States, resources over and above allocations made for the Core Plan were to be raised as own resources.

15.3 To achieve the objectives of securing a sustainable debt burden and restricting public sector draft on private savings to a reasonable limit, only 6.6 per cent of the projected increase in resources over Ninth Plan realizations was planned to come from borrowings and the rest from non-debt resources. It was recognized that such a high level of contribution from non-debt resources would be possible only by raising the tax/ GDP ratio, increasing user charges, compressing expenditure on administration and establishment and improving the commercial management of public enterprises.

15.4 Moreover, taking into consideration the fiscal difficulties of States and their relatively harder budget constraint, resource targets were formulated within a policy scenario in which the fiscal and revenue deficits of the States was expected to decline more than those of the Centre. Between 2002-03 and 2006-07, the Central fiscal deficit was targeted to come down by only 1 percentage point of GDP and the revenue deficit by 1.5 percentage points. Greater fiscal correction was expected at the State level, with a fall in the all-State fiscal deficit by 2.1 per cent of GDP and in revenue deficit by 2.3 per cent.

15.5 The consolidated picture of resource realization for the first four years of the Tenth Plan by Central and State governments is given in Table 15.1. 78 per cent of the five year target is normally expected to be realized during this period. As against this, 66 per cent of the Core Plan of States has been realized and 62 per cent of the Central Plan. This is an improvement on the level achieved in real terms at the close of the Ninth Plan-19 per cent shortfall in realization for the State Plan and 17 per cent for the Central Plan. However, the debt position of both the Centre and the States has deteriorated.

15.6 It now also appears that State governments as a group will achieve a lower level of reduction in fiscal and revenue deficits (1.3 per cent and 1.4 per cent respectively) than targeted in the Tenth Plan. At the Central level, however, the fiscal targets in the Fiscal Responsibility and Budget Management Act

Table 15.1
Public Sector Resources & Allocations-tenth Plan (2002-07)

Rs.crores at 2001-02 prices Sources of funding	STATES & UTs			% realised
	Required	Allocated	Realised 1st 4 years	
CENTRE				
Budgetary support	405735	405735	296628	73.1
IEBR	515556	487448	275554	53.4
Total	921291	893183	572183	62.1
STATE				
Core Plan	590948	590948	390175	66.03
Balance	80061	41508		
Own resources	38553			
Central Assistance	41508	41508		
Total	671009	632456	390175	58.15
GRAND TOTAL	1592300	1525639	962358	60.4% on Total Plan
				63.07% on Core Plan

(FRBM Act) have mandated much larger reduction in fiscal and revenue deficits (1.2 per cent and 2 per cent respectively) than the original Tenth Plan targets. Moreover, the Twelfth Finance Commission (TFC), while recommending increased devolution of taxes and non-Plan grants from the Centre to the States has suggested that loans from the Centre be replaced by market borrowings and made debt relief conditional on adoption of fairly strict fiscal responsibility targets at the State level also.

15.7 These developments in respect of both the resources actually raised for the Central and State Plans during the first four years of the Tenth Plan and issues of concern have been assessed in greater detail in this chapter.

15.8 Total Central Plan resources in the first four years are around Rs.5,72,183 crores which is about 62 per cent of the Tenth Plan target, compared with an expected realization of 78 per cent of the five year target. This implies a shortfall of 16 per cent.

15.9 This outcome is on account of resource raising constraints as also in some part due to macroeconomic developments, particularly on the external front. In the interests of debt sustainability, the gross fiscal deficit of the Centre had been targeted to be progressively reduced from 5.9 per cent of GDP to 4.3 per cent in 2006-07 with an average level of 4.73 per cent during the Tenth Plan period. During the first four years of the Tenth Plan, the fiscal deficit was brought down substantially. Reduction of the fiscal deficit in 2004-05 was due in part to repayments made by States under the debt swap scheme. From 2005-06, this process will be replaced by the debt consolidation/writeoff and interest rate reduction package recommended by the Twelfth Finance Commission. Budget Estimates for 2005-06 indicate that there will be further improvement in the fiscal deficit. However, this improvement is predicated on the assumption that Plan loans to States will be replaced by their borrowing directly in the market. However, there is a possibility of Central borrowing to onlend to fiscally weak States who will be unable to borrow in the

Table 15.2
Central Plan Resources (2002-03 to 2005-06)

Rs.crores / %

Item	2002-07 Tenth Plan	2002-03 Actual	2003-04 Accounts	2004-05 RE	2005-06 BE	Realised 2002-03 to 2005-06	% Realisation (2002-2006)
1. Balance from current revenues	-6385 -(0.69)	-51235 -(39.36)	-36124 -(27.45)	-28253 -(21.24)	-14213 -(8.01)	-129825 -(22.69)	
2. Borrowing including net miscellaneous capital receipts	685185 (74.37)	168435 (129.39)	161016 (122.36)	138737 (104.32)	123915 (69.84)	592103 (103.48)	86.4
3. Net inflow from abroad (grants & loans excluding external commercial borrowing)	27200 (2.95)	-9707 -(7.46)	-10590 -(8.05)	10668 (8.02)	10812 (6.09)	1184 (0.20)	4.4
4. Gross Budgetary Support (1+2+3)	706000	107493	114302	**121153**	144873	**@487821**	**69.1**
5. Central assistance for State and UT Plans	300265	**43515**	47134	48376	52167	**@191192**	**63.7**
6. Gross Budgetary Support for Central Plan (4-5)	405735 (44.04)	63978 (49.15	67167 (51.04)	72777 (54.72)	92706 (52.25)	296628 (51.84)	73.1
7. Internal & Extrabudgetary Resources of Central public entreprises	515556 (55.96)	66199 (50.85	64422 (48.96)	60220 (45.28)	84714 (47.75)	275554 (48.16)	53.4
8 Total Central Plan (6+7)	921291	130177	131590	132997	177420	572183	62.1

Note: Figures in brackets indicate shares of resources in total Central Plan

@ In 2005-06, to implement the recommendations of the Twelfth Finance Commission, the loan component of Central assistance for State and U.T. Plans has not been provided in the Central budget, as States have been given the option of raising it directly from the market. This is reflected in lower borrowings by the Central government. GBS and Central assistance figures include also the loan component of Central assistance (Rs. 24,358 crores at constant prices).

market. If this eventuality arises, the Central deficit may be higher than in the Budget Estimates.

15.10 The revenue deficit of the Central government was 4.4 per cent in the first year of the Tenth Plan, but this was brought down to 3.5 per cent in 2003-04 and the R.E.s for 2004-05 indicate a further improvement to 2.7 per cent . This level is expected to be maintained in 2005-06 also.

15.11 Despite the reduction in Central government debt on account of the debt swap scheme, the Centre's total dependence on borrowings as a source of Plan financing has been higher than originally targeted for the Tenth Plan period. More than 86 per cent of the resources raised in the first four years would be in the form of debt (including net miscellaneous capital receipts). This source was expected to decline from the Ninth Plan level of 5.78 per cent of GDP by one percentage point in the Tenth Plan period. Instead, in the

Table 15.3
Projections & Realisations Scaled by GDP- Xth Plan Centre (%)

		Ninth Plan		Projected		Realised				
			2001-02	2006-07	Xth Plan Avg.	2002-03	2003-04	2004-05 RE	2005-06 BE	Xth Plan Avg
1	Gross budgetary support	4.02	4.33	5.4	4.93	4.5	4.4	4.4	4.9	4.55
2	Fiscal deficit	5.82	5.9	4.3	4.73	5.9	4.5	4.5	@4.3	4.8
3	Borrowings (including miscellaneous capital receipts)	5.78			4.78	7.1	6.2	5.1	4.2	5.6
4	External inflows (net)	0.22			0.19	-0.4	-0.4	0.4	0.4	-0.02
5	Balance from current revenues	-1.98			-0.04	-2.2	-1.4	-1.0	-1.3	-1.3
6	Central revenues (net)		8.8	10		9.4	9.6	9.7	10	9.7
7	NonPlan revenue expenditures		10.6	9.1		10.8	10.3	9.5	9.4	10
8	Central Assistance (States & UTs)	1.76			2.09	1.8	1.8	1.8	@1.8	1.8
9	Gross budgetary support net of Central Assistance	2.26			2.79	2.7	2.6	2.7	@3.1	2.8
10	Internal resources of Central public undertakings	2.15			2.85	1.6	1.3	1.2	1.5	1.4
11	Extrabudgetary resources of Central public undertakings	0.75			0.75	1.2	1.2	1.0	1.4	1.2
12	Internal & extrabudgetary resources of Central public undertakings				3.6	2.8	2.5	2.2	2.9	2.6

first four years, it has in fact decreased by only .18 per cent.

15.12 The most important reason for the excessive reliance on debt financing during the Tenth Plan has been the large negative Balance from Current Revenues (BCR). The Tenth Plan had targeted an improvement in BCR from the negative level of 1.98 per cent of GDP in the Ninth Plan to around 0.04 per cent. This improvement was to be achieved by increasing Central revenue (net of States' share) from 8.8 per cent of GDP in 2001-02 to 10 per cent in 2006-07 and reducing non Plan revenue expenditure from 10.6 per cent of GDP to around 9.1 per cent for the same period. In terms of realizations, net Central revenues have almost reached the target of around 10 per cent of GDP and Non Plan revenue expenditure appears to have fallen to 9.4 per cent in

2005-06 (B.E.). However, much of the improvement relates to 2004-05 R.E.s and 2005-06 B.E. The average level of non Plan revenue expenditure realized in the first four years is only about half a percentage point lower than the level reached at the end of the Ninth Plan.

15.13 The distribution of GBS between the Centre and the States also departed somewhat from the Tenth Plan target. The Tenth Plan had assumed the share of Central assistance for State Plans at 42.5 per cent of gross budgetary support (2.09 per cent of GDP as against 1.76 per cent realized during the Ninth Plan). However, actual realizations are likely to be slightly lower (39 per cent), mainly reflecting the fact that many of the critical activities in areas such as education, health, employment generation etc., which fall in the State sector are financed through Centrally Sponsored Schemes (CSSs). There is no consensus as yet on whether and to what extent these schemes can be transferred to the States.

15.14 Gross budgetary support (GBS) in the Central Budget had been targeted at Rs.7,06,000 crores. Netting out Central assistance for State and UT Plans of Rs.3,00,265 crores, net GBS for the Central Plan was targeted to be Rs.4,05,735 crores or 4.9 per cent of GDP on average. During the first four years, the net GBS for the Central Plan averaged only 4.4 per cent of GDP, significantly below the Tenth Plan target of 4.9 per cent.

15.15 The role of external assistance in financing the Plan was very different from that originally envisaged because of an unexpectedly favourable external position. External assistance is availed of both as loans (included in overall borrowings of government) and grants (covered under nontax revenue receipts). Tenth Plan projections aimed only at a slight reduction of the scale of net inflow from abroad from 0.22 per cent of GDP in the Ninth Plan to around 0.19 per cent. In the first four years of the Tenth Plan, net inflows were negative in the first two years (-0.4 per cent) and are expected to be only 0.4 per cent in 2004-05, due to the conscious policy adopted by government in the first two years to prepay high cost loans keeping in mind the comfortable foreign exchange position. There will be no appreciable increase in net external inflows with reference to GDP in 2005-06 also.

15.16 Internal and extra-budgetary resources of Central public sector undertakings were expected to provide more than half (56 per cent) of the resources for the Central Plan during the Tenth Plan. Internal resources cover retained profits and depreciation and extra budgetary resources include borrowings of CPSUs through debentures, bonds, external commercial borrowings and the like. IEBR of Rs.5,15,556 crores were targeted to be raised by CPSUs (by higher operational efficiency particularly in the railways and power sectors) during the Tenth Plan period, of which normally Rs.4,02,134 crores should have been realized during the first four years. Actual realization is only around half this amount (Rs.2,75,554 crores) In terms of GDP, the shortfall is 0.7 per cent (2.9 per cent realized against the expected level of 3.6 per cent).

15.17 It is a matter of concern that the shortfall in IEBR is much higher than that in net budgetary support for the Central Plan. Independent resource generation is the prime test of commercial viability and self sustainability for a PSU. It makes these corporates less dependent on government (in terms of budgetary support and guarantees) for planning and investment decisions and increases their creditworthiness while accessing the capital market. Failure to raise IEBR as targeted during the first four years of the Tenth Plan is a serious matter that must be addressed.

THE FISCAL RESPONSIBILITY AND BUDGET MANAGEMENT ACT

15.18 A major policy initiative that has implication for the availability of resources for financing the Plan is the Fiscal Responsibility and Budget Management (FRBM) Act enacted in 26/8/2003. The Act originally provided for reducing the gross fiscal deficit to 3 per cent of GDP and completely eliminating the revenue deficit at the Central level by end March 2008, but the target year has had to be moved further out to 2008-09 in the 2004-05 finance bill.

Table 15.4

		Revised Estimates 2004-05	Budget Estimates 2005-06	Targets for	
				2006-07 original	2006-07 revised
1	Revenue Deficit	2.7	2.7	1.1	2.0
2	Gross Fiscal Deficit	4.5	4.3	3.6	3.8
3	Gross Tax Revenue	9.8	10.6	12.1	11.1
4	Total outstanding liabilities*	68.8	68.6	67.8	68.2

*including external public debt at current exchange rates

Figures are taken from the MTFP Statement tabled with the Central budget for 2005-06; targets for 2006-07 originally indicated in the Statement tabled with the 2004-05 budget have also been presented.

15.19 In accordance with requirements laid down in the Act, the Medium Term Fiscal Policy Statement (MTFP) was laid before the Parliament along with the Union budgets for 2004-05 and 2005-06. They set three year rolling targets for fiscal indicators as given below:

15.20 The fiscal restraint required for fulfilment of MTFP targets will put pressure on availability of GBS for the Plan as a whole for the remaining period of the Tenth Plan, unless there is either a dramatic improvement in revenue realization and in internal resources or non Plan expenditure can be cut. The revenue prospects in 2006-07 depend critically upon the effectiveness of measures for rationalizing the tax system and tax administration. Expansion of the tax base, rationalization and integration of service tax with commodity excises and better enforcement should help to maintain the share of net revenue receipts of the Centre to GDP at 10 per cent in the final year of the Tenth Plan, thus reaching the target average in the terminal year. However, other non-debt receipts will be clearly below original expectations, due to lower disinvestment receipts and lower interest inflows from States on account of the debt swap program and loan rescheduling recommended by the Twelfth Finance Commission.

15.21 On the expenditure front, it should be feasible to control employment and, therefore, wage payments and if interest rates stabilize, interest payments. Going by earlier trends, however, there could be slippage in the projected improvement in non Plan revenue expenditure indicated in 2004-05 R.E.s and 2005-06 B.E.s. The Tenth Plan target of bringing non Plan revenue expenditure down to 9.1 per cent of GDP may not therefore be realized. On present prospects, the overall balance from current revenue will remain negative over the remaining period of the Tenth Plan. In this respect, the Centre's performance shows a clear shortfall compared with Plan targets.

15.22 The Central budget estimates for 2005-06 show lower borrowing requirements because of the expectation that States will be capable of raising the entire loan component of Central assistance directly from the market. While some States may succeed in raising the necessary resources, many may not be able to do so. Much depends upon market perceptions of State creditworthiness, credit demand from the private sector, the level and nature of Central borrowing etc. If a number of States are unable to do such borrowings, the Central government will have to continue to provide loan support for State Plans. The share of borrowings in Plan financing could thus be higher than anticipated for 2005-06 as well as in the following year.

15.23 The need to achieve FRBM targets in the medium term perspective could affect public sector resource raising for the Plan. Latest data and revised annual targets (Table 15.4) indicate that although Tenth Plan targets may be realized, substantial adjustment to the extent of 2 per cent of GDP might be necessary at the commencement of the Eleventh Plan to fulfil statutory requirements. Tradeoff between development and adjustment could become an issue if this does not materialize. There are some areas in which policy and procedural changes could increase resources and improve growth prospects. The balance from current revenues could be improved through a strategy focused both on revenue raising as well as on curtailing unprofitable expenditure and reducing leakages.

15.24 There is still scope for rationalising direct and indirect tax measures and user charges based on the twin principles of equity and economic neutrality and focusing on improving compliance and tax administration. Tax tools and governance can be managed better to promote entrepreneurship and superior economic performance so that the resultant improvement in growth is reflected in increased budgetary inflows. For this, tax bases should expand and distorting exemptions further removed. On the direct tax front, there is substantial scope for taxpayer friendly automatised and computerized administration that can reduce collection costs, improve compliance and curtail rent-seeking and harassment.

15.25 The major thrust area on the tax side must, however, be on indirect taxation. Customs revenues are likely to become considerably less significant if tariff rates are further reduced in line with already declared government policy. In this context it will become even more essential to streamline the interface of domestic indirect taxes with customs, both in terms of design and procedures, to facilitate the continued growth of domestic manufacturing. This is especially urgent as regimes will require to be put in place to operationalise the Free Trade Agreements already entered into with various countries and trade blocs.

15.26 The most critical reform required in view of the above is in the area of domestic consumption taxation. The plethora of uncoordinated overlapping imposts at the State level and lack of an integrated goods and service tax even at the Central level violates the principle of economic neutrality and handicaps domestic industry and trade vis-à-vis foreign competitors. However, the coordinated countrywide goods and service tax indicated by the Task Force on the FRBM appears as of now to be only a distant goal. Detailed consultations with States must necessarily precede acceptance of such a tax, but dialogue on this can be initiated only after all States adopt a common VAT system and the system of State VATs extended to cover both goods and services.

15.27 Some sort of value added taxation is likely to be adopted by most, although not all, States by 1/4/2005. But this will need to be further refined (through assimilation of other State commodity taxes like turnover and entry tax and octroi) and integrated with the many State level taxes on specific services existing today. The full reform of the indirect tax structure that is necessary to maintain revenue growth while coping with pressures of globalisation is still only at a preliminary stage.

15.28 A thorough revamp of the indirect tax structure through rationalization of the tax base, constitutional and statutory reform and better administration can release the potential of local industry and business and contribute significantly to higher competitiveness and growth. Constraints that may arise in this regard will have to be recognized and managed. There will be a lag effect in introducing VAT since losses incurred by States in early years may not be fully compensated by increased Central revenue. In the case of income tax, revenue growth due to onetime improvement in tax administration may not be sustainable at the same level; the use of presumptive income indicators has brought in more returns but most of them are from persons exempt from tax.

STATE PLAN RESOURCES

15.29 Tenth Plan targets of resources for State and UT Plans were Rs.6,71,009 crores, but Core Plan resources were placed at a lower level of Rs.5,90,948 crores. The unfunded gap of Rs.80,061 crores was expected to be funded through Rs.38,553 crores of own resources of

States and Rs.41,508 crores of Central assistance. The resources likely to be realized during the first four years of the Tenth Plan has been computed using latest data for the first two years and approved schemes of financing/estimates for 2004-06. Realisation levels in the first four years are likely to be 58 per cent of the quinquennial target, lower than those for the Central Plan. Although somewhat better, at about two-thirds, if only the Core Plan is concerned, this is still 16 per cent short of the targeted level.

15.30 In terms of GDP, budgetary resources for the Tenth Plan were targeted to grow from 3.85 per cent in 2001-02 to 4.2 per cent in 2006-07, averaging 4.1 per cent against the Ninth Plan realization of 3.14 per cent. Aggregate Plan resources were expected to reach an average level of 4.69 per cent against 3.8 per cent for the Ninth Plan, but realization in the first four years is only around 3.64 per cent of GDP. The realization level has improved gradually from year to year, as State governments tried to cope with fiscal stress and debt servicing liabilities in the wake of the implementation of the Fifth Pay Commission's recommendations. A further improvement is expected in 2005-06 due to the effects of implementation of the recommendations of the Twelfth Finance Commission regarding tax sharing, non Plan revenue grants and debt relief. The Twelfth Finance Commission has augmented the share of States in tax devolutions from 29.5 per cent to 30.5 per cent and raised non Plan grants to equalize their fiscal capacities. Such grants are geared to meet revenue gaps in States with low levels of own revenues as well as fund the requirements of specific priority sectors.

15.31 In absolute numbers at 2001-02 prices, Rs.3,90,175 crore are likely to be realized to fund Core Plans of States in the first four years

Table 15.5
Targets & Realisations for Xth Plan - State

(Rs.crores)

Source of Financing	**Xth Plan Targets**	**Core Plan Resources**	**Realised in first 4 years**	**Realisation as % of Plan Targets**	**Realisation as % of Core Plan Targets**
I. Balance from Current Revenues	26578	-15295	-88917		
	(3.96)	*-(2.59)*			
II. Resources of Public Undertakings	82684 *(12.32)*	82684 *(13.99)*	284412 *(72.89)*	82.64	81.85
a) Internal Resources	-7760 -(1.16)	-7760 -(1.31)			
b) Extrabudgetary Resources	90444 *(13.48)*	90444 *(15.30)*			
III. Borrowings including Net MCR	261482 *(38.97)*	264802 *(44.81)*			
A. States' Own Resources (I+II+III)	370744 *(55.25)*	332191 *(56.21)*	195495 *(50.10)*	52.73	58.85
B. Central Assistance	300265 *(44.75)*	258757 *(43.79)*	194680 *(49.90)*	64.84	75.24
C. Aggregate Resources (A+B)	671009	590948	390175	58.15	66.03

Note:
1. In the first 4 years 82% of total Plan resources of States were raised through borrowings (including net MCR) and resources of public undertakings which were also by and large borrowings.
2. The share of each resource component in aggregate Plan resources is indicated within brackets

as against the Rs.4,60,939 crore target for this period. This shortfall was largely on account of lower GDP growth and lower than expected transfers of Central tax revenue to States (since the tax/GDP ratio at the Central level was lower than forecast). In addition, reforms expected at the State level, such as on VAT and in the power sector have also been delayed.

15.32 Measures were taken by the Central government to oversee medium term fiscal reform at the State level as required by the Eleventh Finance Commission. Structural adjustment was also promoted through multilateral funding in selected States (Gujarat, Madhya Pradesh, Andhra Pradesh, Karnataka and Uttar Pradesh). A fair amount of interest relief was made available through the debt swap policy initiated by the Centre in 2002-03. These measures mitigated to some extent adverse effects on State Plan resources of the debt-servicing and pension overhang of the

Table 15.6
Targets & Realisations With Reference to GDP for The X Plan - States

Source of Financing	IX Plan Targets Ninth Plan	Targets				Realised				
		2001-02	2006-07	Tenth Plan Average	Tenth Plan (Core Plan)	2002-03	2003-04	2004-05	2005-06	Tenth Plan Average
Budgetary Resources	3.14	3.85	4.2	4.1						
I. States' Own Resources (A+B+C)	2.04			2.6	2.3	1.63	1.55	1.81	2.28	1.82
A. Borrowings including Net MCR	2.74			1.82	1.9	*3.12	*2.79	*2.49	*2.37	*2.69
B. Balance from Current Revenues	-1.36			0.19	-0.11	-1.49	-1.25	-0.68	-0.09	-0.88
1. Non-Plan Revenue Receipts @		10.27	11.00			9.10	9.21	9.51	9.51	9.34
2) Non-Plan Revenue Expenditure @		12.15	10.32			10.66	10.53	10.30	9.68	10.29
C. Internal & Extrabudgetary Resources of State Public Undertakings	0.66			0.58	0.58					
a) Internal Resources	-0.45			-0.05	0.05					
b) Extrabudgetary Resources	1.11			0.63	0.65					
II. Central Assistance	1.76			2.09	1.8	1.62	1.76	2.09	1.82	1.82
III. Aggregate Plan Resources (I+II)	3.80			4.69	4.14	3.25	3.30	3.90	4.10	3.64

* Includes also IEBR and resources of public undertakings.

@ Revenue receipt targets were fixed with reference to gross non-tax revenue from departmental undertakings but realizations were on net basis. This will slightly lower realization figures but will not affect the BCR.

Table 15.7
Additional Resources on Account of TFC Grants &
Debt Relief (Interest) to States - 2005-06 & 2006-07

(Rs. crores)

State	2005-06	2006-07
Arunachal Pradesh	61.31	81.44
Assam	818.56	709.71
Himachal Pradesh	1527.07	1587.23
Jammu and Kashmir	256.06	339.20
Manipur	502.08	558.95
Meghalaya	118.48	140.83
Mizoram	203.51	256.44
Nagaland	242.95	340.53
Sikkim	-91.88	-72.70
Tripura	619.16	680.46
Uttaranchal	1185.66	1305.45
Total (special category)	**5442.95**	**5927.53**
Andhra Pradesh	868.73	1293.38
Bihar	1225.95	1560.00
Chattisgarh	256.57	442.67
Goa	21.17	43.42
Gujarat	608.47	927.85
Haryana	154.53	263.82
Jharkhand	402.94	664.84
Karnataka	460.07	1026.80
Kerala	774.23	613.20
Madhya Pradesh	749.18	1089.79
Maharashtra	664.32	1078.21
Orissa	1061.82	1073.37
Punjab	1730.14	1259.54
Rajasthan	531.10	853.25
Tamil Nadu	476.17	910.39
Uttar Pradesh	2228.21	3262.23
West Bengal	3127.62	1644.55
Total (Non-Spl Cat.)	**15341.22**	**18007.31**
GRAND TOTAL	20784.17	23934.84

Fifth Pay Commission. The gross fiscal deficit of States, which had been targeted to fall from 4.47 per cent of GDP in 2001-02 (3.37 per cent average for Ninth Plan) to 2.19 per cent in 2006-07 (Tenth Plan average of 3.19 per cent) has been falling gradually; from 4.15 per cent in the first year of the Tenth Plan, it has declined to 2.67 per cent in 2005-06.

15.33 The Tenth Plan targets had assumed that the BCR would improve from the Ninth Plan average level of -1.36 per cent of GDP to a surplus of .19 per cent of GDP during the Tenth Plan. To achieve this target, non Plan revenue receipts were targeted to grow from 10.27 per cent of GDP to 11 per cent between 2001-02 and 2006-07 and non Plan revenue expenditure to decline from 12.15 per cent to 10.32 per cent of GDP. Non Plan revenue receipts of the States as a percentage of GDP have improved but less than projected. The fall in non Plan revenue expenditure has been more encouraging; it remained above 10 per cent in the first three years and is now projected to fall below this level in the fourth year (implying overachievement of the Tenth Plan target). As a consequence, there has been improvement in the BCR position of States in the first three years of the Tenth Plan, as the effects of structural reform and fiscal restraint made themselves felt, although the average Tenth Plan targeted level was not reached (not even in terms of the Core Plan). At the close of 2004-05, the BCR is expected to be around Rs.-24486 crores against the target of Rs.-15295 crores for the final year of the Core Tenth Plan.

15.34 There will be substantial increase in transfers to States in 2005-06 on account of the higher tax sharing and non-Plan grants recommended by the Twelfth Finance Commission. The degree of improvement expected in each of the last two years in terms of grants and debt relief, as estimated by the TFC is given State-wise in Table 15.7. All this improvement may not get directly reflected in the BCRs of individual States, since State governments may use the room for maneouvre to increase non-Plan expenditure on essential items (like maintenance of public assets) or to retire high cost debt. Nevertheless, after taking account of these factors, the BCR will improve significantly in 2005-06, but it will still be negative. Moreover, for some States, notably West Bengal, Punjab, Kerala and Assam, additional resources provided by the TFC will taper off after the first year.

15.35 Despite corrective measures taken by States on their own initiative, with structural adjustment assistance from external lenders and Medium Term Fiscal Reform Programme (MTFRP) aid from the Finance Ministry under fiscal contraction guidance offered by the RBI, they have not been able to fully recover from the stress generated by debt-servicing requirements created as a consequence of borrowings undertaken to meet revenue deficits after implementing the recommendations of the Fifth Pay Commission. As much as 73 per cent of aggregate Plan resources for State Plans were raised through borrowings (including borrowings by public undertakings), when the targeted level for the Core Plan was only 59 per cent . States have drawn almost 82 per cent of borrowings targeted during the entire Tenth Plan (in Core Plan terms) in the first four years as against the expected 78 per cent . Yet there is a shortfall in the Core Plan. This is despite reduction in debt-servicing costs because of debt swap operations and greater resort to market borrowings in the falling interest rate scenario.

15.36 Data based on approved financing schemes for 2004-05 and 2005-06 (Table 15.6) indicate that the share of States' own resources in aggregate Plan resources was only 50 per cent against the target of 55 per cent, although later estimates of the likely actual utilization of external aid by States in 2004-05 (available in the Central budget for 2005-06) would improve this slightly to 51 per cent. The share of Central assistance was 49 per cent against 44 per cent targeted under the Core Plan.

15.37 Debt outstanding is still high in a number of States and this is reflected in high debt ratios with consequent preemption of total revenue receipts by interest payment commitments (Table 15.8). Himachal Pradesh and West Bengal are severely debt-stressed with interest payments pre-empting more than 40

Table 15.8
State Debt Situation 2004-05

(%)

State	Interest Payments to Total Revenue Receipts	Debt to Total Revenue Receipts
A. Special Category States		
1. Arunachal Pradesh	11.61	92.18
2. Assam	14.40	129.35
3. Himachal Pradesh	41.31	422.52
4. Jammu & Kashmir	12.10	169.67
5. Manipur	21.67	207.42
6. Meghalaya	11.43	137.12
7. Mizoram	17.52	212.25
8. Nagaland	15.39	142.52
9. Sikkim	4.93	53.17
10. Tripura	13.35	170.94
11. Uttaranchal	17.16	203.17
Total A	**16.53**	**177.87**
B. Non-Special Category States		
1. Andhra Pradesh	23.21	206.31
2. Bihar	23.63	263.30
3. Chattisgarh	14.37	142.72
4. Goa	12.41	87.04
5. Gujarat	28.58	339.06
6. Haryana	23.05	223.08
7. Jharkhand	10.69	196.30
8. Karnataka	15.10	178.65
9. Kerala	25.15	294.89
10. Madhya Pradesh	21.19	244.27
11. Maharashtra	24.40	232.10
12. Orissa	30.20	335.06
13. Punjab	24.70	307.86
14. Rajasthan	29.55	343.04
15. Tamil Nadu	21.09	202.75
16. Uttar Pradesh	30.80	347.82
17. West Bengal	47.93	490.10
Total B	**25.42**	**273.70**
ALL STATES	**24.37**	**262.37**

per cent of total revenue receipts and debt burden more than four times their total revenue receipts. Gujarat, Orissa, Punjab, Rajasthan and Uttar Pradesh also have a high debt overhang.

15.38 Table 15.9 presents the achieved level of resources in the first four years as a percent of the five year Core Plan target for each State separately. The average for all States is 69.48 per cent , which is below the expectation of 78 per cent in four years. It is worth noting that there is considerable variation among the States with several States (Andhra Pradesh, Chhatisgarh, Goa, Haryana, Jharkhand, Karnataka, Madhya Pradesh) being above 80 per cent , while some (Maharashtra, Orissa, Punjab, Uttar Pradesh and West Bengal) are below 60 percent.

ISSUES FOR STATE PLAN RESOURCES

15.39 At the close of the Ninth Plan and in the first three years of the Tenth Plan, Plan financing within the federal fiscal framework was strained by the inability of States to generate revenue surpluses to meet Plan requirements on the revenue and capital accounts in sectors falling under their jurisdiction. This led to continuing underachievement of approved Plan outlays in many States and dependence on Central assistance. Inadequate availability of own resources for State Plans contributed to proliferation of special purpose Central assistance for infrastructure as well as human development through Centrally sponsored schemes (CSSs) and additional Central assistance (ACA). Experience with these programs has not been uniformly satisfactory, as they are often considered to be rigid and inflexible offering limited scope for adjustment to State specific requirements and conditions. The contribution of States themselves to Plan resources has fallen below 2 per cent of GDP, but several critical developmental tasks devolve on them alone. Improving resources of States on a sustainable basis, providing incentives for developmental performance, fiscal prudence and accountability and putting in place successful and flexible mechanisms for intergovernmental

TABLE 15.9
Achieved Resource Levels (First 4 years)
(Target 78%) (%)

State	Achieved
A. Special Category States	
1. Arunachal Pradesh	61.65
2. Assam	81.98
3. Himachal Pradesh	54.03
4. Jammu & Kashmir	68.39
5. Manipur	61.48
6. Meghalaya	66.56
7. Mizoram	87.99
8. Nagaland	78.94
9. Sikkim	98.78
10. Tripura	50.40
11. Uttaranchal	88.86
Total A	70.16
B. Non-Spl. Category States	
1. Andhra Pradesh	87.69
2. Bihar	62.52
3. Chattisgarh	92.02
4. Goa	80.38
5. Gujarat	73.40
6. Haryana	85.03
7. Jharkhand	95.16
8. Karnataka	90.99
9. Kerala	60.53
10. Madhya Pradesh	89.34
11. Maharashtra	48.83
12. Orissa	51.54
13. Punjab	52.62
14. Rajasthan	84.25
15. Tamil Nadu	67.69
16. Uttar Pradesh	56.47
17. West Bengal	52.53
Total B	**69.40**
ALL STATES	**69.48**

transfer are key issues, not only in the remaining period of the Tenth Plan but even more for the Eleventh Plan.

15.40 The first two of these tasks are being addressed to some extent by the recommendations of the Twelfth Finance Commission. From the resource point of view, in absolute terms, during the remaining two years of the Tenth Plan, the BCR position of States will improve both by increase in the size of nonPlan transfers from the Central government as well as by reduction of the interest burden on outstanding Central loans to States under the TFC's debt relief package. However, the extent of improvement likely in the final year of the Plan will be far more muted than that expected in 2005-06. For some States (Assam, Kerala, Punjab and West Bengal) there could even be a lower level of Central transfers (Table 15.9). Drawal on specific purpose grants recommended by the TFC will also depend on the capacity and willingness of States to channel resources to core sectors of physical and social infrastructure.

15.41 The TFC has suggested substitution of Central loan financing by direct access of States to the market and, whenever such lending to States becomes necessary, alignment of Central lending rates to the marginal cost of borrowing for the Centre. The full benefits of this strategy will depend on the extent to which markets are able to meet the requirements of the States and on the States' responses to market perceptions of sustainable development performance. In this context,

(a) States must be encouraged to move to marketbased borrowing over a period of time by designing instruments and procedures that increase their flexibility and autonomy in dealing with markets
(b) Markets should be sensitized and equipped with effective credit appraisal tools and there must be scope for diversification of risk and secondary trading
(c) Institutional procedures need to be evolved to operationalise debt caps and statutory controls must remain sensitive to developmental priorities.

The challenge is to manage the transition without affecting the liquidity position of States or disrupting resource availability for core areas.

15.42 Withdrawal of the debt swap scheme could give States a larger quantum of small savings resources for funding their Plans. However, immediate withdrawal of the Centre from intermediation between financial markets and States could have differential effects across States. It could raise the margin between coupon rates on Central and State paper beyond the current level of 150 basis points. Over time, the impact of the shorter maturity profile of market loans will be felt on the entire debt portfolio of State governments neutralizing the relief in repayments obtained through the loan reschedulement recommended by the TFC. Moreover, since the debt relief package is conditional on reducing the revenue deficit to zero, the most debt-stressed States may be unable to avail of this, opening up a difference between these states and those which can clean their balance sheets through debt write-offs. Debt stressed States, as well as those which are not yet equipped to handle markets and are likely to be the most vulnerable, will require additional attention and support, so that they do not fall behind the rest of the country in terms of developmental goals.

15.43 While the substantial non-Plan assistance recommended by the TFC has been accepted by the Central government, this will not by itself make State Plan resources buoyant on a continued and sustainable basis. The pace of fiscal correction initiated by several States will have to be maintained and quickened. The focus must be on radical reform of own tax and nontax revenue structures and contraction of inessential non-Plan expenditure. Some States have reviewed the changes required to arrest the dip in revenue buoyancy below 1 observed since the second half of the nineties and have started working on extending the tax base, rationalizing slabs, rates and exemptions and improving administration and compliance. (Box) Reform is urgently required in State excise, stamp duties and registration fees and motor vehicle taxes. The rationalisation of stamp duty structure incorporated in the urban reform package promoted by the Central government targeting a 5 per cent rate by the close of the Tenth Plan, which has been formally accepted by at least half the States should become the general norm. The ceiling for property tax which has been fixed in the Constitution at an annual level of Rs.2500 per taxpayer must be lifted or increased to enable States to raise resources. Other stagnant revenue sources are royalties and forest revenues. But the central issue is conversion of existing multiple cascading goods and service taxes into an integrated VAT on consumption, since taxes on consumption account today for almost three quarters of States' own tax revenue.

15.44 The implementation of VAT (earlier implemented only in Haryana) has begun in a number of States on 1/4/2005. This is a welcome development with substantial potential benefit in the future. Even though large revenue loss is not expected in the transition to VAT that could affect BCR projections or Plan financing, the Central government has, nevertheless, earmarked resources for a safety net to compensate States for any possible revenue loss caused by the introduction of VAT. Transitional problems are not unknown in international experience but there is no doubt that adoption of VAT is a major step forward. It will improve State revenues as well as promote growth (which in turn will benefit the State and Central exchequer) by making the system economically neutral.

15.45 As VAT proceeds, certain additional issues will need to be addressed. For example, ideally, there should be a floor rate, not a uniform rate and additional excise duty should be levied by States. Central sales tax should also be removed. On some of these, e.g. CST, the Empowered Committee has already suggested a road map, linked to setting up a Tax Information Network. The major challenge is to eliminate fiscal barriers to inter-State trade and commerce by making VAT destination based as quickly as possible. The Central government's compensation package for revenue loss in the transitional period should not generate perverse incentives that affect design of the optimal tax structure as well as efficient tax administration. The revenue neutral rate should not be driven down through a large exemption list. Economic neutrality and improved compliance also call for classification of goods in terms of value addition, not as inputs or finished products. Finally, the commodity tax room available to the Centre and States will have to be determined with

Action Taken by Some States to Halt Fall in Revenue Buoyancy

Expert Commissions have been appointed by some State governments to review the structure of their tax and nontax revenues.

- The Government of Karnataka has done a full scale review of its tax and nontax structure through expert Tax and Revenue Reforms Commissions, which have made farreaching suggestions for promoting growth and improving revenues though fundamental reform of the fiscal structure.
- The Government of Andhra Pradesh has done a similar exercise through a Revenue Reforms Committee which has recommended measures for raising revenues from different tax handles as well as methodologies for forecasting such resources
- The Govt.of Tamil Nadu's Taxation Reforms and Revenue Augmentation Commission has also provided valuable advice on reform of the State's tax structure as well as administration.

The three sets of documents provide insights and suggestions which could be adopted over the country as a whole to reform all consumption taxes (both on goods and services), reduce stamp duty, rationalise excise duty and motor vehicle tax, modify the structure of other major taxes and rationalize sources of nontax revenue (user charges, royalties, fees and fines etc.)

reference to the constitutional responsibilities of each level within the federal setup. In all these respects, the existing VAT design is a good beginning, with further elaboration anticipated with its progress.

15.46 These major reforms impending in the area of consumption taxation, the principal source of States' own tax revenue, will increase the level of uncertainty regarding availability of resources for State Plan financing. Simultaneous shift to the new policy of direct recourse to market borrowing could further disrupt resource flows for planned development. Above all, the debt overhang of States has still to be addressed. This goes beyond budgeted liabilities or debt incurred by States on the security of the Consolidated Fund to encompass guarantees, the Public Account, unfunded pension, unrecognized obligations and the negative net worth of public undertakings and special purpose vehicles and unpaid bills.

15.47 Swap of Central debt has already changed the composition of the State debt portfolio in favour of market based instruments and exposed States to credit appraisal by independent agencies. This process will be hastened through operationalisation of TFC recommendations. Direct market access by States can improve accountability and fiscal responsibility, but capacity to go to the market without Central support is not uniform across States. States unable to exercise the market option require appropriate risk mitigation support from the Centre, incentivised for fiscal performance. In the transitional period, Central loans may have to be continued at market linked rates, as suggested by the TFC itself, with effects on the Centre's own fiscal deficit. Debt caps and fiscal responsibility legislation will also have to be implemented within the developmental priorities of the Plan if they are not to become a constraint on Plan investment. Common deficit management parameters suggested by the TFC would have to give way to a case by case approach to debt management for different States.

15.48 Decline in the share of Central loans in State debt portfolios has brought into sharp focus unresolved issues related to the lending policies of public financial institutions and national cooperatives like NCDC, LIC, GIC, NABARD and HUDCO. These bodies will have to introduce good appraisal procedures and viability assessment methodologies into current standardized programs, so that worthwhile projects with developmental potential are promoted on merits at risk-differentiated interest rates and State guarantees sought only when unavoidable. An issue that was not addressed by the TFC is the need for interest rate relief and debt swap for loans by term lending institutions at very high rates in the past.

15.49 A potentially disturbing development on the debt side concerns the nature and cost of borrowings from the National Small Savings Fund (NSSF). The Twelfth Finance Commission has provided no relief on this account, which is the principal source of Plan loans for many States and might soon account for a disproportionate share of the States' debt servicing burden. Some States whose BCRs can be expected to worsen due to reduction in non-Plan transfers from the Centre in the concluding year of the Tenth Plan will also be those most burdened with NSSF loans.

15.50 Under existing policies, lending rates from this source continue to remain several percentage points above the coupon rate for State paper in the market reflecting the fact that the interest rate on these savings is fixed administratively by the Central government and the cost of administering the scheme is also high. Furthermore, there is no scope for prepayment. States that have access to alternate sources of market funds are seeking substitution of NSSF entitlements by other borrowings. NSSF liabilities could then devolve on the Central budget to some extent and this may in turn cause the Centre to push other States even further into this relatively high cost source.

15.51 Review of the current structure of the NSSF appears imperative, not only with regard to the interest rate mix offered on various savings schemes but also with an eye to rationalization of commissions offered to agents, optimal investment of surpluses and efficient management. More generally, although small savings are now off the Central Budget, the Centre's ability to fix lending terms and its growing importance as source of finance for State Plans makes this a potentially disruptive issue in Centre-State financial relations which needs to be confronted directly and with urgency.

15.52 The losses incurred by power utilities have imposed a major drain on State resources. As against the earlier obligation to provide a statutory rate of return for Electricity Boards and rural electrification subsidy, there is now the impact of open-ended guarantees for market resources raised by State-owned utilities as well as tariffs contracted with independent power producers (IPPs) and Central power utilities, obligations related to restructuring plans (and debt relief packages) and subsidy orders passed by Regulatory Commissions. Since most power utilities continue to be State-owned, they revert back to budgetary support to shore up their balance sheets. Power sector reform has proceeded slowly with hiccups and backtracking. (Chapter 10, paras 10.15 and 10.16). The need for improving the efficiency of the transmission and distribution structure by making it responsive to market signals is acknowledged, but several thorny issues relating to pricing, privatization, unbundling and power trading have not been fully resolved.

15.53 Meanwhile, the State budget continues as a safety net for the deficits of electricity boards and their successor undertakings. Accounting practices of power utilities differ depending on their formal structure as departmental undertakings, Electricity Boards, public enterprises and private or joint sector companies with different degrees and types of unbundling. Dependence on State support, which is understated at the planning stage, is a major factor in non-realisation of approved resource levels. Shift to formal regulatory procedures has, however, improved the situation and provided benchmark data on the budgetary burden of the power sector. Structural reform of these utilities is essential to ensure availability of resources for State Plans.

15.54 Another disturbing development needs to be reversed. Central power utilities, with assured rates of return determined by the Central regulator largely on cost-plus basis and access to mechanisms for adjustment at source of claims on State utilities out of Central Plan assistance, have begun to take over investment in power generation and transmission from cash-strapped State electricity boards, which enjoy little negotiating strength in the fixation of power sale tariffs. (Chapter 10, paras 10.14 and 10.16). The cumulative burden of these costs devolves eventually on State budgets.

15.55 On the expenditure front, improvement in the BCR must focus on better quality expenditure and policy reform. Pension and public sector reform are inevitable, with or without dilution of government equity. The significance of adequate maintenance expenditure for economic and social infrastructure must be recognized. Fiscal consolidation and Plan financing must be done with adequate safeguards for such sectors and where necessary budgetary provisions should be enhanced.

15.56 Disparities among States are growing in terms of per capita NSDP as well as HDIs. While developed States may be able to raise own resources or leverage private and institutional funds, most special category States and lower income ones depend on Central revenue flows for a substantial share of expenditure. Their Plan sizes could be affected by decline in the Centre's tax/GDP ratio as well as shift to market based financing. Special category States also have a structural imbalance and use Plan resources to fill their non-Plan gap. For such States, dependable sources of own resources have to be identified and tapped to make them self-reliant, responsible and efficient. Till then, improved cash management and adequate levels of transfer are essential not merely to fund State Plans but also to provide counterpart funds for Centrally sponsored schemes.

15.57 The role of external aid has been sharply reduced in Tenth Plan financing although it has had a significant beneficial impact at the State level in inducing fiscal consolidation and restraint through structural adjustment lending. Evaluation reports confirm that externally aided projects do ensure better service delivery through detailed program design and closer monitoring of outcomes. Back to back transfer of external aid to States is a move in the right direction as it will promote responsibility and accountability on the part of States and pass on financial incentives tied to priority sectors to implementing States. There may also be a case for tying external aid inflows to the achievement of Millennium Development Goals linked to poverty alleviation, infrastructure, health and education particularly in less developed and special category States.

15.58 In a federal fiscal environment, for managing vertical and horizontal imbalances, general purpose transfers can equalize to some extent divergence in the capacities of States to meet their constitutional responsibilities, but specific purpose transfers are unavoidable to provide a minimum level of services to all citizens. The roles of the Centre and States in funding investment in physical infrastructure and social sectors are changing, with growing demand for redistributive transfers. The Centre seems to be taking over some of the revenue responsibility of States through major CSSs like those in education, for example. Widespread criticism of the proliferation of Centrally sponsored schemes and Additional Central Assistance has not yet thrown up a satisfactory alternative model for providing minimum developmental levels in laggard States. The practice will have to continue but essential correctives must also be put in place. Apart from overall simplification and rationalization of existing Centrally sponsored schemes, there is urgent need to bundle together disparate CSS programs in key sectors like agriculture, water resource management, health etc. and make funds available with greater flexibility to implementing districts and panchayat bodies so that local ownership, initiative and supervision become possible to achieve program targets and outcomes. Further work will have to be done forthwith in this area to develop appropriate models.

15.59 The challenge for both CSSs and external aid is to ensure that limited resources are allocated to sectors and regions to produce optimal results. Since inter-State divergences are high, there will be a trade-off between equity and efficiency. Better-off States have also to be drawn into a consensus using transparent fund allocating mechanisms.

15.60 A large unexplored source of Plan financing that is yet to be understood and tapped is local body finance. Data for urban areas is available, but it is inadequately understood, collated and analysed. For rural areas, despite figures put out by State Finance Commissions, hardly any work has been done. Kerala and Karnataka alone have reconciled and validated with difficulty panchayat level data. Such analysis must be undertaken rapidly in all States. Field level experience in Karnataka and Kerala supports the hypothesis that an empowered and enlightened local body will willingly raise resources for desired local programs. Statutory provisions for resource raising by local bodies must be revitalized so that property taxes, user charges and fees are brought into line with perceived needs. This could be an area of great potential for future Plan financing.

THE WAY FORWARD

- The feasibility of financing the remaining part of the Tenth Plan will depend very critically on the ability of the Centre to increase its tax revenues. This requires expeditious removal of exemptions and an approach that takes into account effects likely from reduction of customs duties. Slippage in this area could lead to a tradeoff between FRBM targets and growth in the early years of the Eleventh Plan.
- In view of the limitation on expenditure by fiscal legislation, the Special Purpose Vehicle for financing infrastructure announced in the budget provides a

mechanism for directing additional resources to infrastructure and needs to be operationalised at the earliest.

- Where the NCMP allows sale of equity of Central PSUs, additional resources may be available. Whether and how this can add to Plan finances would however depend on the way the Fund set up for this purpose is designed. This matter needs to be examined.
- Rationalisation of domestic indirect tax structures is required not only to increase buoyancy and reduce cascading but also for customs duties to provide true protection to domestic industry. The transition to VAT enables reduction in economic disparities and should encourage investment. Its expansion to all States and a future move to the destination principle should further strengthen its structure. The goal should be movement to a comprehensive consumption tax regime at the level of both the States and the Centre.
- The power sector continues to be a burden on State finances with effects related to the operation of Central public sector utilities also. Comprehensive reform in this area will have a significant effect on Plan financing as a whole.
- The TFC has correctly pointed towards a shift of State borrowings from the Centre to markets to enable them to raise resources in an autonomous and responsible manner. However, balance sheets of States need to be cleaned before they are made to depend upon the market for loans. Debt relief offered by the TFC is limited to interest on Central loans with debt write-off is conditional on States being able to eliminate their revenue deficits. This is inadequate for severely debt-stressed States. Because of their high and inelastic interest burden, some of these States will not be able to eliminate their revenue deficits and become ineligible for debt relief. Such States will not only have to forego the full TFC benefits but are also likely to face higher costs in future market borrowings. This needs to be rectified urgently through a more case sensitive approach.
- If States are to have the option of not borrowing from the NSSF, the maturity transformation currently made by this fund should be removed. In parallel with market loans, States should be on-lent at the same maturity as collection and at rates which differ only by a reasonable commission charge.
- The whole area of Centrally Sponsored Schemes remains unresolved. Although the NCMP mandates reduction in the number of such schemes, it also suggests large increases in expenditure on some of these schemes. This is an outcome of the fact that expenditure compression in the past has led to cuts in areas such as health and education. The issue needs to be approached with greater sensitivity to the nature and quality of expenditure compression in future fiscal responsibility measures.

The International Context

16.1 There has been a phenomenal growth in the exports of both goods and services during the Tenth Five-Year Plan period. With the accelerated pace of liberalisation and globalisation in the world economy, India has benefited from the increased opportunities especially in the information technology (IT), IT-enabled services (ITES), knowledge related sectors and the increasing move towards global sourcing of manufactures. One of the main benefits of trade liberalisation has been a marked increase in the pace of modernisation and technological upgradation of Indian industry. The consequent improvements in efficiency have enabled Indian industry to increase its share in world exports, which has substantially mitigated the adverse effects of the domestic cyclical slow down. Another beneficial effect of trade liberalisation has been to keep inflation under check. The possibility of import of goods from abroad after quantitative restrictions were lifted introduced an additional competitive dimension in Indian markets and eased domestic supply constraints. In addition, access to cheaper import of raw materials and intermediates has led to reductions in domestic production costs and prices, which has further strengthened efficiency in Indian industry. Consequently, during the last year, exports in April- February 2004-05 have grown by 27 per cent in US dollar terms on top of an export growth rate of 15.5 per cent in the previous year.

16.2 **Trade and investment policy reform:** Since the introduction of economic reforms in 1991-92, impressive trade policy reforms have been carried out in the country. The peak level of tariff on industrial products had already been brought down from 300 per cent prevailing in 1991-92 to 35 per cent in 2001-02. During the Tenth Plan, the general peak rate has been further reduced in successive years. In the Union Budget for 2005-06 it has been brought down to 15 per cent on all non-agricultural products, with a few exceptions. These changes have further reduced the tariff average from 22.4 per cent in 2004-05 to 18.3 per cent in 2005-06. However, as shown in Table 16.1, despite these reductions, the average applied tariffs in India are still higher than those of most developing countries at a comparable stage of development and much higher than those of the Organisation of Economic Cooperation and Development (OECD) countries.

16.3 At the commencement of economic reforms, import controls were withdrawn on virtually all raw materials, intermediates and capital goods. With effect from 1 April 2001, virtually all the remaining quantitative restrictions had been eliminated, except those maintained for protecting human, animal or plant life and for other reasons specifically provided for in the World Trade Organisation (WTO) Agreement. The process of liberalisation continued during the Tenth Plan and 83 products were placed on open general licence (OGL) in 2002-03, 69 in 2003-04 and 42 in 2004-05. Cash Compensatory Support for exports was given up in 1991-92 itself and the phase-out of income tax rebate for profits from exports, under 80HHC of the Income Tax Act, commenced shortly thereafter. The phase-out of the income tax benefit for export profits was completed in 2003-04 and after that the main export incentives being continued are those that are aimed at ensuring that indirect taxes and charges are either not levied on exports or are fully rebated.

16.4 One aspect of trade policy, though fully WTO compatible, has invited adverse comment. There was a big increase in the use of anti-dumping measures in the country. From

Table 16.1
Country profile of trade and tariff

Country	Trade to GDP (%)	Bound Tariff (%)			Statutory/Applied Tariffs (%)		
		All Goods	Agri. Goods	Non-Agri.	All Goods	Agri. Goods	Non-Agri.
India @	30.7	**49.8**	**114.5**	**34.3**	**18.3**	**36.9**	**15.5**
Argentina ~	25.1	31.9	32.6	31.8	14.2	10.3	14.8
Australia ~	42.9	9.9	3.2	11.0	4.2	1.1	4.6
Brazil#	26.2	31.4	35.5	30.8	13.8	11.7	14.1
Canada#	83.6	5.1	3.5	5.3	4.1	3.1	4.2
Chile ~	64.1	25.1	26.0	25.0	6.0	6.0	5.9
China#	50.9	10.0	15.8	9.1	12.4	19.2	11.3
EU*	28.7	4.1	5.8	3.9	4.2	5.9	4.0
Indonesia#	77.0	37.1	47.0	35.6	6.9	8.2	6.7
Japan#	21.1	2.9	6.9	2.3	3.2	7.3	2.7
Korea Rep. of ~	73.0	16.1	52.9	10.2	11.6	42.1	7.0
Malaysia+	218.1	14.5	12.2	14.9	7.3	2.1	8.1
Pakistan ~	39.1	52.4	97.1	35.3	17.1	20.4	16.6
S. Africa#	58.7	19.1	39.8	15.8	5.8	9.1	5.3
Thailand+	124.5	25.7	35.5	24.2	16.1	29.0	14.2
U.K.*	55.8	4.1	5.8	3.9	4.2	5.9	4.0
U.S.#	24.1	3.6	6.9	3.2	3.9	5.1	3.7

Source: WTO Website Statistics Database
+ Applied Tariff Rates for 2001. # Applied Tariff Rates for 2002. @ Applied Tariff Rates for 2005
- Applied Tariff Rates for 2003. * Applied Tariff Rates for 2004.

an average of five cases initiated annually in the period 1994-96, the number had risen to 30 every year in the period 2001-03. In both 2001 and 2002, India was the leading user of anti-dumping measures among WTO members. In 2002, it accounted for about 25 per cent of the cases initiated, the second being the United States at about 11 per cent. However, the trend has now reversed and the number of initiations fell to 14 in 2003-04 and further to 9 in 2004-05 (up to 2nd November 2004).

STATUS OF THE EXTERNAL SECTOR

Exports

16.5 The Tenth Plan had projected that exports would increase from $ 44,915 million in 2001-02 to $ 80,419 million by 2006-07, showing a compound growth rate of 12.4 per cent during the Plan period. In 2003, India stood at 31st position with a share of 0.7 per cent of world exports (Table 16.2). This follows a growth rate of over 20 per cent achieved in each of the previous two years. The trend indicates that India's exports will exceed the target set in the Tenth Plan. The destination pattern of India's exports shows that exports to Asian countries increased sharply, indicative of the role of improvement in the macro-economic performance in the region in generating demand. Among the advanced economies, exports to France, Germany, the United Kingdom increased sharply. Exports to the United States also increased, although at a slower pace. Exports to Japan declined, while exports to China grew rapidly (Table 16.3)

16.6 India's merchandise exports are predominated by manufactured items, which

Table 16.2
Leading exporters in world merchandise trade 2003

Rank	Country	Value(Billion $)	Share (%)
1	Germany	748.3	10.0
2	United States	723.8	9.6
3	Japan	471.8	6.3
4	China	437.9	5.8
5	France	386.7	5.2
17	Russian Federation.	134.4	1.8
25	Brazil	73.1	1.0
31	**India**	**56.0**	0.7
38	South Africa	36.5	0.5
50	Kuwait	19.4	0.3
	World^	7503.0	100.0

^ includes significant re-exports
Source: International Trade Statistics, 2004, WTO

Table 16.3
Export Destinations

(Value in $Million)

Country			Percentage	
	2002-03	2003-04	Growth	Weight
United States	10895.76	11459.97	5.18	18.06
UAE	3327.48	5079.98	52.67	8.01
Hong Kong	2613.33	3250.32	24.37	5.12
United Kingdom	2496.41	3033.24	21.50	4.78
PR China	1975.48	2959.22	49.80	4.66
Germany	2106.68	2522.39	19.73	3.98
Singapore	1421.58	2116.54	48.89	3.34
Belgium	1661.84	1805.84	8.67	2.85
Japan	1864.03	1714.34	-8.03	2.70
Italy	1357.08	1703.82	25.55	2.69
Bangladesh	1176.00	1646.08	39.97	2.59
Sri Lanka	920.98	1320.39	43.37	2.08
Netherlands	1047.91	1277.73	21.93	2.01
France	1074.09	1289.80	20.08	2.03
Indonesia	828.08	1123.22	35.97	1.77

Source: Deptt. of Commerce

accounted for more than three-fourths of its total exports during the 1990s. This is also the pattern of global trade. Within manufactured items, there has been a considerable change in the relative importance of different products; the products which increased their share were chemicals and allied products, engineering goods, readymade garments, textile yarn, fabrics, made-ups and gems and jewellery. With increasing confidence in manufacturing, there has been a decline in the exports of primary products since the 1990s and India has been moving up the value chain. The unit labour cost of manufacturing exports in India is one of the lowest among the developing countries and this comparative advantage has been enhanced by the productivity growth since the 1980s, which has outpaced the real wages in this sector. With sizeable growth in exports of auto-parts and pharmaceutical products it has been demonstrated that India has an emerging competitiveness in skill intensive manufactures.

16.7 Prospects for future growth in manufacturing are promising. In a study commissioned by the Confederation of Indian Industries (CII) in October 2004, it has been estimated that exports of manufactures can be raised from the level of $ 40 billion in 2002-03 to $ 300 billion by 2015. An additional spin-off of export production is that it would generate additional employment and domestic demand for manufactured goods by the new income earners. The overall manufacturing output including export has been estimated in that study to grow from $ 360 billion in 2002-03 to $ 1,400 billion by 2015. Consequently, the estimate of job creation in the manufacturing and allied sectors is of the order of 75-100 million jobs over the next 12 years or approximately 6-8 million jobs per annum.

16.8 Growth of manufacturing, whether for export or domestic consumption, has the additional benefit of providing employment to persons with different levels of skills, including even the unskilled workers. This is because manufacturing has backward and forward linkages with mining, electricity generation and construction activities, all of which can absorb unskilled workers from rural areas with minimal training.

Table 16.4
Leading importers in world merchandise trade 2003

Rank	Country	Value (Billion $)	Share (%)
1	United States	1303.1	16.8
2	Germany	601.7	7.7
3	China	413.1	5.3
4	United Kingdom	390.8	5.0
5	France	390.5	5.0
6	Japan	382.9	4.9
15	Singapore	127.9	1.6
24	**India**	70.7	0.9
30	Brazil	50.7	0.7
35	South Africa	41.1	0.5
50	Morocco	14.2	0.2
	World^	7778.0	100.0

^ Includes significant imports for re-exports.
Source: International Trade Statistics, 2004, WTO

IMPORTS

16.9 Apart from demand factors, changes in tariff levels strongly influenced imports. India's imports during 2003-04 are valued at $ 77,032 million representing an increase of 25.4 per cent over the level of imports valued at $ 61,412 million during 2002-03. In 2003, India was ranked 24th, with a share of 0.9 per cent of world imports (Table 16.4). The country's effort to diversify its trade is reflected in the more rapid growth of imports from non-traditional sources. Imports from USA, UK, France and Germany increased by less than 45 per cent, while imports from other countries has been growing much faster (Table 16.5).

EXTERNAL SECTOR PROJECTIONS

16.10 The Tenth Plan had projected 8 per cent growth in gross domestic product (GDP) with increase in investment rate to 32.3 per cent by 2006-07 as against the base year investment rate of 24.3 per cent. The savings ratio was expected to increase to 29.4 per cent by 2006-07, as against a level of 23.5 per cent in 2001-02. The implied current account deficit seen in terms of the gap between investment requirement and domestic savings was an estimated 2.9 per cent of GDP by 2006-07 and an average 1.6 per cent for the Plan as a whole.

16.11 During the first two years of the Tenth Plan period, the growth in GDP at market prices has been 6.4 per cent. As per the present projections, the GDP is expected to grow at an average 7.26 per cent during the remaining years of the Plan period. On this basis, the required investment rate would be 25.8 per cent by 2006-07 and the savings ratio is expected to increase to 26 per cent.

16.12 Looking at the behavioural side of the current account balance (CAB) and the trend in exports and imports during first two years

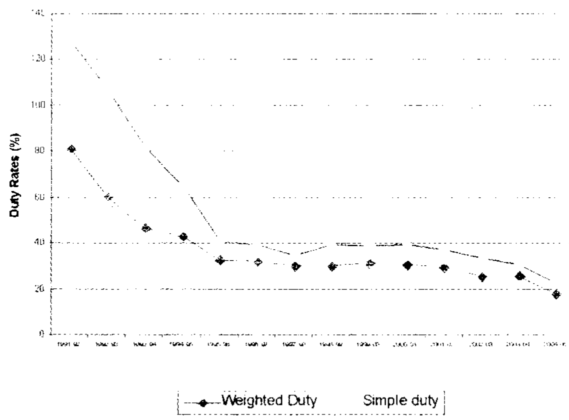
Table 16.5
Import origins

($ million)

Country	Value		Percentage	
	2002-03	2003-04	Growth	Weight
United States	4443.6	4862.6	9.43	6.31
PR China	2792.0	4048.3	45.00	5.26
United Kingdom	2777.0	3176.0	14.37	4.12
Germany	2404.5	2911.3	21.07	3.78
Japan	1836.3	2642.3	43.89	3.43
Australia	1336.8	2620.4	96.0	3.40
Korea RP	1522.0	2453.6	61.21	3.19
Indonesia	1380.9	2096.2	51.81	2.72
UAE	957.0	2059.7	115.23	2.67
Malaysia	1465.4	2045.2	39.56	2.65
Singapore	1434.8	2030.0	41.48	2.64
Hong Kong	972.6	1492.6	53.46	1.94
France	1094.2	1054.5	-3.62	1.37
Russia	592.6	959.5	61.91	1.25
Saudi Arabia	504.7	737.2	46.06	0.96

Source: Deptt. of Commerce

Graph 16.1: SIMPLE AND WEIGHTED AVERAGE TOTAL DUTY RATES



of the Plan, projections have been re-worked for the remaining years of the Plan period. The determining variables for exports and imports are the same as those taken earlier for the Tenth Plan period and results given in Table 16.6. Here the growth in GDP at factor cost and at current prices has been taken at the rate of 7.47 per cent, 7.66 per cent during 2005 to 2007 respectively along with a year-to-year inflation of 5 per cent.

16.13 Graph 16.1 shows the trend in customs tariffs during the period 1991-92 to 2004-05. It may be seen that the simple average of total duty rates has been reduced substantially from 128 per cent in 1991-92 to 18.3 per cent in 2005-06. With reduction in duty rates, the gap between simple and weighted average duty rates has narrowed. The weighted average duty rate was 81.4 per cent in 1991-92 and has come down to 14.3 per cent in 2005-06. The projections in Table 16.6 indicate that imports would increase to $ 1,40,207 million by 2006-07 if average tariffs are reduced to 15 per cent. This would imply an increase of 20 per cent average for the Tenth Plan period as a whole, with an elasticity of 1.6. Exports would increase to $ 94,896 million by 2006-07, i.e. at an average 16.2 per cent during the Plan period and elasticity of 1.3. The rates of growth of imports and exports are higher than projected at the beginning of the Plan period. The trade balance is worse than that projected initially owing to the faster growth of imports.

16.14 However, it is important to note that there has been substantial spurt in oil prices from an average landed cost of $ 20.73 a barrel in 2001-02 to an average of $ 36.20 a barrel in the first six months of 2004-05 and further to $ 43.4 a barrel in October 2004. As on 14 March 2005, the Organisation of Petroleum Exporting Countries (OPEC) Reference Basket prices (arithmetic average of seven selected crudes) have increased to $ 49.59 from the

Table 16.6
Current account balance

(US $ Million)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	Total	Growth Rate (%)
GDP	436459	461019	548352	617628	694646	782588	3104232	12.4
Exports	44703	53774	64723	72468	82512	94896	368374	16.2
Imports	56277	64464	80177	102912	121331	140207	509091	20.0
Trade Balance	-11574	-10690	-15454	-30444	-38819	-45311	-140718	
Trade Balance/GDP	-2.7	-2.3	-2.8	-4.9	-5.6	-5.8	-4.5	
Invisibles - Receipts	36737	41925	52982	59210	67401	73300	298972	14.8
Invisibles - Payments	21763	24890	26967	29165	32082	35290	149377	10.4
Invisibles (Net)	14974	17035	26015	30045	35319	37610	146023	20.2
Current Account Balance	3400	6345	10561	-399	-3500	-7701	5306	
Current Account/GDP	0.8	1.4	1.9	-0.1	-0.5	-1.0	0.2	

Table 16.7
Inflow on capital account

(US $ Million)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	Plan Average
External Assistance (Net)	1117	-3128	-2742	1410	1329	1572	-312
Commercial Borrowings (Net)	-1585	-1692	-1526	3200	-3740	4400	128
Non-resident Deposits (Net)	2754	2978	3642	2500	2750	2750	2924
Rupee Debt Service	-519	-474	-376	-600	-600	-600	-530
Foreign Direct Investment (Net)	4734	3217	3420	4300	4950	5600	4297
Portfolio Investment	1952	944	11356	8500	6500	7500	6960
Foreign Investment Inflows (Net)	6686	4161	14776	12800	11450	13100	11257
Other Capital Flows (Net)	781	578	2759	1000	1000	1000	1267
Capital Account Total (Net)	8551	10840	20542	20310	12189	22222	17221

peak observed in October 2004. An average crude oil price of $ 40 a barrel for 2004-05 as a whole and also in the remaining two years of the Tenth Plan has been assumed. In this scenario, the oil imports would increase to $ 31.3 billion by 2006-07, as against of $ 16.2 billion the initial Plan estimate at oil prices that prevailed in 2001-02. Correspondingly, the total import bill may reach $ 156.2 billion.

16.15 The projections for flow of invisibles are based on an eight-year trend growth of 14.8 per cent for receipts and 10.4 per cent for payments. The growth in receipt of invisibles at an average 20 per cent during the first two years has somewhat compensated for the trade deficit. In fact, there has been a current account surplus at present although a deficit may arise during the last two years of the Plan. The average CAB for the Plan as a whole is projected at $ 7,540 million and a CAB to GDP ratio of 0.46.

16.16 The projections of inflow on capital account are at Table16.7 and are broadly in line with the future commitments and resource utilisation. The foreign direct investment (FDI) inflows are expected to reach $ 5,600 million in 2006-07 from the present level of $ 3,420 million in 2003-04. There has been a huge surge in the relatively volatile portfolio investment during 2003-04, reaching $ 11,356 million, but it is expected to stabilise at $ 7,500 by 2006-07. The total inflows on capital account are expected to reach $22,222 million in the last year of the Plan period. Key indicators on the balance of payments are given in Annexure 16.1.

FOREIGN INVESTMENT

16.17 One of the most significant developments in the world economy in the 1990s has been the high level of capital flows. This has taken place due to factors like greater financial liberalisation, improvement in information technology, emergence and proliferation of institutional investors such as mutual and pension funds etc. Private capital flows are concentrated in a few key emerging market economies (EMEs), but India is now viewed as part of this group and has, therefore, benefited from these flows. In recent years, the country's dependence on aid has greatly diminished and the capital account has been dominated by flows in the form of FDI, portfolio investments including American Depository Receipts (ADR)/Global Depository Receipts (GDR) issues, external commercial borrowings, non-resident deposits and special deposit schemes such as India Development Bonds (IDBs), Resurgent India Bonds (RIBs) and India Millennium Deposits (IMDs). With liberalisation and structural adjustment since 1991, the country has embarked on a policy of encouraging capital flows in a cautious manner.

Table 16.8
FDI: country-wise and industry-wise inflows

(US$ million)

Country / Industry	2001-02	2002-03	2003-04 (P)	2004-05**
Total FDI	**2,988**	**1,658**	**1,462**	**744**
Country-wise Inflows				
Mauritius	1,863	534	381	279
United States	364	268	297	184
United Kingdom	45	224	157	41
Germany	74	103	69	26
Netherlands	68	94	197	5
Japan	143	66	67	2
France	88	53	34	24
Singapore	54	39	15	17
Switzerland	6	35	5	46
South Korea	3	15	22	0
Others	280	227	218	120
Industry-wise Inflows				
Chemical & allied products	67	53	46	38
Computers	368	297	151	121
Engineering	231	262	274	90
Electronics & electrical equip.	659	95	103	52
Finance	22	54	4	6
Food & dairy prod.	49	35	63	10
Pharmaceuticals	69	44	79	132
Services	1,128	509	431	196
Others	395	309	311	99

* : Data in this table exclude FDI inflows under the NRI direct investment route through the Reserve Bank and inflows due to acquisition of shares under Section 5 of the FEMA, 1999.
P : Provisional ** April-July SOURCE: RBI.

The strategy has been to encourage long-term capital inflows, and discourage short-term and volatile flows, in view of their non-debt creating and non-volatile nature. Details regarding country-wise and industry-wise inflows of FDI are given in Table 16.8.

Liberalisation of FDI Policy

16.18 FDI flows are generally regarded as much less volatile than certain other types of capital inflows and there has been a steady liberalisation of policy towards FDI over the past 15 years. The National Common Minimum Programme (NCMP) has endorsed the importance of FDI and has set the target of doubling or trebling this category of flows. A number of steps towards further liberalisation have been taken in the Tenth Plan. A beginning in allowing FDI in agriculture was made when it was permitted up to 100 per cent in the tea sector, including plantations, through the Foreign Investment Promotion Board (FIPB) route, subject to compulsory divestment of 26 per cent in favour of an Indian partner or the Indian public within five years. The time limit for royalty payment for foreign technology collaboration by joint ventures was removed on 2003-04. In the service sector, the FDI limit has been raised to 100 per cent on the automatic route for petroleum product marketing, oil exploration and petroleum product pipeline and on the FIPB route for natural gas/LNG gas pipeline. For private banking the foreign investment (FDI+FII) limit was raised from 49 to 74 per cent under the automatic route. Foreign banks regulated by a banking supervisory authority in the home country and meeting the Reserve Bank of India (RBI) licensing criteria were allowed to hold 100 per cent equity to enable them to set up a wholly owned subsidiary in India.

16.19 The FDI limit has been eliminated in all except a few areas in the negative list in the manufacturing sector and in the majority of sub-sectors in the service sector. Key service sub-sectors still subject to FDI ceiling are basic telecom services (49 per cent), insurance/insurance-related services (26 per cent), banking and other financial services (26 per cent) and air transport services (49 per cent with no FDI from foreign airlines). Important areas where FDI is not allowed at all are selected business services (legal, accounting and taxation) and retail services.

FDI and FII

16.20 FDI inflows into India are often compared with the much larger FDI inflows to China. However, as various international studies have shown, the FDI flows into India are understated compared to China, because of definitional differences. A committee with representatives from RBI, Department of Industrial Policy and Promotion and the Ministry of Finance, constituted in May 2002, has tried to correct the definition of FDI in India to bring it into conformity with international practice. Earlier, the data on FDI reported in the balance of payments statistics used to include only equity capital. The revised definition includes three categories of capital flows under FDI: promoters' equity capital, reinvested earnings and other direct capital. Even after the revision, inflows into India are about one-tenth of inflows to China. As per the revised figures, FDI during 2001-02 was \$ 6.1 billion. FDI flows to India remained subdued during 2002-03 (\$ 5.1 billion) and 2003-04 (\$ 4.7 billion) in line with the slowing down of FDI flows to the developing countries in general. However, the overall environment in 2004-05 appears to have improved with FII inflows rising sharply.

16.21 Another aspect that needs to be borne in mind is that there are much higher portfolio inflows into India than into China. In 2003-04, portfolio investments into India were of the order of \$ 11.36 billion. When a foreign portfolio investor buys shares in the secondary market, the capital of the Indian seller is released for investment elsewhere. Thus the total investible resources for investment into businesses would increase on account of both the FDI and FII inflows. As portfolio investment by FII in well run businesses is also of a quasi-permanent nature, one needs to take a holistic view of total foreign investment as a supplemental source of investible resources in the country.

16.22 The flow of foreign investment is influenced by the overall investment climate in the country. Various indicators of the investment climate have been identified and a number of international organisations rank countries on different criteria. Transparency International ranks countries on Corruption Perception Index and the World Economic Forum ranks countries on the basis of investment friendliness. In the latest World Development Report, 2005, the World Bank estimated a number of investment climate indicators based on expert polls and other surveys. The time taken for certain investment related activities in a few countries are given in Table 16.9. This should be viewed keeping in mind the caveat of the World Bank that "while averages are reported, there are significant variations across firms. The data are not intended for the ranking of countries".

Table 16.9
Investment climate indicators

Time required For	**India**	China	South Korea	United States
Starting a business (Days)	89	41	22	5
Enforcing a contract (Days)	425	241	75	250
Registering property (Days)	67	32	11	12
Resolving insolvency (Years)	10	2.4	1.5	3

Source: World Development Report 2005, World Bank

Utilisation of Foreign Exchange Reserves

16.23 The level of foreign exchange reserves has steadily increased from less than $ 1 billion as of end-June 1991 to $ 140.4 billion on 11th March 2005. This has been fuelled by FII inflows and remittances from workers, the latter being $ 23.2 billion in 2003-04. In terms of the adequacy indicators of trade-related reserves, India's foreign exchange reserves are adequate for about 17 months of imports. The accretion to foreign exchange reserves, particularly in the context of the falling value of the US dollar, creates an opportunity for providing a part of the huge financial requirement for creating world-class infrastructure. The extent to which we can draw down foreign exchange reserves for this purpose will depend upon our perception of the need for reserves to cover balance of payments risks and the possibility of utilising them in a non-inflationary manner.

Trade and Exchange Rate Policy

16.24 The Tenth Plan document recognised that the most important pre-condition for a more open economy is the creation of an expanding production base which can not only withstand external competition but also provide the surplus necessary to ensure sufficient export earnings to meet the import needs of the country. Another is to create conditions under which the export market becomes equally attractive as the domestic market, as this would encourage both a shift from producing principally for the domestic market and developing capacities to specifically target export opportunities. The reorientation of the incentives structure towards investment in tradable goods and services combined with improvement in relative profitability of exports vis-à-vis domestic sales, were the focus areas indicated in the Plan for this purpose.

16.25 The roadmap for achieving export growth in the medium term has been indicated in the Medium Term Export Strategy (MTES). The Strategy aims to increase the country's share in world trade to 1 per cent by 2006-07. For achieving this, the MTES has incorporated product and market identification for exports as well as focus on sector-wise, micro and macro strategies for identifying potential sectors based on the assessment of the changing global trade scenario and revealed comparative advantages. The Export-Import (EXIM) Policy for 2002-07 emphasised export market diversification with special focus on unexploited regions like Sub-Saharan Africa and the Commonwealth of Independent States (CIS). However, the maximum growth in exports can be expected from the largest trading partners i.e. the United States and European Union. It has also stressed on a farm-to-port approach for exports of agricultural products, and upgrading the export infrastructure for hiking Assistance to States for Infrastructural Development for Exports (ASIDE). The policy has been further fine-tuned in the Foreign Trade Policy (1st September, 2004 - 31st March, 2009). The new Foreign Trade Policy is built around two major objectives – to double India's percentage share of global merchandise trade within the next five years and to act as an effective instrument of economic growth by giving a thrust to employment generation.

EXPORT INCENTIVE PROGRAMMES

16.26 The export incentives programmes of the Government are mainly in the nature of schemes that are aimed at ensuring the tax neutrality of the exported products. Details of the various schemes are given in Box 16.1.

16.27 Over the past few years, the importing countries such as the European Union, United States and Canada have treated some of the above schemes, particularly the DEPB scheme, as subsidy practices and levied countervailing duties on such imports from India. In particular, rebate of duties on capital goods under the EPCG scheme as well as under other schemes of the Department of Commerce have been targeted as such rebate is treated as an actionable subsidy under the WTO Agreement. The rule that makes the rebate of duties on capital goods countervailable is, however, an apparent flaw in the WTO Agreement on Subsidies and Countervailing Measures (ASCM), as it is arguably against the intent of the relevant rule in GATT 1994. For this reason, in the Doha Round of negotiations, the Department of Commerce is pursuing the proposal to suitably amend the ASCM Agreement. Under the WTO Agreement, duty drawback or substitution drawback schemes are non-actionable provided the payment is not in excess of the levies actually paid on inputs. Substitution drawback implies the use initially of domestic inputs and subsequent imports of the same inputs. The duty drawback scheme of the Department of Revenue has never been countervailed. However, the DEPB scheme is being countervailed as the related certificates can be used to pay customs duty for any import and not necessarily imports of inputs used in the production of exported product. Absence of the requirement to import the very inputs that have been used in the exported product makes the DEPB payments countervailable in terms of WTO rules. It is therefore necessary to consider suitable modification in the scheme to make it non-countervailable, or, better still, to subsume it under the duty drawback scheme.

Box 16.1
Export Incentive Programmes

Duty Drawback Scheme: Provides for refund of duties of customs and central excise on basic inputs like raw materials, components, intermediates and packing material used in the manufacture of the exported item.

Duty Entitlement Pass Book (DEPB) Scheme: The exporter may apply for duty credit as a specified percentage of the free on board (fob) value of exports. The DEPB credits are freely transferable and, importantly, they may be utilised for payment of customs duty on any item, which is freely importable except capital goods.

Advance License Scheme: Allows duty-free imports of inputs, which are used to produce the exported product. A variant of the scheme is the Advance Release Order.

Duty Free Replenishment Certificate Scheme (DFRC): Import of inputs used in the manufacture of exported goods is allowed without the payment of the basic customs duty but on payment of the additional duty equal to the excise duty.

Export Promotion Capital Goods (EPCG) Scheme: It allows import of new capital goods at 5 per cent total customs duty, subject to the importer undertaking an export obligation equivalent to a multiple of the cost, insurance and freight (cif) value of capital goods, to be fulfilled over a specified period from the date of issuance of the license. Imports of capital goods are subject to Actual User condition until the export obligation is completed.

Special Economic Zone (SEZ) units, **Export Oriented Units (EOU), Export Processing Zones (EPZ)**, etc. are entitled to buy their requirements of capital goods and other materials from the Domestic Tariff Area (DTA) free of internal taxes.

SPECIAL ECONOMIC ZONES

16.28 The Exim Policy effective from 1st April 2000 introduced a provision for setting up Special Economic Zones (SEZs), with a view to providing an internationally competitive and hassle free environment for export production. The policy provides for setting up new SEZs in the public/private/joint sector or by state governments, but not by the Central government.

16.29 It was also envisaged that the existing Export Processing Zones (EPZs) may be converted into SEZs. The government has since converted eight existing EPZs at Kandla and Surat (Gujarat), Santa Cruz (Maharashtra), Kochi (Kerala), Chennai (Tamil Nadu), Noida (Uttar Pradesh), Falta (West Bengal) and Visakhapatnam (Andhra Pradesh) into SEZs. There were 711 units in operation in these eight EPZs and their export performance in recent years is given in Table 16.10.

16.30 At present, each state can enact legislation to create SEZs in its territory. Six states, which have converted EPZs into SEZs, have enacted legislation in this regard. Approvals have also been given for setting up of 27 SEZs; at Positra, Dahej and Mundra (Gujarat), Navi Mumbai and Khopta (Maha Mumbai - Maharashtra), Kulpi, Salt Lake and Calcutta Leather Complex (West Bengal), Paradeep and Gopalpur (Orissa), Bhadohi, Kanpur, Greater Noida and Moradabad (Uttar Pradesh), Kakinada and Visakhapatnam (Andhra Pradesh), Indore (Madhya Pradesh), Vallarpadam/Puthuvypeen (Kerala), Hassan and Baikampadi (Karnataka), Jaipur and Jodhpur (Rajasthan), Ranchi (Jharkhand) and Ennore, Mahindra City and Nanguneri (Tamil Nadu).

Table 16.10
Export performance of SEZs

Year	Exchange rate of one dollar in rupee terms	SEZs performance ($ million)
2001-02	47.692	1926.8
2002-03	48.395	2078.0
2003-04	45.952	3047.5

Note: Exchange rate value from RBI

16.31 Apart from concessions relating to taxes these states have also exempted the units in SEZs from the application of some labour laws. If the SEZ programme has not taken off so far, it is mainly because a Central legislation granting further fiscal concessions was awaited. The SEZ bill was passed by Parliament in May, 2005. The legislation envisages a single administrator and a time-limited holiday from income tax in addition to exemption from Central excise, customs duty and Central sales tax which are already available. It must be pointed out, however, that the quality of physical infrastructure, both within and outside the SEZ, is as important as fiscal incentives. SEZs should be large, with a full-fledged township having world-class physical infrastructure. Attention has also to be given to the peripheral infrastructure, like power, roads and ports in particular.

WTO ISSUES

16.32 A major development in international trade relations was the decision of the Ministers of the WTO Members in November 2001 at the Qatari capital of Doha to launch a new round of multilateral trade negotiations with an ambitious agenda. While the commencement of negotiations in agriculture, services and non-agricultural market access and the rules area was generally welcomed, the inclusion of new subjects, viz., investment, competition policy, transparency in government procurement and trade facilitation, gave rise to disquiet in India and many other developing countries. Differences on the inclusion of new issues in the agenda of the new round and on the level of ambition for the liberalisation of agriculture led to the collapse of the Ministerial Session at Cancun in September 2003 and a disruption of the negotiating process. But by the end of July 2004 there was a sufficient meeting of minds among Members to allow the negotiations to go forward. The Framework Agreement in July 2004 at Geneva provides important gains for India and other developing countries because it virtually excludes investment, competition policy and transparency in government procurement from the multilateral negotiating agenda and in agriculture there is agreement to work, inter alia, towards the elimination of all forms of export subsidies.

16.33 **Non-agricultural Market Access (NAMA):** At the last round of tariff negotiations in the Uruguay Round, India did not undertake tariff commitments in respect of a large proportion of its non-agricultural tariffs. Even after the tariff commitments on textile and clothing items undertaken subsequently, India's commitments covered only 69 per cent of the tariff lines at the commencement of the Doha Round, and 70 per cent of these are bound (committed against an increase) at the level of 40 per cent ad valorem As against this, India's general peak tariff on non-agricultural products has autonomously been brought down to 15 per cent. What is more, with economic efficiency in mind, the government remains steadfast in its resolve to bring down further the level of tariffs, a process that began autonomously with the economic reforms of 1991-92. Once tariffs have been reduced there can be little impediment in taking the next step to bind them in the WTO if, in return, we get reduction and binding of duties by our trading partners including in areas other than NAMA. The WTO Agreement provides for adequate safeguards to raise duties temporarily or even permanently if the situation warrants such action in future. All this gives India considerable leverage in the ongoing negotiations for seeking tariff reduction by its trading partners.

16.34 Two important points need to be considered in the context of the NAMA negotiations. First, while the average level of tariffs has come down to very low levels in the industrialised countries, they are still quite high on labour-intensive products, such as leather and textile items, which are of export interest to India. Second, the proliferation of regional trading arrangements (RTAs) has a direct implication for India in the multilateral trade negotiations. The European Union, which is the oldest and biggest RTA, has recently grown from 15 to 25 members, and is likely to become a part of the Euro-Mediterranean Free Trade Area by 2010. The North America Free Trade Agreement (NAFTA) came into being in 1995 and more recently (December 2003-January 2004) the United States has concluded the agreement for the Central America Free Trade Area (CAFTA). In the near future, the Free Trade Area of the Americas linking both the continents, may also come into being. In Asia too, there is a build-up of regional arrangements and, as will be detailed later in the section on Regional Trading Arrangements, it is not unlikely that India eventually becomes a part of an FTA embracing South and South East as well as East Asia. However, an Asia-wide FTA may take time to emerge. In the meantime, India's trade with the industrialised countries, including Japan, would be affected adversely by their strengthening regional alliances. In textiles and clothing in which quotas have been eliminated on 1st January 2005, preferential trading arrangements (PTAs) will strongly influence trade flows into the major industrialised countries. In this situation India's strategy must clearly be to try to minimise the trade diversion potential of the existing and future RTAs by securing the maximum reduction in WTO, in the non-discriminatory MFN tariffs worldwide.

16.35 There is already some convergence on the idea of making the formula approach the central modality for securing reduction of tariffs in the current negotiations (Box 16.2). Here, a harmonisation formula such as the Swiss formula must be preferred as it can secure reduction of tariffs peaks and high tariffs by a proportion that is greater than for lower tariffs. Equally importantly, India must try to ensure that due weight is given to the bound tariff average of individual WTO Members in determining the extent of reduction to be undertaken by each of them. This is a good way of taking into account the sacrifices in past negotiations, the dependence of high tariff developing countries on customs duty for their revenues and at the same time for achieving tariff compression.

16.36 Sectoral elimination of tariffs in some product groups has also been proposed in conjunction with the formula reduction. It is attractive in some sectors but it can be acceptable to India only if, as a developing country, it is permitted to maintain tariff at the modest level of, say, 5 per cent. Unless this flexibility is given, adoption of the modality would result in negative protection for finished products in those cases in which duty is maintained on raw materials falling outside the specific product group, even if it is at a low level.

16.37 **Agriculture:** India has entered into the negotiations on agriculture also from a position of strength, in view of its proven international competitiveness as an exporter over a range of tropical products. In temperate zone agricultural products, India has demonstrated competitive strength as an exporter in rice, wheat and some varieties of cotton. Whenever the international price of sugar has firmed up, India has been an exporter of substantial quantities of sugar. More recently, India has been exporting skimmed milk powder in increasing quantities. There is, thus, considerable evidence that if the current level of distortions in international markets due to the market access barriers and subsidy practices in the major industrialised countries is corrected, India could emerge as a major exporter of a number of temperate zone agricultural products. Studies have shown that India is import competitive in all agricultural products with the exception of some edible oilseeds and oils. India, thus, has high stakes in the negotiations on agriculture and has much to gain if the outcome of the negotiations is fundamental reform. India's bargaining capacity in the negotiations is considerably enhanced by the wide gap between the applied and bound levels of tariff on agricultural products, the low level of domestic support programmes as a percentage of the value of agricultural production, and the government's inability due to fiscal constraint, to engage in competitive subsidisation with the major industrialised countries.

16.38 The accord at Geneva in July 2004 on the framework for the negotiations (July Framework) has broken the impasse in the negotiations in the area. The agreement in principle to eliminate export subsidies, export credits beyond 180 days, trade distorting practices of exporting State Trading Enterprises and food aid that causes commercial displacement is a significant achievement. However, to consolidate this gain it would be necessary to secure agreement on very substantial reduction of trade distorting domestic support, as such support can be a substitute for export subsidies for enabling suppliers to capture third country markets and for displacing domestic producers in importing countries, beside impeding imports into the subsidising country. There is agreement in the July

Box 16.2
Formula approaches in tariff negotiations

Formula approaches envisage uniform application of a method by all members resulting in comparable commitments. Several types of formulae have been used. These include Linear Formula, which envisage an agreement among governments to reduce their tariff levels by a fixed percentage, or Non-linear Formula that addresses the issue of differential levels of tariffs and compresses the range of a country's tariff rates.

A typical example of a Non-linear Formulae is the well-known **Swiss Formula** –

$$Y = \frac{AX}{A+X}$$

- X is the tariff before reduction;
- A is the coefficient which has to be assigned a particular value; and
- Y is the reduced tariff

The Swiss formula brings down higher tariffs more steeply and all the resultant tariffs would be lower than the coefficient A.

Box 16.3
Domestic support in Agreement on Agriculture

Amber Box: Domestic support measures that have trade distorting effects or effects on production and are subject to reduction commitments.

Blue Box: Direct payments to farmers under production-limiting programmes that are exempt from reduction commitments.

Green Box: Measures listed in Annex 2 of the Agreement on Agriculture which are exempt from reduction commitments, as they are deemed to have 'no, or at most minimal, trade-distorting effects or effects on production'.

Aggregate Measurement of Support (AMS): The AMS is the monetary measure of the annual level of trade and production -distorting support. Total AMS means the sum of all domestic support provided in favour of agricultural producers, whether on product specific or non-product specific basis.

Framework that the overall base level of all trade distorting support and the Total Aggregate Measure of Support would be reduced by a tiered formula, but there is no indication of numbers. Also the Green Box measures need much greater attention than has been given so far. It cannot be denied that fully decoupled income support, for instance, is less distorting than Amber Box and Blue Box measures (Box 16.3). However, while the changeover to decoupled income payments improves the allocation of resources in agriculture within the country concerned, the reduction in negative effects on world markets is very small. What is needed is reduction in agricultural subsidies in the aggregate, and not merely their re-instrumentation.

16.39 In market access, the principal target must be the very high tariffs in the major industrialised countries. The ad valorem equivalents of specific duties maintained on several key agricultural products in these countries are in multiples of 100 per cent. There is fundamental good sense in the stand taken by India that it can undertake to reduce tariffs only if the developed countries agree to reduce not only tariffs but domestic support and export subsidy levels as well. Doing otherwise would be exposing Indian agriculture to undue risks. Even so, there is a need for India to adopt a bolder approach in the negotiations, since India has so much to gain from the reduction of subsidies and market access barriers in the industrialised countries. It should seek to wrest the leadership in the negotiations by indicating the extent of reduction of tariffs that it would be willing to undertake if its objectives for securing reduction of tariffs and subsidies in the developed countries are met.

TRADE IN SERVICES

16.40 India's main negotiating objective on trade in services has been clear from the time of the Uruguay Round. It is to secure maximum liberalisation by its trading partners over a wide range of services in Mode IV (the movement of natural persons) to enable temporary relocation of skilled professionals in those countries. Since developments in telecommunications and IT have made it possible to deliver a wide range of services across borders, Mode I (cross-border supply of services) and Mode II (consumption abroad) have also emerged as modes of supply in which India has a deep interest (Box 16.4).

16.41 In the Uruguay Round and in the resumed negotiations after the Round, the commitments by WTO Members in Mode IV remained highly circumscribed and subject to many limitations and qualifications. Binding commitments were made mainly in respect of intra-corporate transferees, business visitors and executives, managers and specialists linked to

Box 16.4
Modes of delivery of services recognised by GATS

Mode-I – *Cross Border Supply.* Only the service crosses the border. The delivery of the service can be done, for example, through IT or other means of communication.

Mode-II – *Consumption Abroad.* Consumers travel outside the country and consume services abroad. like a tourist availing of services abroad.

Mode-III- *Commercial presence* The service provider establishes its presence in another country through branches or subsidiaries, for example, banking services supplied by a subsidiary of a foreign bank.

Mode-IV -*Movement of natural persons.* When an individual has moved temporarily into the territory of the consumer to provide a service, whether self-employed or as an employee, for example, computer consultancy services or the temporary employment of construction workers.

commercial presence. There was very little commitment relating to the movement of independent professionals in which India's main interest lies. In practice, temporary movement of independent professionals gets caught up in the generally restrictive approach towards permanent movement of labour on the part of the immigration authorities and labour market regulators. Wage parity requirements are a severe constraint. What is more, a large number of WTO Members have indicated in their commitments that the entry of independent service suppliers would be subject to an economics needs test. The ability of professionals to supply services in developed country markets is severely limited on account of lack of recognition of professional qualifications and licensing requirements. The requirement in the developed countries that foreign professionals working there must pay social security contributions, even if they are not eligible for the benefits because of the short period of their stay, is also a big impediment in the movement of natural persons. India is already vigorously pursuing proposals to address all these restrictions. An important proposal made is for the creation by WTO Members of a separate category of Service Provider's Visa to facilitate the entry of service providers into their territories.

16.42 The commitments made by WTO Members in Modes I and II are not as limited as those in Mode IV, but they are far short of the existing regime, which is very liberal, particularly in the developed countries. Recent initiatives in the United States to curb business process outsourcing relating to government contracts have brought home the value of locking in the existing regimes in Modes I and II by means of WTO commitments. India has already initiated discussions in the Doha Round to obtain agreement on broad-based commitments in respect of these two modes of supply. As noted earlier, there has been a sea change in India's policy towards FDI since the time the Uruguay Round negotiations were held. It already permits up to 100 per cent investment by foreign investors in most service sectors and the policy is being continually reviewed to provide additional openings. Since India has an abundance of skilled professionals over a wide range of services, it can reap immense benefits if the world's major economies liberalise access to temporary flows of these professionals. In order to induce the industrialised countries to make meaningful concessions in Mode IV, particularly in respect of individual service providers, India should put on the table the existing regime in all service sectors for binding commitments. Indeed, India should be willing to do more and even offer to open up the FDI policy further in some of the areas in which it is restricted at present, if such efforts can tempt the industrialised countries to respond to Indian proposals favourably. In Mode I, it would be worthwhile to explore the possibility of securing across-the-board binding commitments (except for very limited service sectors such as financial services) from WTO Members on business-to-business supplies.

REGIONAL TRADE AGREEMENTS:

16.43 In the last two years, India has joined the global trend towards intensification of economic integration arrangements and entered into a number of new free trade area (FTA) arrangements. Framework Agreements envisaging FTAs have been signed with the Association of South East Asian Nations (ASEAN) and Thailand in 2003. Both these agreements contain early harvest programmes whereby selected products will be given duty free treatment early. Two more agreements envisaging the creation of FTAs were signed in 2004 – the Framework Agreement on a South Asia FTA (SAFTA) and Framework Agreement on BIMST-EC (Bangladesh, India, Sri Lanka and Thailand Economic Cooperation). The various PTAs and FTAs in which India is involved are given in Box 16.5.

16.44 While evaluating the preferential arrangements, a distinction must be made between agreements that envisage an exchange of concessions by way of preference by a few percentage points on a relatively small list of products and those in which the intention is to eventually create a FTA. The Bangkok Agreement, the Generalised System of Trade Preferences (GSTP) Agreement, the SAPTA Agreement, the Indo-Afghanistan Agreement and the Indo-MERCOSUR Agreement fall under the first category, as could the proposed agreements with the South African Customs Union (SACU), the Gulf Cooperation Council and Egypt. The difficulty with limited preferential agreements is that they do not result in trade flows of any significance, even as the multiple levels of tariff and complex rules of origin resulting from them impose considerable additional burden on the customs administration. For these reasons, it is necessary to exercise some caution before entering into any further agreements that envisage limited trade preferences.

16.45 FTAs and Customs Unions are acceptable in economic terms if the trade creation exceeds trade diversion. That is more

Box 16.5
India's current engagement In RTAs

- Bangkok Agreement (1975)
- Bilateral Non-Reciprocal Treaty with Nepal (1991)
- South Asia Preferential Trade Agreement (SAPTA) (1993)
- Bilateral Non-Reciprocal Treaty with Bhutan (1995)
- India-Sri Lanka FTA (1998)
- Generalised Scheme of Trade Preferences (GSTP) (1998)
- Framework Agreement on Comprehensive Economic Co-operation between the Association of South East Asia Nations (ASEAN) and India – 8th October 2003.
- Framework Agreement between India and Thailand- 9th October 2003
- Agreement on South Asian Free Trade Area (SAFTA) – 6th January 2004
- India-MERCOSUR PTA – 25th January 2004.
- BIMST-EC FTA – 8th February 2004
- India-GCC (Gulf Cooperation Council) Framework Agreement – 25th August 2004
- India-Singapore Comprehensive Economic Cooperation Agreement (CECA)
- India-Sri Lanka Proposal for Bilateral Comprehensive Economic Partnership Agreement
- India-SACU (Southern African Customs Union) Framework Agreement
- Joint Study Group (JSG) with Mauritius
- Joint Study Group with China
- Joint Study Group between India and Republic of Korea
- Joint Study Group between India and Japan
- India-Egypt PTA

likely to happen if the agreement aims at comprehensive liberalisation. One argument in favour of regional agreements is that they help to prepare the ground for MFN liberalisation. In any case, economic integration among geographically contiguous countries has become a geo-political imperative in modern times, and India has to continue to pursue FTAs in the SAARC region as well as with the South East Asian and East Asian countries. The bigger the FTA, the greater will be the benefit for India and other partner countries. When negotiating FTA agreements, the objective must be to eliminate the barriers to trade comprehensively and progressively over the agreed time frame. Early harvest by way of elimination of duties in a short period on a limited number of products should be avoided as such a step can lead to negative protection in India on account of the existence of substantial tariffs on raw materials, intermediates and capital goods. For the FTA with these countries to be successful, it must be ensured that India's MFN tariffs are not far out of line with their tariffs. If there are large tariff differentials, especially on capital goods and raw materials, Indian manufacturers would be placed at a disadvantage, as their competitors in partner countries would have access to cheaper inputs. To prepare for the Indo-ASEAN FTA, it would be necessary that Indian tariffs are speedily reduced to 'ASEAN levels'. A complicating factor is that there is considerable difference in the tariff levels in the large ASEAN countries. The simple average of MFN applied duties for non-agricultural products was 8.4 per cent in Indonesia (1999), 8.1 per cent in Malaysia (2001), 6.8 per cent in Philippines (2001), zero in Singapore (2001) and 15.5 per cent in Thailand (1999). Further, these countries have agreed to eliminate all tariffs within a limited period as a part of their commitment in the Asia Pacific Economic Cooperation (APEC) context (the Bogor Goals). In the circumstance, it would be necessary for India to reduce its MFN tariffs to a very low level in preparation for the FTA with the ASEAN. It is desirable that a target range of 5 per cent to 10 per cent is set to be achieved within two years. A longer period would be considered for products with high tariffs.

PROSPECTS FOR TRADE

16.46 A sustained GDP growth of 7-8 per cent or more requires that every potential of the economy for growth be tapped. The opening up of the economy to increased international trade since mid-1991and the restructuring that followed creates the potential to cater to a vast world market. Restructuring has been successfully completed across a wide swathe of Indian industry and this is attested to by the good export performance in a number of sectors, notable among them being auto components, motor vehicles and chemicals. Growth in exports has been robust and it has been consistently over 20 per cent since 2002-03.

16.47 The export optimism that seems to have permeated Indian industry has coincided with the beginning of the growth phase in two of the largest economies – the United States and Japan. The growth of demand in these economies has also coincided with the declared intention of the Chinese authorities to slow down their growth rate to cool their over-heated economy.

16.48 The current period is also one in which the global image of India has improved, beginning with the success in the IT sector, and now extending to manufacturing. In order to provide the growth momentum to the economy, it is necessary to take advantage of this confluence of favourable circumstances.

16.49 Globalisation is the defining characteristic of the world economy and there is a growing trend among multinational corporations (MNCs) to build global supply chains and source-manufactured intermediates from low-cost countries. About 80 per cent of world merchandise trade is of manufactured products, of which about 80 per cent is of medium technology products. With its diversified industrial base and skilled engineering and design manpower, India is well placed to take advantage of the liberalisation of domestic and foreign trade to increase its share in global trade. Efficient manufacturers can leverage India's low wage rates at all levels of skills, to gain international competitive advantage. The restructuring that has taken place across much of Indian industry has given it the confidence to look at export possibilities with much greater enthusiasm. A very large proportion of Indian industry has also taken ISO certification, thereby increasing its credibility with foreign buyers.

16.50 In the coming years, the progressive correction of the anti-trade bias in India's policies would need to be carried forward, particularly with the accelerated reduction and rationalisation of import tariffs. The attainment of a current account surplus over the last three years suggests that tariff reductions could be carried out faster without posing any significant risk to the balance of payments. The restructuring of Indian industry and its resultant export thrust, sets the stage for lowering tariffs further in the very near future, with a few exceptions. A degree of calibration would be required as far as agricultural products are concerned and it would be premature to bring them down even before the major industrialised countries have taken steps to reduce their subsidies and market access barriers. However, industrial tariffs must be reduced to a maximum of 10 per cent within two years.

16.51 It is necessary to deepen the trade reforms in the country by redoubling efforts for customs modernisation, streamlining of documentary requirements, automation and electronic data interchange (EDI). This second generation reform for trade facilitation is essential for deriving the full benefits of trade liberalisation. By simplifying customs procedures and speeding up customs clearance, both for exports and imports, Indian manufacturers can be enabled to take advantage of the growing opportunities for participating in global supply chains, which are extremely sensitive to timely delivery. The consequent reduction of transaction costs for exports would go a long way in improving competitiveness and in achieving the country's target of doubling exports by 2008-09. These measures would also make the country more attractive for FDI.

16.52 In the context of the strategic export promotion policies being designed to guide an aggressive export effort, it is necessary to broaden coverage to a large number of non-traditional items and markets, which are expanding faster than the world average. The export-led growth experience of the South East Asian countries provides valuable lessons for India; export performance needs to be regarded as the key to the health of the balance of payments. Their experience also suggests that technology-intensive items will provide momentum to the export drive. In the past, India's export promotion policy had been broadly neutral in respect of technology upgradation, and not particularly focused on specific areas of technological advantage. Moreover, some elements of industrial policy, such as emphasis on indigenisation and the thrust on adaptation rather than innovation, considerably restricted technology intensification in exports. In this context, a conscious choice to 'leapfrog' from low and medium technology to high technology exports has to be made. Given that India is a late entrant in the race for export markets, it can well leapfrog to high technology, particularly as high technology capital goods are computer controlled and manual discretion in their operations is minimal. However, the employment-creating potential of export manufacturing also needs to be fully exploited. Manufacturing and its linkages with mining, electricity and construction can provide employment to relatively lower skilled and even unskilled workers from rural areas.

16.53 The export promotion policy needs to utilise the natural complementarity of FDI with export activity, particularly access to markets. In the final analysis, it needs to be recognised that definitional issues notwithstanding, administrative and procedural complexities remain major impediments to larger FDI inflows. The time lag involved in converting investment intentions to actual flows of foreign exchange, technology and know-how, must be reduced to compare favourably with investment destinations, which have proved their attractiveness on account of the ease of investing. The global reach and marketing abilities that FDI gives access to could be effectively utilised to provide a cutting edge to the export effort. The infrastructural services, particularly power and transportation, need significant improvement in order to build the environment conducive to FDI flows. The restrictive labour laws, especially the constraints on the ability to adapt the size of the work force to changing situations, also need attention in order to stimulate FDI flows. While all these steps are necessary to enable the foreign investors to take full advantage of the already existing liberal rules on FDI, it is imperative to also continue the process of liberalisation by further relaxing the ceiling on FDI in telecom, financial services and civil aviation and by allowing FDI in areas such as retail trade which remain excluded from its purview.

16.54 There is a strong case for opening up FDI in modern retailing, in which it is not yet permitted. The entry of major global retailers would act as a catalyst for building capability to meet international standards and supply to global retail outlets. Building the domestic supply chain would assist in integrating the domestic market. The quality maintenance at all stages of procurement and processing that is ensured by global players, could help develop India as a sourcing hub for exports thereby scaling up domestic producers' capability and prepare the ground for making Indian products acceptable in international markets. This would be particularly important in developing export markets for agricultural and agri-food products thereby enabling Indian farmers to benefit from the process of globalisation. The fear of large adverse effects on domestic retailing appears to be grossly exaggerated, as small retailers and corner stores continue to thrive even in developed countries.

THE WAY FORWARD

- Calibrate the reduction of agricultural tariffs to the progress made by the major industrialised countries in bringing down the level of subsidies that hugely distort international markets. Reduce industrial tariffs to a maximum of 10 per cent within the next two years and an average which is lower.
- Intensify autonomous action for introducing trade facilitation measures to reduce transaction costs and the time taken for customs clearance, for both import and export consignments, in order to make industry more competitive.
- Cut administrative and procedural hurdles that delay the fruition of FDI intentions; enhance investment in power and transportation infrastructure and make changes in the restrictive labour policies. Continue the process of liberalisation by further increasing the ceiling on FDI in telecommunications, financial services and civil aviation and allowing FDI in areas such as retailing, which remain excluded from its purview.
- Exercise caution in entering into new RTAs with limited preferences, as they result in negligible trade flows, while adding considerably to the administrative burden on customs. On the other hand, joining comprehensive FTAs with South, South Eastern and East Asian countries is necessary for geo-political reasons.
- Adopt a proactive approach in WTO negotiations in order to improve market access for Indian goods and services in international markets through ambitious non-discriminatory trade liberalisation of world trade. In non-agricultural market access, press for the average tariff level of each country being taken as a factor in the harmonisation formula to be adopted as the core modality for tariff reduction. As for sectoral approach in product groups of interest to developing countries, India should press for them being allowed to retain tariff at the modest level of 5 per cent while others eliminate tariffs.
- Seek a fundamental reform in world agriculture, with the major industrialised countries eliminating all forms of export subsidies and bringing

about very substantial reduction in domestic support (not only amber and blue box but green box measures as well) and improvement in market access. India should table substantial offers on market access which should be conditional on the industrialised countries bringing down the levels of support and market access barriers to the desired extent.

- Pursue the proposals for liberalisation of Mode IV in the negotiations on services and, in return, be willing to put on the table the existing regime in all service sectors for binding commitment as well as to make additional liberalisation efforts. India should also seek to lock in, to the maximum extent possible, the somewhat liberal regime that now exists in the industrialised countries in respect of Modes I and II, by proposing across-the-board binding commitments in the area by all WTO members.
- Pursue the proposal, in the negotiations in the area of rules, for making non-actionable the rebate of duties on capital goods used in the production of exported products. Separately the DEPB scheme of export incentives should be redesigned so as to make it non-countervailable by conforming to the requirements of a substitution drawback scheme as laid down in the WTO Agreement

Annexure 16.1

Balance of Payments: Key Indicators

(US $ million)

Item/Indicator	2003-04	2002-03	2001-02	2000-01	1999-2000	1990-91
1	2	3	4	5	6	7
i) Trade Balance	-15454	-10690	-11574	-12460	-17841	-9437
ii) Invisibles, net	26015	17035	14974	9794	13143	-243
iii) Current Account Balance	10561	6345	3400	-2666	-4698	-9680
iv) Capital Account, net	20542	10840	8551	8840	10444	7056
v) Overall Balance #	31421	16985	11757	5868	6402	-2492
Indicators (in per cent)						
1. Trade						
i) Exports/GDP	10.7	10.5	9.3	9.9	8.4	5.8
ii) Imports/GDP	13.3	12.6	11.8	12.7	12.4	8.8
iv) Export Volume Growth	20.4	20.3	3.9	23.9	15.5	11.0
2. Invisibles						
i) Invisibles Receipts/GDP	8.8	8.2	7.7	7.1	6.8	2.4
ii) Invisible Payments/GDP	4.5	4.9	4.5	4.9	3.8	2.4
iii) Invisibles (Net)/GDP	4.3	3.3	3.1	2.2	2.9	-0.1
3. Current Account						
i) Current Receipts@ /GDP	19.4	18.7	16.9	17.0	15.1	8.0
ii) Current Receipts Growth@	23.0	17.6	4.5	14.8	12.9	6.6
iii) Current Receipts@/Current Payments	109.3	106.6	103.8	96.4	93.0	71.5
iv) Current Account Balance/GDP	1.7	1.2	0.7	-0.6	-1.0	-3.1
4. Capital Account						
i) Foreign Investment/GDP	2.6	1.2	1.7	1.5	1.2	0.03
ii) Foreign Investment/Exports	24.8	11.2	18.2	14.9	13.8	0.6
5. Others						
i) Debt-GDP Ratio	17.6	20.2	21.0	22.6	22.1	28.7
ii) Debt-Service Ratio	18.3	15.1	13.9	17.2	16.2	35.3
iii) Liability - Service Ratio	19.1	16.1	14.9	18.4	17.0	35.6
iv) Import Cover of Reserves (in months)	16.9	14.2	11.5	8.8	8.2	2.5

Includes Errors and Omissions @ Excluding official transfers.

Source: RBI.

Governance and Development

17.1 The Tenth Five-Year Plan highlighted the importance of governance for "tackling the problems of poverty, backwardness and low human development" and pointed out the importance of embarking on a comprehensive governance-related reforms agenda. A multi-faceted approach was adopted, with particular emphasis being laid on the implementation of the 73rd and 74th Constitutional Amendment Acts, 1992, which gave Constitutional status to panchayati raj institutions (PRIs) and urban local bodies (ULBs) respectively, in both letter and spirit in order to bring about greater decentralisation and increase the involvement of the community in planning and implementing schemes and, thus, increase accountability. The agenda also included institutional reforms, including those related to the civil service, judicial system, policing and the criminal justice administration system. It also emphasised the role of e-Governance, which can improve the delivery of a wide range of services to citizens and businesses.

DECENTRALISATION & PANCHAYATI RAJ INSTITUTIONS

17.2 The political empowerment of PRIs – elections to the three tiers of PRIs and representation for scheduled castes(SCs)/ scheduled tribes (STs) as well as women – has been firmly established. The system has over 3 million elected representatives participating in the decentralised governance set-up, the largest democratically elected representative base in the world. In many states, the representation of women in PRIs is higher than the stipulated minimum of 33.3 per cent. However, this political empowerment has not been accompanied by empowerment in other spheres. The state governments were expected to devolve functional autonomy, administrative support and financial resources to the PRIs, but success on this front has been patchy. PRIs in Kerala have been considerably strengthened and are often cited as examples of genuine devolution. Karnataka and Madhya Pradesh have also made significant progress in this area. However, most states have honoured the 73rd and 74th Constitutional Amendment Acts only in letter and not in spirit. Instances of states initially devolving powers and functions and later withdrawing these have come to light.

17.3 The National Common Minimum Programme (NCMP) adopted by the United Progressive Alliance (UPA) government in May 2004 has resolved to strengthen the PRIs (see Box 17.1). An important step towards this objective was the creation of a separate Ministry of Panchayati Raj.

17.4 The Ministry of Panchayati Raj, held seven round table conferences in 2004 to formulate action plans to be adopted by the state governments so that PRIs become effective institutions of self-government. Close to 150 resolutions were adopted, relating to various facets of empowerment of PRIs. The Central and state governments need to initiate work on these resolutions which can be categorised under the following 16 heads:

- Effective devolution of functions, functionaries and finances
- Strengthening of District Planning Committees and formulation of District Plans as envisaged in the Constitution.
- Implementation of Plans, programmes and projects.
- Strengthening gram sabhas, by endowing them with greater powers and responsibilities.
- Empowerment of women and attention to gender related issues.

- Reservations for SCs, STs, other backward classes (OBCs) and women.
- Special problems of SCs and STs.
- Conduct of elections.
- Strengthening of the accounts and audit procedures in PRIs.
- PRIs in Union Territories without legislatures.
- Problems with parallel bodies to PRIs.
- Development of capability at all levels in PRIs.
- State of Panchayats Report.
- Jurisprudence arising out of judicial decisions and interpretations.
- Information technology (IT) enabled e-governance for PRIs.
- Promotion of Rural Business Hubs.

DEVOLUTION OF FUNCTIONS TO PRIs

17.5 The issue of empowering PRIs by transferring the three Fs (functions, funds and functionaries) to them has been at the centre of discussion between the Centre and the states over the last 10 years. The Planning Commission and the Ministry of Rural Development have repeatedly impressed upon the state governments the need to transfer these three Fs in respect of 29 items listed in the Eleventh Schedule. In practice, however, while most states have transferred a large number of functions to the PRIs, this has not been accompanied by a transfer of funds and functionaries (Annexure 17.1). Even in the states where funds and functionaries have been transferred to the panchayats, state government officials continue to exercise control on financial resources and the personnel transferred to the panchayats.

17.6 Effective devolution requires devolution of finances. The subjects earmarked for PRIs cover all the social and economic dimensions of rural life but the extent of financial devolution is not commensurate with the responsibilities. The sources of revenue that have been earmarked for panchayats are far from adequate. The power of taxation is vested only with the lowest tier of the PRI – the gram panchayat. The higher tiers – the panchayat samitis and district or zilla panchayats – do not have the power of taxation. The extent of devolution from the state level to the PRIs is also very limited. Though State Finance Commissions have been appointed, their recommendations have generally not been implemented. The only states where substantial resources are being transferred to panchayats are Kerala, Karnataka and Madhya Pradesh. In Kerala, 40 per cent of the state budget is placed at the disposal of the PRIs. A similar system has been introduced in Karnataka and Madhya Pradesh. The magnitude of the allocations, however, differs. In Karnataka the allocations are largely to the zilla panchayats.

17.7 The lack of financial resources means that PRIs are heavily dependent on the state governments for funds, which effectively reduces them to an agency of the government, rather than an institution of self-governance, as

Box 17.1
Panchayati Raj Institutions in the NCMP

- The UPA government will ensure that all funds given to states for implementation of poverty alleviation and rural development schemes by Panchayats are neither delayed nor diverted. Monitoring will be strict. In addition, after consultations with states, the UPA government will consider crediting elected Panchayats with such funds directly.
- Devolution of funds will be accompanied by similar devolution of functions and functionaries as well. Regular elections to panchayat bodies will be ensured and the amendment Act in respect of the Fifth and Sixth Schedule Areas will be implemented.
- The UPA government will ensure that the Gram Sabha is empowered to emerge as the foundation of panchayati raj.

was envisioned by the Constitution. Indeed, fiscal decentralisation measured by various ratios indicates that the financial autonomy of the PRIs has actually decreased after decentralisation at an all-India level. A number of Centrally sponsored schemes initiated in the 1990s are implemented through the PRIs and this brings in some PRI involvement, but these schemes have detailed guidelines and the PRIs have very little discretion in the use of these funds.

17.8 Related to the question of resource transfer from the government is the issue of resource mobilisation by panchayats themselves to enlarge their area of activities. Mobilisation of resources at the local level would not only strengthen the financial position of the panchayats, it would also lead to people exercising greater control over the manner in which the elected functionaries discharge their functions. Property tax, collection of user charges for water, irrigation and revenue from the tanks and ponds could be tapped by the local bodies to strengthen their fiscal domain. Property tax has emerged as a major source of revenue for gram panchayats in Karnataka. A few states have attempted the practice of providing matching grants to the resources raised by panchayats by specific programmes. Such initiatives could be collated and disseminated widely for replication by the other states.

AUDIT AND ACCOUNTING

17.9 The proposed transfer of funds to the PRIs by the Central and state governments must be accompanied by efforts at strengthening their accounting and auditing procedures. The Eleventh Finance Commission award had set aside a separate small provision of Rs.197.06 crore for the development of a database on the finances of the panchayats and Rs.98.61 crore for the maintenance of accounts. The Twelfth Finance Commission has not made any separate allocation for these two heads but has, instead, indicated that the states may assess the requirement of local bodies in this regard and earmark funds for the purpose out of the total allocation for PRIs.

17.10 The related issue of fiscal discipline and accountability at the panchayat level is equally important. Very few states have framed specific rules for dealing with the financial irregularities and misdemeanours of elected panchayat functionaries. The Comptroller and Auditor General's office has issued guidelines on the audit of panchayat finances. These need to be adopted immediately by all states. Rules need to be framed and notified for dealing with misuse of funds and embezzlement by the panchayat functionaries.

FUNCTIONAL DEMARCATION BETWEEN THE THREE TIERS

17.11 Although 29 subjects have been allocated to the PRIs, there is lack of clarity about the distinct roles of the three different tiers of the PRI system in relation to these subjects. The Eleventh Schedule does not specify the principles of functional demarcation between the zilla panchayats, the panchayat samiti and the gram panchayat. The S.B. Sen Committee on Decentralisation of Powers set up by the Government of Kerala had recommended that the principle of subsidiarity – functions which could be performed best by the lowest tier, should be entrusted only to that tier and not to a higher tier – could be followed while demarcating the functional domain of the three tiers. This is even more necessary as the three tiers are not hierarchical.

17.12 A Task Force set up by the Ministry of Rural Development, with representation of state governments, had studied this issue and outlined the functional responsibility of each tier in respect of the 29 items on the basis of the principle of subsidiarity. The report of the Task Force has been circulated to the state governments. The states should be persuaded to notify the division of functional responsibilities between the three tiers on the basis of activity mapping. The demarcation of functions is necessary to assess the requirement of financial resources at each level and the administrative support that would be necessary to carry out those functions.

IMPLEMENTATION OF CENTRALLY SPONSORED SCHEMES

17.13 The transfer of Plan resources from the Centre to the states takes place through two channels – Central assistance to the State Plans and resources transferred for implementing Centrally sponsored schemes in the state sector. The 29 Eleventh Schedule subjects fall within the functional domain of the different ministries of the Central government. The Ministry of Rural Development, which was the nodal ministry for PRIs until recently, has taken steps to involve PRIs in their schemes. The Sampoorna Grameen Swarozgar Yojana (SGSY) is implemented exclusively through panchayats. However, most of the other departments have either not provided any role, or provided only a very limited role, for the PRIs. The Planning Commission had set up a Task Force on PRIs to examine this issue and suggest concrete measures to ensure the involvement of PRIs in implementation of the Centrally sponsored schemes. The Task Force concentrated on rural development, health, education, agriculture, environment and forest and social justice and empowerment sectors and outlined in detail the stages at which the Central ministries could involve different tiers of the PRIs. Many ministries have increasingly involved PRIs in programme delivery, but these efforts need to be intensified further.

17.14 Centrally sponsored schemes provide an avenue for the Government of India to persuade state governments to transfer financial resources and equip PRIs with administrative support to fulfil the objectives of the CSSs. One mechanism to do this would be to link releases under schemes to transfer of the three Fs by the states to the PRIs. This would provide an incentive to the States to empower PRIs. This could be done at least in case of those Centrally sponsored schemes relating to the Eleventh Schedule subjects.

DISTRICT PLANNING

17.15 One of the major objectives of democratic decentralisation was to facilitate participation of the people in planning, implementation and monitoring of development projects that addressed their felt-needs. The Constitution provides for setting up of District Planning Committees (DPCs), which are expected to consolidate the Plans prepared by panchayats and municipalities in the district and then prepare a draft Plan for the district as a whole. The district planning exercise has to be a bottom-up process, where panchayat plans are prepared in the gram sabhas and aggregated at the block/taluka level before they are integrated into the district plan. The district plans must, in turn, be reflected in the state Plans.

17.16 This has simply not happened in practice. District planning has been one of the weakest links in system of decentralised governance. Many state governments are yet to set up DPCs and even in the states where they have been set up, their role in the formulation of district plans has not been very effective. This is clearly an area of major weakness and needs to be considerably strengthened.

17.17 The Central government is also responsible, to some extent, for the dormancy of the DPCs. Sanctions under various Centrally sponsored schemes are accorded on a project-by-project basis by Screening and Sanctioning Committees set up in the Central ministries. The Ministries of Rural Development, Tribal Affairs, the Department of the North-Eastern Region and many other ministries clear district-level projects through Central Approval Committees. Such selection and approval of projects at the Central level negates the very principle of participatory planning at the grass root level. The Planning Commission could also encourage state governments to provide for separate district plans and incorporate these in the State Plan before the latter is submitted for approval.

17.18 District-level planning cannot become effective unless it is backed by the provision of block grants at the district level in the form of untied funds. Programmes relating to a sector should be bundled under one head and districts should be empowered to select projects in suitable sectors and areas. The practice of providing a separate district budget, as has been done in Kerala and Madhya Pradesh, needs to be adopted by other states as well. This exercise may be undertaken on a pilot basis in selected districts in each state.

EMPOWERMENT OF GRAM SABHA

17.19 Article 243 A of the Constitution makes the gram sabha the repository of all powers and functions devolved on panchayats by the Constitution and expects it to function almost like a legislature, with the gram panchayats deriving their authority from it. The 73rd Constitutional Amendment Act also stipulates that state government should bestow gram sabhas with clear powers and functions. The various State Conformity Acts that were passed, however, only provided supervisory powers to gram sabhas, without giving them any effective control over the elected functionaries. States have to strengthen the gram sabhas by providing them more effective powers before they can emerge as the fulcrum of panchayati raj, as envisaged in the NCMP. Mechanisms that ensure accountability of PRIs to the people need to be beefed up. The Central government has often requested the state governments to enlarge the role of gram sabhas. Training camps have been organised by the government and non-government organisations (NGOs) to generate awareness among the gram sabha members about their rights and responsibilities.

17.20 A few states have made social audit of the programmes implemented by the PRIs mandatory. Many examples of good work done by gram sabha and panchayats have been widely reported. Nevertheless, gram sabhas, by and large, continue to be weak and lack substantive powers and control over the gram panchayats. In fact, many gram sabhas rarely meet.

17.21 The Right to Information Act passed by the Government of India and many state governments will strengthen gram sabhas. What is also needed is a much larger programme of training and awareness generation for panchayat functionaries, the governmental machinery and the community to explain to each of them their role and responsibilities. The practice of social audit prevalent in some states should be extended to all the states and made mandatory.

TRAINING OF PANCHAYATI RAJ FUNCTIONARIES

17.22 The Ministry of Rural Development has assisted state governments by providing resources for training elected representatives and government functionaries dealing with PRIs. NGOs have also been assisted by the state governments to take up awareness generation programmes in the rural areas. International organisations have also been active in this area. However, given the magnitude of the task, these efforts have not been able to make a major impact on the ground. The challenge is to change the mindset of the government functionaries and encourage them to cooperate with panchayat functionaries. A much larger training programme, therefore, needs to be undertaken for training panchayat functionaries and government officials whose services have been placed at the disposal of the PRIs. Training of trainers, therefore, is equally important.

PANCHAYATS (EXTENSION TO SCHEDULED AREAS) ACT

17.23 The Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA) extends panchayats to the tribal areas of Andhra Pradesh, Gujarat, Himachal Pradesh, Maharashtra, Madhya Pradesh, Jharkhand, Chhattisgarh, Orissa and Rajasthan to enable tribal communities to preserve their traditional customs and rights. Most state governments have passed enabling legislation to give effect to the provisions of PESA. However, rules are yet to be framed and notified in many states and, as a result, PESA has not yet been operationalised. Under the Act, the gram sabhas/panchayats are given mandatory powers to be consulted, to recommend and to enforce prohibition, ownership of minor forest produce, prevent alienation of land in the Scheduled Areas and control of local resources for State Plans including Tribal Sub Plans.

17.24 A review of the state Acts shows that most states have assigned a less prominent role to gram sabhas/panchayats in the Scheduled Areas than was intended by PESA. In Orissa, gram sabhas/panchayats have been given very few powers. In many states, powers earmarked for gram sabha/panchayats have been entrusted to taluka and zilla parishads. In many states, gram sabhas have been given powers of control only on forests located within the revenue boundaries of the village and not on all forests (including reserved forests) in the vicinity of the village. Forest products such as cane, bamboo and mahua seeds have been excluded from the category of minor forest produce in order to keep them under the control of the Forest Department.

17.25 PESA gives wide-ranging powers to the gram panchayats in the Schedule V areas. Given the fact that tribals are among the most marginalised sections of society, the Act is an important instrument to encourage tribal communities to participate in the growth process and improve their living conditions. It is necessary to impress upon the states the need to implement PESA and modify/repeal all laws that come in conflict with it, as was envisioned by the Act itself.

PROGRAMME DELIVERY SYSTEM AND IMPLEMENTATION DESIGN

17.26 Successful implementation of development programmes requires adequate funds, an appropriate policy and institutional framework and an effective delivery mechanism. Past experience suggests that availability of funds, though necessary, is not a sufficient condition for tackling the problems of poverty and backwardness. The capability of the delivery system to optimally utilise the funds and achieve sustainable outcomes on the ground is equally important.

17.27 There is now substantial evidence that basic public services and programmes (such as those meant for the poor and the weaker sections) function relatively inefficiently in the poorer and less well-governed states. This is due to, on the one hand, lack of motivation, accountability, absence of performance appraisal, lack of a system of incentives and penalties, understaffing and poor working conditions, and, on the other, large-scale leakages.

17.28 Technology-enabled delivery system design for implementation of the proposed national rural employment guarantee scheme is indicated in Box 17.2. The concept needs to be validated through pilots before it is rolled out.

17.29 From this example, it will be apparent that e-Governance solutions can be useful in designing implementation and monitoring systems for poverty alleviation and other rural development programmes such as the Sarva Shiksha Abhiyan, Sampoorna Grameen Rozgar Yojana (SGRY), SGSY, Mid-Day Meal Scheme, Integrated Child Development Services (ICDS).

17.30 The Tenth Plan highlighted the role of PRIs, as well as of civil society, including voluntary sector, in the governance related reforms agenda. It was envisaged that the voluntary sector would be recognised, as a partner in development and Non-Governmental Organisations (NGOs)/ Voluntary Organisations (VOs) would be involved in the task of planning and implementation of development programmes. An enabling environment will be created for greater involvement of the voluntary sector and appropriate databases on NGOs/VOs would be created. The NCMP has endorsed the important role which this sector can play and this is reflected in the constitution of the National Advisory Council.

17.31 Recognizing the increasing importance of the voluntary sector in the development process, the Planning Commission has issued Guidelines to the concerned Departments/ Ministries and State Governments to facilitate the working of voluntary organisations. In these Guidelines, inter-alia, it has been suggested to set up grievance redressals mechanisms, to notify the state Planning Department as the nodal agency for voluntary sector, to constitute state joint machinery for Government and voluntary sector collaboration, to take appropriate steps for capacity building of NGOs, to sensitize government officials about the role of NGOs, to adopt simplified formats and fast tract systems for involving NGOs, to have better coordination between NGOs and PRIs etc. The Planning Commission is formulating a draft National Policy on the Voluntary Sector which will seek to define or facilitate the role of voluntary section information in improving governance in the development process. As basic data on voluntary sector on the country is not available, the Planning Commission is preparing a database on NGOs. Information on about 16,000 NGOs who have received funding from different departments of the Government is available, as on 20th April 2005. This information is continuously being updated and available on the website of Planning Commission. In addition, the database of other concerned departments and other useful sites for voluntary sector have been hyperlinked on the Planning Commission website.

17.32 It has been estimated that there are about 12 lakh Voluntary Organisations in the country. The database of Planning Commission is still not able to capture the full contours and contributions of the voluntary sector. For this enormous task, keeping in view the ever-increasing size and role of the voluntary sector, proper infrastructure or institutional arrangements need to be placed at the earliest.

INSTITUTIONAL AND ADMINISTRATIVE REFORMS

17.33 In addition to the issue of empowering PRIs, there is a broader governance-related agenda which will affect the capacity of government (both at the Centre and the state level) to manage resources efficiently and provide an environment in which individuals are able to pursue their economic activity without undue restrictions and delays. This requires action on three fronts.

- Reducing the extent of government interference, to the extent possible through deregulation, rightsizing and building public-private partnerships.
- Making the government customer-centric through improved efficiency, transparency and minimising transaction costs.
- Participative government, which involves building up communication and consultative processes with the stakeholders.

Some of the key areas that would promote governance related reforms are outlined below.

CIVIL SERVICES REFORM

17.34 Governments face three critical challenges in the area of civil services reform. One, they must enhance the productivity of the civil services and make certain that each employee is performing socially relevant tasks. Two, they must ensure the long-term affordability of the civil services. Three, they must enforce procedures for rewarding and promoting merit, and penalising malfunction and misconduct, in order to strengthen accountability and enhance performance quality.

17.35 **Rightsizing government:** The government has, unfortunately, long been seen as the employer of first resort by the middle class and a rapid expansion of government employment has taken place, especially of the support staff. With the changing role of the government, there is a pressing need for rightsizing of the government, without causing hardship. Governments should identify surplus staff, set up an effective redeployment plan, and also devise a liberal system for exit. For the time being, recruitment should only take place for functional posts, and vacant posts of secretarial and clerical nature should not be filled. The Central government has already restricted the recruitment of fresh personnel to just one-third of the posts falling vacant each year, and some states have taken similar steps. These are moves in the right direction. The Administrative Reforms Commission (ARC) Report, 1970 had recommended the abolition of clerical positions in the secretariat, by merging the field departments with the secretariat departments at appropriate levels, and by following the pattern prescribed in the

Box 17.2

Delivery System and Implementation Design for Employment Guarantee Scheme

The proposed national rural employment guarantee scheme stipulates the provision of employment for a minimum of 100 days a year for at least one adult per rural household. For this scheme to be properly implemented, it will be necessary for every village panchayat to maintain a register enumerating eligible adult individuals in every family. This would need to be converted into a workers' register. All government departments with works programmes in rural areas would have to create village-wise works registers, which would then have to be centrally aggregated and catalogued village-wise at the district/block headquarters. Each potential worker would have to be given a distinct ID and would have to be assigned to the aggregated village-wise works register so that an account can be kept for 100 days of employment for one member from each family. In a nutshell, this would require works and workers inventories to be created and stored in a central data depository at the district headquarters. To carry out the programme in a monitorable mode, on a nation- wide basis, it would be necessary to set up state and national level data depositories.

Tata Consultancy Services had carried out a study in 2004 of various rural employment schemes including the Maharastra rural employment guarantee scheme and had identified the following flaws in the implementation design of the scheme.

- **Inflated Schemes**
  - Inflated qantity of work, depressed productivity, inflated person day estimates
- Bogus Registrations
  - Registration of non-living persons, minors and medically unfit persons, duplicate and/ or proxy registration, fictitious registrations
- Fraudulent Requisition of Funds
  - False measurement, inflated progress of works, omitting an operation or work item
- Inflated Muster
  - Ghost workmen, bogus attendance
- Fraudulent Wage Payment
  - Under payments, dependant fraudulent payments

These loopholes can be effectively eliminated/minimised by re-engineering the scheme to provide access to the details over the Net and to enable online updating of information related to attendance, progress and measurements of works completed. The main process reengineering changes involve:

- Providing permanent photo identity card which is machine-readable (either through bar code, radio frequency identification (RFID) tag or smart card for beneficiaries.
- Displaying the programme details on website
- Recording attendance at works site either manually or through the RFID tag or smart card
- Works measurement by an independent agency
- Posting of progress of work and manpower details in the district headquarters database
- Reconciliation of the progress of work with cost estimates and time deadlines
- Reconciliation of the muster with the database of registered workers
- Direct wage payments from district headquarters to workers using post office saving accounts/money orders sent to their residence
- Aggregation of district data at the state and national level data depositories

army for decision making through the single file system. These recommendations remain relevant even today. Reducing the number of general holidays, as recommended by the Fifth Pay Commission can lead to better productivity of the existing staff.

17.36 **Open government** is a key element of governance reform. The environment of secrecy that pervades government functioning only encourages suspicion, resentment and malpractices. Sharing of information and higher levels of transparency would certainly reduce the danger of the system being manipulated by a few and would make administration more responsive and performance oriented. One way of sending a signal for reform is to encourage the enactment of legislation for Right to Information along the lines of what has been done at the Centre. If the right of the ordinary citizen to information is recognised, it will dramatically increase the strength of the citizen to understand and challenge corruption and the arbitrary exercise of State power. There are many ways to bring about openness in government. The declared intention of the government should be in favour of transparency. All information that is generally provided by the Parliament or state Assembly to a legislator should also be accessible to the public. Departments with extensive public dealing, such as the police and revenue department, should be subjected to a social audit at periodic intervals. These audits, by eminent members of the public, should look at their policies and performance, and suggest constructive steps for their improvement.

17.37 Each department with a public interface should develop a Citizens' Charter, which should clearly define the standard for the services being rendered. It should also specify the remedial mechanisms available to the citizen. Merely notifying citizens' charters should not be an end in itself. After promulgating citizens' civil charters, departments should ensure that the necessary changes have also been introduced in every aspect of the functioning of the department and at every level to conform to the standards set in these charters. Each department should organise large-scale capacity building programmes to bring about attitudinal change in their employees.

17.38 Ensuring accountability of public servants for their actions is another key element of civil service reform. The high transaction costs involved in interacting with government agencies corrodes the credibility of public institutions, leading to widespread disenchantment with them, weakening the very fabric of governance, and making it virtually impossible to speed up development tasks. Accountability, transparency and the rule of law, are integral constituents of good governance. Transparency in government functioning will, in itself, reduce the possibilities of leakage and malpractice. The issue of accountability is crucial for effective financial management and a responsive civil service.

17.39 While it is imperative that public servants be made accountable, it is also essential that they be provided security of tenure. This is important not only for good delivery of services to the public, but also for an honest, objective appraisal of a civil servant's performance. Short tenures and transfers without notice cannot be conductive to good performance and in fact, serve to demoralise sincere, hard working officers. This is an issue that has been debated in the past also, with civil services boards being suggested as a possible measure against frequent and arbitrary transfers of public servants. However, there has not been satisfactory progress in this direction; on the contrary, the problem seems to have become more acute in some States. There is, therefore, an urgent need for the Central Government to persuade the States to institute mechanisms for providing security of tenure to civil servants and discouraging their frequent and arbitrary transfers.

17.40 Procurement is an area especially prone to malpractices. Enactment of legislations/ regulations to mandate strictly competitive bidding of all contracts and procurement of works, goods and services by the government and its entities, with regular issuing of tender notices, bid closing dates and contract awards, should be effectively ensured to minimise opportunities for malpractices in procurement decisions. A major problem in this context is the ease with which the outcome of competitive bidding can be negated, which can become a source of corruption.

17.41 Civil society has an important role to play in promoting reforms by subjecting government actions and decisions to continuous scrutiny and pressure. Yet, despite the enormous burden posed by weak governance, civil society action has, on the whole, been found wanting. The pace of improvement in governance would accelerate only when countervailing forces in society develop sufficient confidence to oppose inefficiency and corruption in government. States should, therefore, not just tolerate, but actively encourage credible civil society organisations.

JUDICIAL REFORMS

17.42 Though India has a robust judicial system based on the Anglo-Saxon legal tradition, the process of delivery of justice to the common man is very long and torturous. The long list of pending cases in courts, frequent adjournments, dilatory tactics by counsels and the extortive practice of charging the client on per court hearing/per diem basis and not on outcome basis are resulting in interminable litigation and unacceptable delays in adjudication.

17.43 Since justice delayed is justice denied, special attention must be paid to reforms that would speed up the judicial process. The following initiatives deserve consideration:

- Empowering the presiding officers of the court to exercise better control over their case-lists or List of Businesses in a transparent manner. The List of Business Information System (LOBIS) developed by the National Informatics Centre (NIC) can help courts monitor whether hearings are getting fixed with predictable periodicity and are beyond manipulation of court staff. LOBIS is helping the Supreme Court registry generate daily cause lists and needs to be suitably adapted to meet the requirements of district courts.
- The counsel-client relationship and counsel fee-payment system need to be brought under some principled regulation to make the judicial process more client-friendly, creating an incentive for counsels to ensure early delivery of the decision. In sessions cases, this can be done by not allowing adjournments during sessions trial. In civil cases, the Bar Council or any other appropriate body should regulate the counsel remuneration system on outcome basis.
- There is also a need to provide greater finality to adjudicatory processes. Currently the judicial processes meander through an interminable process of interlocutory injunctions and appeals against interlocutory orders. This can be simplified by enhancing the power of the court to review its own orders, to enable it to bring about a self-correction at the interlocutory stage.
- There is a strong case for moving from a two appeal system to a single appeal system to give finality to judicial pronouncements.

17.44 The application of information technology can bring about a sea change in the quality of management of casework and can substantially reduce the time taken in disposal of cases. Under the directions of the Supreme Court and the Conference of Chief Justices, the NIC has initiated COURTIS (Courts Information System) covering all 18-High Courts. This has already enabled them to improve the court-litigant interface, with prompt delivery of copies of judgements, daily orders, case status information, etc.

17.45 In the Tenth Plan, an ambitious target has been set to computerise all 14,948 subordinate courts in the districts (including 1,734 fast track courts). In the first two years of the Plan 1,600 courts have been computerised. In the third year (2004-05), Rs.103 crore has been provided to computerise 3,475 district/subordinate courts while 9,873 courts will be computerised by March 2006, thus covering all the remaining 13,348 courts at a cost of Rs.384.53 crore. Provisions have accordingly been made in the Plan budget of 2005-06.

17.46 While computerisation and networking of all courts will enable better administrative supervision and control by High Courts over disposal of cases in subordinate courts on a daily basis, the full benefits of induction of IT will be realised when the judicial processes start getting re-engineered in the following manner-

- Allowing e-filing of plaints, written statements, affidavits, counter-affidavits and rejoinder affidavits.
- e-filing of examination-in-chief is made admissible in evidence.
- Permitting cross-examination of witnesses in remote locations (i.e. outside courts) through video-conferencing and making it admissible in evidence.
- Providing touchscreens in witness boxes to enable witnesses to draw site-plans of scenes of occurrence in complicated sessions cases.
- Allowing audio-recorded/audio-video-recorded versions of evidence in order to shorten the time of court in recording evidence. Once technology is perfected, speech to text transcripts can also be made admissible in evidence.

17.47 Video-conferencing can be deployed by courts more effectively as an aid to judicial processes in following situations:

- Securing evidence of witnesses in remote locations or those not able to attend the court
- Securing evidence of vulnerable witnesses like rape victims, who may want to avoid public gaze
- Conducting identification proceedings
- Physically distancing the witnesses from the criminals in the identification parade. This will enable the witness to identify the offender fearlessly.
- Dispensing with the transportation of undertrials to and from jail for periodic appearances before magistrates. This will reduce instances of custodial escapes.

17.48 In order to implement these proposals, the judicial processes will need to be re-engineered and amendments made in the Evidence Act, 1872, Criminal Procedure Code (CrPC) and Civil Procedure Code (CPC). This should not be difficult, considering that Singapore, which had similar legislation/ regulations in place because of the shared British colonial past, has successfully re-engineered its judicial processes to enable e-courts in order to bring about expeditious disposal.

POLICE AND CRIMINAL JUSTICE ADMINISTRATION REFORMS

17.49 The police is the instrument of coercive power of the State and this power has to be exercised transparently, with maximum restraint but with telling effect. Several Central and State Police Commissions have suggested comprehensive police reforms but the effectiveness of the beat constable, as well as the Station House Officer (SHO) has only declined progressively since Independence. In the 1950s, a single beat constable used to effect arrests of several offenders, but today, a posse is needed for the same task. The loss of quality of law enforcement has been made up by numbers or show of strength.

17.50 If this trend is to be reversed, the majesty of law must be re-established and public perception will have to be changed so that a policeman is seen as the person responsible for public safety, an ace-investigator and a professional crime-buster. His achievements will have to be rewarded and misconducts punished relentlessly. Once this is done, it will be necessary to change the legal system so that it gives greater credence to the policeman deposing in a court of law. In special circumstances, his solitary evidence should be relied upon for securing convictions. (Presently, unless corroborated, his evidence is treated as suspect by the court). Conversely, it will be necessary to hold the police officer fully accountable for the depositions made by him. Any falsification of evidence should make him liable to the severest punishment, including dismissal. This change is fundamental to realigning the criminal justice administration system with its foundation as "veritas" or truth.

17.51 Once this is achieved, the conviction rate will increase, perpetrators of crime will get punished and judicial processes will start buttressing the deterrent effect of law. The current vicious circle of poor policing, poor investigation, half-hearted prosecution, hostile witnesses and high acquittal rate will get converted into a virtuous cycle of greater professionalism in investigation, more responsible prosecution, higher conviction rate and lesser crime. A more orderly society is the bedrock of planned development.

17.52 Technologies today enable us to view crime perpetration, detection, registration, investigation, prosecution, adjudication and incarceration as a seven-stage continuum. It is possible to follow and monitor the crime and the criminal from the time of the perpetration of crime to the time of its adjudication and resultant conviction.

17.53 A unified database on a shared network from the time a criminal perpetrates a crime till conviction can help monitor the ability of the system to deliver punishment for each offence committed. It will also enable evaluation of the performance of investigators and prosecutors, more systematically and enable High Courts to supervise the subordinate courts more effectively. State governments should be encouraged to establish an integrated portal for crime and punishment. The portal will have two tracks:

- **The Crime Tracking System** will monitor crime from the time of its detection, through registration, investigation, prosecution and adjudication.
- **The Criminal Tracking System** will create a nation-wide system of data capture for criminals at the time of arrest with digital equipment for lifting, recording and storage of fingerprints, and with a powerful search engine for matching fingerprints with those in the data-base across the country. This will help in creating comprehensive criminal history sheets of individual criminals, habitual offenders and perpetrators of repeat-crimes. Subsequently, more sophisticated databases could be built based on DNA-fingerprinting and other biometric identifiers viz., retinal image identification system and Lambdoid Sutures etc. The fingerprint data capture system could first be established at each district headquarters and subsequently at the major police stations.

GOVERNANCE REFORMS IN BANKING SERVICES

17.54 The Indian banking sector is facing many challenges, the most important one being expectation of anytime anywhere banking on the part of customers. This requires legacy

Box 17.3
Electronic Data Interchange

The Electronic Data Interchange (EDI) aims at creating an integrated information exchange and decision support system for trade facilitation. Participating agencies are the Customs department, the Directorate General of Foreign Trade (DGFT), Port Trusts, shipping lines and shipping agents, airlines and airports, the Container Corporation (CONCOR), banks and importers and exporters. The current configuration of the EDI is flawed since it is mostly about translating the existing processes of the legacy system into electronic processes. It needs to quickly move to reconfiguring the information exchange and decision making process in a manner that brings about complete web enablement of on-line real-time transactions between the various stake holders involved in the business of imports and exports.

systems to migrate from a traditional paper-based environment to an IT/web-enabled environment. This process involves complete process re-engineering, full-scale computerisation, networking, standards integration, building user interface, security and authentication etc.

17.55 The magnitude of the challenge can be estimated by the fact that the public sector banks have 47, 375 branches of which only 29,175 have been fully computerised. Of the 407 existing service branches, 367 have been fully computerised. Since 57 per cent of the fully computerised branches are also interconnected, the Reserve Bank of India (RBI) has authorised Electronic Funds Transfer (EFT), thus enabling 5,480 branches to carry out online transfer of funds between different banks. The RBI has also put in place the Real Time Gross Settlement (RTGS) system for facilitating inter-bank settlements. The RTGS envisages settlement across current accounts of the banks with RBI and enables bank account holders to transact business from one bank to another at any time. Banking services to individuals and businesses are rapidly undergoing profound change in all three areas – intra-bank transactions, inter-bank transactions and bank user interface.

17.56 The Electronic Clearance Services (ECS) covering both debit and credit clearing operations is an example of **intra-bank network application**. Under the guidance of the RBI, the banks have operationalised the ECS. Dividends, interest on bonds and debentures, salary, pension can now be credited directly into the beneficiary's accounts using ECS (CREDIT) services. Similarly, telephone bills, electricity charges; school fees, credit card dues and tax payment can be made using ECS (DEBIT) services.

17.57 The Indian Financial Network (INFINET), which is the communication backbone for the banking and the financial sector using a combination of technologies such as Very Small Aperture Terminal (VSAT) and terrestrial leased lines, is one example of **inter-bank network applications**. Presently the network consists of 2,300 VSATs in 300 cities. Other examples are SWIFT connectivity, which is global connectivity provided by the Society for Worldwide Inter bank Financial Telecommunications, EFT and the RTGS system.

Box 17.4
Some e-Governance initiatives

- Andhra Pradesh has computerised land records in sub-registrar's offices to bring in speed and transparency.
- The Delhi government has also computerized the collection of property taxes.
- Tamil Nadu has begun publishing its public examination results on the web to avoid inconvenience to students.

17.58 The best example of **bank-user network application** is the Core Banking Solution and Internet banking. Once this is achieved, all major banks in India would have their own central data depository where the entire book keeping would be done centrally for all the branches and all customers. The branches will cease to be accounting centres and will become service retail outlets. So far, only 16 per cent of bank branches have accepted the core banking solution. Once it gains wider acceptance, on-line real time Internet based banking transactions from one branch to another, one bank to another and one location to another would become possible.

Box 17.5
Using Internet to touch ordinary lives

Experiments like the *Warana Wired Village Project* in Maharashtra, and the *Friends Project* in Kerala have demonstrated how Internet can be used to make a difference to the day-to-day lives of every Indian.

The Gyandoot programme in the Dhar district of Madhya Pradesh is networked to 31 village centres. The service provides a wide range of information to villagers like prices of agricultural produce, auction centre rates, copies of land records, on-line registration of applications, village auction site, to name just a few.

Table 17.1
Mission Mode Projects (MMPs)

	Central	State	Integrated
G2C	Income tax Passport, visa and immigration National Citizens ID	Land records Property registration Road transport Agriculture Municipalities Panchayats Police	Common service centres India portal
G2B	Excise Company affairs (DCA21)	Commercial taxes	EDI e-Biz e-Procurement National e-Governance gateway

E- GOVERNANCE

17.59 e-Governance is the application of information communication technologies (ICT) to various types of interaction between the government and citizens or businesses. It is an important instrument for improving governance and making it more citizen-friendly and transparent. It is important to emphasise that e-governance is not just the application of new technology to an old process. It involves fundamental redesign of work processes for increased transparency and accountability with the aim of providing services in an easy and affordable way.

POTENTIAL AREAS FOR E-GOVERNANCE THRUST

17.60 A number of sectors are particularly suited for e-governance initiatives.

- **Public grievances:** Various public utility services and public dealing departments like electricity, water, telephones, ration cards, sanitation, public transport and police could be considered for computerisation for quick redress of the problems that citizens face.
- **e-tendering:** ICT can be used to bring in transparency, accountability and speed into the procurement/tendering process, which is an activity every government establishment undertakes.
- **Police:** Registration of first information reports (FIR), information on lost and found valuables/persons, and information on dead bodies, etc., could be provided online and the accountability of the department enhanced.
- **Social services:** Activities such as civil supplies, old age pension, widows pension, pension for handicapped persons, ex-gratia payments, acquisition/rehabilitation and compensation can be computerised in order to make operations faster and transparent.
- **Registrations:** Activities such as registration for ration cards, birth and death certificates, land records, driving licence, domicile, caste/tribe certificates, arms licence renewal, registration of documents, school registration, university registration and motor vehicle registration could also be computerised to cut down on the delays and paperwork involved and improve efficiency. Online availability of a variety of certificates will do away with the need to go to block or district headquarter and would be a boon for those living in rural areas.
- **Public information:** Information on employment exchange registration, employment opportunities, examination results, hospitals/beds

availability, railway, airline and road transport timetables, charitable trusts, government notifications, government forms and government schemes, can all be made available online.

- **Utility payments/ billing:** Payment of electricity, water and telephone bills will become much easier when done over the Internet. On the commercial side, using Internet for mundane activities such as income tax/corporate tax filing, payment of custom duties, central/state excise duties, payment of sales tax, house tax, property tax, octroi, road tax, and company returns will make a difference to the lives of individuals and businesses.

NATIONAL E-GOVERNANCE PLAN

17.61 The Central government has identified a number of services at the Central and state levels that are amenable to e-Governance initiatives and the Department of Information Technology (DIT), in association with the Department of Administrative Reforms and Public Grievances and in consultation with the Departments concerned, has identified an action plan called the National e-Governance Plan (NEGP). Twenty-five Mission Mode Projects have been identified at the Centre, state and integrated service levels to create a citizen-centric and business-centric environment for governance.

17.62 Various e-Governance projects identified for implementation in mission mode are divided into services delivered by Central government departments and those delivered by state/municipal departments. They also are classified by type of output, namely services to citizens (G2C), to businesses (G2B), and others to facilitate service integration and indicated in Table 17.1.

17.63 Government has initiated a project, DCA 21, to facilitate companies to interact with the Department of Company Affairs (DCA) by establishing a healthy business eco-system, which would facilitate reduced cost of compliance for all its services. This project would introduce a service-oriented approach in the design and delivery of government services and make the country globally competitive. Further, a unique identification number (Global Location Number - GLN) is being provided to each registered company. The DCA 21 envisages:

- Electronic filing of companies' documents through an entirely paperless process.
- Registering a company and filing statutory documents on anytime, anywhere basis.
- Easy access to the public to relevant records and effective redressal of grievances.
- Enabling professionals to be able to offer efficient services to their client companies.
- Making the registration and verification of charges by financial institutions easy.

17.64 The DCA serves over 4,50,000 companies in India through its 35 field offices located mainly in the state capitals. Another project, E-Biz, is also being implemented. eBiz is one of the five integrated service projects figuring in the NEGP. It seeks to provide integrated services of the Central, state and local governments, in the pre- and post-establishment phases of business entities through a single window G2B portal for information, knowledge and transactions (registration, tax related etc.) A pilot project has been launched, which involves provisioning of 25 services across eight Central government departments, five state government departments and one local body. The pilot is to be implemented in one district of four states - Andhra Pradesh, Haryana, Maharashtra and Uttar Pradesh.

17.65 e-Governance requires high quality IT infrastructure, networking capabilities and adequate support in terms of technical manpower available at all levels.

17.66 A Programme Outcome & Response Monitoring(PO&RM) Division has been established which will ensure that financial outlays are converted into and correlated with measurable physical outcomes for which parameters for monitoring will be identified upfront. Data generation and data capture and timely submission of data collected from the field will have to be ensured to create a programme monitoring and decision support system which enables us to make timely and meaningful interventions in the programme roll out. The PO&RM Division will be serviced by NIC and its countrywide network in all 587 districts. Under this initiative data collected at field level will be transmitted to and stored in State and Central Data depositors and substantial part of it will be accessible online.

THE WAY FORWARD

Decentralisation and Panchayati Raj

- Transfer of the three Fs – functions, funds and functionaries – to the PRIs, commensurate with the responsibilities assigned to them.
- Empower the gram sabhas, which are the foundation of the panchayati raj system.
- Give greater attention to training and capacity building of the gram sabha members.
- Notify the division of functional responsibilities between the three tiers of the panchayati raj system on the basis of activity mapping.

Institutional and Administrative Reforms

- Enhance the productivity of the civil service through rightsizing of government. Identify the surplus staff, set up an effective redeployment plan and devise a liberal system for exit.
- Ensure openness and transparency in the functioning of government. Press for the adoption of Right to Information legislation across the country. Subject departments with extensive public dealing to social audit at periodic intervals.
- Ensure accountability of public servants for their actions.
- Persuade the States to institute mechanisms for providing security of tenure to civil servants and discouraging their frequent and arbitrary transfers.
- Speed up reforms that will speed up the judicial process. This has to be done through:
  - Empowering the presiding officers of the courts to exercise better control over their case lists or List of Businesses.
  - Bringing the counsel-client relationship and counsel fee-payment system under some principled regulation
  - Providing greater finality to the adjudicatory processes
  - Moving from a two appeal system to a single appeal system
- Use the benefits of information technology to manage casework and speed up processes. Allow e-filing of plaints, statements, affidavits and other documents. Permit video-conferencing for examination of witnesses in certain situations. Allow audio/video recorded versions of evidence.
- Pursue amendments to the Evidence Act, Criminal Procedure Court and Civil Procedure Code.

e-Governance

- Push for political ownership at the highest level and a national vision for e-Governance. In the absence of such ownership, e-Governance would remain a purely technology initiative and would not penetrate into day-to-day use.
- Build up India's e-readiness in a systematic way by overcoming infrastructural inadequacies, re-engineering the processes to weed out outdated procedures and making them

user friendly, strengthening e-governance drivers, building institutions for capacity building and training and putting in place appropriate laws.

- Design applications to respond to citizen's needs and aspirations.
- Implement projects in stages of increasing complexity; providing information in the first stage and then moving on to providing interactive forms and finally a payment gateway where monetary transactions can take place.

Annexure 17.1

Status of devolution of departments/subjects with funds, functions and functionaries to Panchayati Raj Institutions

(as on 1st April 2004)

Sl. No.	States / UTs	No. of Departments / subjects Transferred to Panchayats with			Status of constitution of DPC's
		Funds	Functions	Functionaries	
1.	Andhra Pradesh	05	17	02	Not yet constituted. However, an Ordinance has been issued by the Government of AP in December, 2003 for constitution of DPCs.
2.	Arunachal Pradesh	-	-	-	Not Constituted
3.	Assam	-	29	-	Not Constituted
4.	Bihar	8	25	-	37 districts out of 38 districts constituted on ad hoc basis. Chairman ZP is the Chairman of DPCs.
5.	Jharkhand	-	-	-	Panchayat elections yet to be held.
6.	Goa	6	6	-	Constituted. President of ZP is the Chairperson of DPC.
7.	Gujarat	15	15	15	Not Constituted.
8.	Haryana	-	16	-	16 districts out of 19 districts. Rest under consideration.
9.	Himachal Pradesh	02	26 subjects	11	Only in 6 districts out of 12. Minister is Chairperson of DPC.
10.	Karnataka	29	29	29	Yes, in all Districts. President ZP is Chairman of DPC.
11.	Kerala	26	26	15	Yes, Chairman of District Panchayat (DP) is chairman of DPC.
12.	Madhya Pradesh	10	23	09	Yes. District incharge Ministers are Chairpersons.
13.	Chhattisgarh	10	29	09	Constituted. Minister is Chairperson of DPC.
14.	Maharashtra	18	18	18	Not Constituted.
15.	Manipur	-	22	04	Yes in 2 districts out of 4, Adhyaksha, DP is Chairperson.
16.	Orissa	09	25	21	26 Districts. Minister is Chairperson of DPC.
17.	Punjab	-	07	-	Not Constituted
18.	Rajasthan	18	29	18	Yes, Chairman of DP is Chairman of DPC.
19.	Sikkim	24	24	24	Yes
20.	Tamil Nadu	-	29	-	Yes, Chairperson of DP is Chairperson.

Sl. No.	States / UTs	No. of Departments / subjects Transferred to Panchayats with			Status of constitution of DPC's
		Funds	Functions	Functionaries	
21.	Tripura	-	12	-	Not Constituted.
22.	Uttar Pradesh	04	12	06	DPCs are not functional.
23.	Uttaranchal	-	11	11	Yes. Minister is Chairman of DPC.
24.	West Bengal	12	29	12	Yes, Chairperson of DP is Chairperson of DPC
25.	A&N Islands	06	06	06	Yes, Chairman of DP is Chairman of DPC
26.	Chandigarh	-	-	-	Not constituted.
27.	D&N Haveli	-	03	03	Yes, Chairman of DP is Chairman of DPC
28.	Daman & Diu	05	09	03	Yes, Chairman of DP is Chairman of DPC
29.	Lakshadweep	-	06	-	Yes. Collector cum Dev. Commissioner is Chairperson.
30.	NCT of Delhi	-	-	-	Panchayati Raj system is yet to be revived
31.	Pondicherry	—	-	-	Panchayat Elections yet to be held.

Source: Ministry of Rural Development, Govt. of India

NOTE : *The provisions of the Constitution (73rd Amendment) Act, 1992 are not applicable to the States of J&K, Meghalaya, Mizoram and Nagaland.*

Regional Balance and Planning

18.1 The issue of regional balance has been an integral component of almost every Five Year Plan. The adoption of planning and a strategy of State-led industrialisation – with Plans and policies designed to facilitate more investments in the relatively backward areas – were intended to lead to a more balanced growth in the country. It was expected that, over time, inter-state disparities would be minimised.

18.2 However, the perception is that regional imbalances have actually got accentuated, particularly over the past 15 years. This is not altogether surprising. Different parts of the country are in different stages of development and development has not been uniform at any point of history. Even the problem of intra-state inequalities has not been adequately addressed, with regional disparities persisting within all states (including the relatively prosperous ones) to a greater or lesser degree.

18.3 The Centre has an important role to play in promoting balanced development in which all states, and regions within states, have the opportunity to develop evenly. This equity-promoting role demands that greater efforts be made to remove the gaps in the provision of human development and basic services and infrastructure so that no region or sub-region and no group remains deprived of the fruits of development and at least attains a minimum standard of living. The equity-promoting role of Central planning assumes added importance in the wake of the emerging policy environment. With the opening up of the economy and removal of controls, the play of market forces may tend to exacerbate disparities. As the economy gets increasingly integrated with the global economy, the Centre may be required to play a stronger equity-promoting role and to secure sufficient space for all the federal units to work out their own strategies of development, harnessing global regimes or forces for the purpose, rather than being overwhelmed by them. The Centre would also be required to ensure suitable a macro economic policy framework for the growth of the economy in order to meet the aspirations of the people.

18.4 The Tenth Five-Year Plan had recognised that the concept of regional disparities would need to go beyond economic indicators and encompass social dimensions as well. Furthermore, the focus on inter-state disparities masked the incidence of intra-state disparities. The Tenth Plan had, accordingly, advocated a multi-pronged approach to provide additional funding to backward regions in each state, coupled with governance and institutional reforms. Midway through the Plan, the Mid-Term Appraisal seeks to take a fresh look at the key issues involved and strengthen/refocus strategies as warranted by the present situation and the lessons gained through experience.

ISSUES AND STRATEGIES

18.5 There is no clear historical consensus on the best mechanism for reducing regional disparities. For several years, direct investment in public sector units and capital and other subsidies for the private sector in backward regions was seen as the best way of addressing regional imbalance through capital formation as well as income and employment generation. The other mechanism, which continues till date, is ensuring a greater share in Central finances for backward regions through the transfer formulae used by the Planning Commission and Finance Commission.

18.6 Two broad approaches emerge from the lessons of past experience. The first involves proper identification of backward areas and targeting them with additional resources and investments to help them overcome the infrastructural deficiencies that contribute to their backwardness. Ideally, the policy directions and strategies adopted should seek to redress iniquitous policies and support the innate strengths of these areas. The second approach would be to seek to improve the overall environment for the economic growth of less developed states and areas through a combination of major infrastructure interventions, institutional reforms and appropriate incentive structures. Key issues and directions are set out below.

NATIONAL GOALS AND TARGETING

18.7 The Central Plans have traditionally focused on setting only national targets. However, recent experiences suggest that the performance of different states varies considerably due to variations in potentials and constraints. For example, although the growth of the economy as a whole has accelerated, the growth rates of different states have varied and has even decelerated in some of the poorest states. It is important to recognise that the sharp increase in the growth rate and significant improvement in the social indicators that are being contemplated for the Tenth Plan will be possible only if there is a corresponding improvement in the performance of the relatively backward states. Indeed, if the higher targets were sought to be achieved simultaneously with the relatively slower progress in some of the most populous states, it would necessarily imply a very large increase in inter-state inequality.

GEOGRAPHICAL FEATURES

18.8 Most of the more developed states seem to be located in the western and southern parts of the country and have vast coastal areas. The group of relatively backward states are in the eastern and northern parts of the country and are mostly in the hinterland. Studies have shown that India's growth has been urban-led, favouring those states where urbanisation is already high, perhaps due to coastal access (e.g. Maharashtra, Gujarat, Tamil Nadu) or where there is relatively high productivity of agriculture (e.g. Punjab, Haryana). Even with faster overall growth, the inland areas are likely to continue to grow more slowly than coastal areas, widening the gap between fast and slow growing regions. This may lead to increasing internal migration from rural areas to cities and from interiors to coastal areas.

18.9 Another distinct geographical region that remains less developed is the north-east. The economic backwardness of the north-eastern states is a special feature that seems to have a lot to do with their geographically disadvantageous location. However the political, social, cultural, educational and security aspects also seem to have a bearing on the region's economic growth.

18.10 The states located in the hilly terrains face additional per capita costs of providing development services due to what may be termed as a divergence between the surface area and the geographical area of the state. For example, even though Himachal Pradesh and Punjab have identical geographical areas, the "surface area" of the former is double that of the latter. Hence more resources are required to deliver services to a hilly state as compared to a state in the plains. Distance from the markets adds to the economic backwardness of hilly states.

NATURAL RESOURCES

Forests

18.11 The contemporary economic perspective on the preservation of forests is that it is an environmental 'public good,' generating positive externalities for multiple stakeholders beyond the local level. There are costs, including opportunity costs, associated with forest preservation, which are borne by local stakeholders while benefits accrue to a dispersed group of stakeholders (the country and the world at large). For example, the ban on green felling has meant that many states with large forest cover have had to forego revenues from this source. These also happen to be mostly less developed states, such as

Himachal Pradesh, Uttaranchal, Chhattisgarh and the north-eastern hill states.

18.12 It is possible to quantify the costs and benefits of forest preservation. If regional balance is to be encouraged by leveraging the innate strengths of the less developed states, there is no reason why these already relatively backward states alone should bear the country's economic burden of environmental conservation. Consideration needs to be given to evolve a suitable mechanism to "compensate", in some way, these backward states with a high proportion of land under verified forest cover, for providing this 'public good'. This would be a pro-equity entitlement that would create a level playing field and reduce the inherent economic disadvantages of backward, forested states.

Minerals

18.13 Similarly, mineral-rich states like Bihar, Jharkhand, Orissa, Madhya Pradesh, Chhattisgarh, Andhra Pradesh and West Bengal are all also relatively backward states. Large concentrations of tribal population live in the mineral-rich areas of these states; these also tend to be amongst the most deprived groups and the poorest areas within the state. Due to shortcomings in the existing royalty system, lateral transfers are, in effect, taking place from these backward states to the rest of the country, accentuating regional imbalances. Royalty rates are, unfortunately, fixed with the well-being of the public sector coal industry being the primary concern of State policy.

18.14 The key issue is the linkage of royalty on coal with the competitiveness of the coal industry. It would be rational and just to de-link royalty from the performance of coal companies. In case the Central government feels that warranted increases in the royalty rate might be injurious to the health of coal companies, and desires to prop them up nevertheless, it should subsidise these companies in a transparent manner. Because of the implications of this policy for the mineral-rich, backward states, this step alone would go a long way in redressing past inequalities and sending a strong signal indicating the commitment of the Centre for regional balance.

INFRASTRUCTURE ENDOWMENTS

18.15 Many of the less developed states have had less favourable initial infrastructure endowments relative to other states. This is evident in the Index of Social and Economic Infrastructure prepared by the Eleventh Finance Commission. Bihar, Madhya Pradesh, Orissa, Rajasthan and most of the north-eastern states are ranked low in the Index. On the other hand more developed states like Goa, Punjab and Gujarat, to name just three, have better infrastructure endowments.

18.16 There is, arguably, a greater need for higher levels of investment in social services and infrastructure in the relatively backward states as compared to the more developed states. The governments of the backward states tend to be fiscally weaker and are, therefore, unable to find enough resources to meet the huge investment requirements needed to catch up. On the other hand, the more developed states are fiscally better off and, therefore, able to improve their social and economic infrastructure further and thus attract private investment, both domestic and foreign. Conversely, the backward states are caught in a vicious cycle of being unable to attract private investments because of the unfavourable investment climate and poor infrastructure and not having resources to improve the infrastructure. The challenge is to break this vicious circle.

18.17. The Bharat Nirman announced by the Finance Minister in his Budget Speech for 2005-06 is an over-arching vision to build infrastructure especially in rural India. Conceived as a business plan to be implemented over four years, Bharat Nirman has six components namely, irrigation, roads, water supply, housing, rural electrification and rural telecom connectivity (see Box 18.1).

PUBLIC INVESTMENT

18.18 In the past, especially during the first three decades of planned development, a major

Box 18.1
Bharat Nirman

The goals of Bharat Nirman are

- to bring an additional one crore hectare under assured irrigation.
- to connect all villages that have a population of 1000 (or 500 on hilly/ tribal areas) with a road.
- to construct 60 lakh additional houses for the poor.
- to provide drinking water to the remaining 74000 habitations that are uncovered.
- to reach electricity to the remaining 1,25,000 villages and offer electricity connection to 2.3 crore.
- to give telephone connectivity to the remaining 66822 villages.

catalyst for the development of backward regions was the massive Central investment in key sectors. Though these investments might not have triggered regional development, they had a positive impact in a number of backward regions in various states. Since the early 1980s, the scope and role of such direct Central investment have been steadily declining. The liberalisation process, reforms in financial and industrial sectors and budgetary constraints of the Union government have further reduced the scope of such Central investments. The main instruments of Central support for less developed states now are resource flows to the states via Finance Commission awards and Planning Commission allocations. These are likely to remain largely equity based and in favour of backward states.

18.19 The Gadgil Formula for transfers of Plan funds (normal Central assistance) to states has been in force for over 30 years. The Formula has ensured a predictable flow of non-discretionary financial resources from the Centre to support the development of the states. However, it should be recognised that while equity would have been a major consideration in drawing up the Formula, its operation does not seem to have noticeably mitigated regional disparities. The actual flow of funds to backward states resulting from the operation of the Formula till date needs to be analysed and the Formula may need to be revisited in the present day context. In particular, all such formulae and transfer mechanisms should be reviewed to ensure that not only are they transparent but also that the instruments to tackle regional disparities have in-built mechanisms to ensure that a state's own efforts towards bringing about regional balance are rewarded. More importantly, the formulae should not promote perverse incentives, that is, the incentive to remain poor.

CAPITAL FLOWS

18.20 In the early Plans, capital flows, whether public or private, were largely regulated and directed in nature. However, post-liberalisation, and in particular during the last two Plans, private, institutional and external capital flows have tended to become more and more market-determined. The pattern of distribution of these flows is a subject of increasing interest. There is a correlation between per capita capital inflows and the state of infrastructure. States attracting relatively larger per capita capital flows are also better placed in the infrastructure index.

18.21 Of the various kinds of capital flows, those arising out of disbursement from externally aided projects (EAPs) require special mention. This is because, in the present era of resource constraints, it is imperative for state governments to maximise additionalities to their domestic resources to the extent possible. EAPs are the single most important potential source of augmenting the state's resources because, typically, between 70 and 90 per cent of expenditures on EAPs are reimbursed to the state in the form of additional Central assistance (ACA), and there is no ceiling on the amount a state can receive as ACA. The amount of ACA received by a state by way of external assistance depends only on the efforts made by the state, primarily in terms of efficiency of project implementation, preparation of project proposals keeping in view donor agency requirements, aggressive follow up of proposals, and projection of a positive perception of the state, specially in matters relating to governance and reforms.

18.22 This appears to be the only window in which it is possible for less developed states to attract financing for developmental efforts, even if they are not so well off or well endowed in terms of infrastructure. Both Andhra Pradesh and Orissa, among the top five states receiving highest levels of per capita per annum assistance during the Ninth Plan, are cases in point. In absolute terms, less developed states like Uttar Pradesh and West Bengal, to a large extent, and Madhya Pradesh and Rajasthan, to a lesser extent, have also done well. The link between capital flows and high income/infrastructure levels seems to be the weakest in EAPs in relation to other forms of capital flows, and this indicates considerable scope for state initiative.

INTRA-STATE DISPARITIES

18.23 Some of the factors explaining inter-state disparities do not automatically apply in the consideration of intra-state disparities. States are administratively homogenous units. Favourable treatment to, or alleged neglect of, a state by the Central government cannot be an explanation for uneven development between regions within a state. Nor can financial constraints faced by a state be a reason. These factors are neutral within a state. Yet, most states have large intra-state disparities. Interestingly, some of the most prosperous states have the largest intra-state disparities.

18.24 While particular areas may have certain limitations and constraints in making very rapid progress on human development, owing to geography and limitations of natural resources, an entitlement in terms of a minimum standard should be attainable for all. There is, thus, a case for setting of public policy goals for achieving defined minimum standards in key indicators of human development for the entire state. One way of starting would to focus attention on the districts lagging behind, establish feasible and doable levels of desired human development outcomes, and direct priority attention as well as an adequate flow of public resources to those districts. This approach could be encouraged and monitored in the Planning Commission's dialogue with the states on State Plan priorities.

18.25 The Commission should also consider putting into place a mechanism to financially or otherwise reward states (whether more or less developed) that have achieved a significant level of intra-state regional balance as assessed by objective district-level indicators. Alternately, there could be a disincentive mechanism that would apply to better-off states that have large regional disparities, in order to encourage all states to proactively strive for greater regional balance.

TRIBAL AREAS

18.26 The tribal areas, in particular those in the central India, are arguably amongst the most backward areas of the country. The planning system has attempted to address the special financial and developmental requirements of these areas through the Tribal Sub Plan (TSP), adopted since the Fifth Plan. The TSP enables the development of special strategies and the earmarking of funds (proportionate to the tribal population of the state) within the State Plan for the tribal areas.

18.27 The idea was to provide a thrust to development of the tribal areas, to improve livelihood opportunities and fill critical gaps based on the special needs of the population of these areas. However, in practice, TSP has become a loosely-knit agglomeration of schemes prepared by line departments and driven more by departmental priorities rather than any broad philosophy or thrust on tribal development. People's participation is conspicuous by its absence. There is no objective assessment or evaluation of earlier efforts. The programme achievements are measured in financial terms, and not in outcome terms.

18.28 The TSP needs to be looked at as an integrated pool of funds that should be deployed only in a few key priority areas and activities that are needed to achieve minimum norms of human development in the target areas and raise income levels of the scheduled tribes residing there. The TSP should be reviewed, revamped, energised and taken seriously. This will also go a long way towards improving regional balance, and reducing intra-state disparities.

DECENTRALISATION AND LOCAL INITIATIVES

18.29 Local ownership and initiative are critical for the successful implementation of development programmes. Externally imposed plans are unlikely to lead to successful outcomes unless they are supplemented by local initiatives. Enabling local decision-making on development issues will also reduce the likelihood of neglect of certain regions or districts due to centralised state-level compulsions.

18.30 Decentralised decision-making structures, therefore, have to be vigorously promoted, and the Constitutional provisions relating to district planning and panchayati raj institutions (PRIs) implemented with the active encouragement of the Planning Commission. There is absolutely no reason why non-compliance of these Constitutional provisions should be allowed to persist for so long. Decentralisation of funds, functions and functionaries to the third tier of governance needs to be closely monitored and linked with allocation decisions.

GOVERNANCE REFORMS

18.31 The quality of governance is an important factor influencing the pace of socio-economic progress of a state. Successful implementation of development programmes requires adequate funds, an appropriate policy framework, formulation of suitable Plan schemes, and effective delivery machinery. Past experiences suggest that availability of funds, though important, may not alone be adequate to tackle the problems of poverty, backwardness and low human development. What is equally important is the capability of the delivery system to effectively utilise these funds and implement schemes on the ground. There are deficiencies in both respects.

18.32 Governance reform needs to be at the centre-stage of development planning, since without good governance and programme implementation, much of the vast quantity resources being spent for development is wasted. Governance reforms have, in recent years, been the focus of the Planning Commission's development strategies. The Tenth Plan document had outlined an agenda for governance reforms. It includes a multifaceted strategy based on decentralisation, civil service renewal, open and responsive government, tackling corruption and strengthening the rule of the law, and fiscal and environmental sustainability. These directions remain relevant today.

18.33 The administrative framework needs to be significantly strengthened particularly in the north-eastern states. The reach of the administrative network is weak in several of these states, leading to difficulties in implementation of most development schemes. Funds continue to flow through the defunct autonomous districts councils where elections have not been held for a long time. As a precursor to development initiatives, the unfinished agenda of strengthening the administrative framework in the region needs to be addressed and satisfactorily resolved on priority.

SINGLE ECONOMIC SPACE

18.34 Another fiscal issue that needs to be addressed urgently is that of the distortions in incentive structures caused by existing competitive policies, particularly in the industrial sector in the form of industrial incentive policies, as well as the negative impact of the existing economic barriers between states. Subsidies, whether based on capital investment or interest, cause a direct outflow from the exchequer. Tax concessions and exemptions carry a cost in terms of revenue foregone. This, it is argued, is a short-run sacrifice for the long-term objective of enhancing the state's taxable capacity by attracting industrial investment. Evidence from different states so far, however, seems to indicate that the claimed benefits of such policies are suspect, and usually not commensurate with the losses to the state exchequer. That is something that cash-strapped backward states in particular can ill afford. Similarly, inter-state trade barriers exist in the form of border check posts and octroi/local taxes. These barriers inhibit the free flow of commerce and reduce income generation.

18.35 There needs to be a consensus on the idea of a single economic space in the country, to maximise efficiencies and productive potential of business and commerce, which would also give a fillip to the economies of the less developed states according to their comparative advantages. The varying sales tax regimes in different states also distort market incentives and lead to loss of revenues on various counts. There is consensus that the implementation of value-added tax (VAT) is an important step forward in the rationalisation of the indirect tax regime and one that will stimulate economic activity and help increase revenues of all states. There is a need to recognise the commonality of interests of states and work together towards the objective of creating a common economic space, which can release growth-enhancing efficiencies for all states, thus equalising economic opportunities.

REFORM-LINKED TARGETED FUNDING INITIATIVES

18.36 The Tenth Plan had stated that a core element in the Planning Commission's strategy towards reducing regional disparities is the targeting of less developed areas with funds for capital investments and innovative delivery mechanisms linked to institutional reforms. The Rashtriya Sam Vikas Yojana (RSVY) was initiated in 2002-03 with a view to assist the development of backward areas through additional grants for developmental programmes that would help reduce imbalances, speed up development and help these areas overcome poverty, besides facilitating the states to take up productivity enhancing reforms. Although yet to be fully operationalised in all the targeted districts, RSVY has got off to a promising start, and the concept needs to be developed further in the light of experience.

18.37 The Tenth Plan had also proposed that RSVY funding should be available to a state only if the concerned state government undertakes an agreed set of reforms. Reforms in the administrative and fiscal structure, in policies related to the day-to-day life of the ordinary people and in the way financial and administrative powers are delegated are needed to supplement the flow of funds. While the targeting of funds to certain identified most backward districts and certain conditionalities on good administrative practices in the targeted districts have been operationalised, the economic reform linkage has not. Admittedly, state-level institutional and economic reforms are needed to enhance the growth potential of states. However, while these reforms may be desirable in themselves, they may not necessarily help redress inter-state and intra-state regional disparities. In fact, the impact of reforms in the initial stages may even be to widen these disparities. The focus of the RSVY approach needs to be kept on the issue of regional balance, and the scheme modified and strengthened according to this focus.

18.38 The criteria for identification of backward districts under RSVY also need to be revisited. Human development indicators like the literacy rate and the infant mortality rate (IMR), which are now universally and nationally recognised as better indicators in assessing the level of living of the people of an area, should also be included.

POLICY CONSIDERATIONS

18.39 The directions outlined above would help in addressing the problem of growing regional disparities. Directed flow of financial support to less developed states remains the primary instrument available to the Centre for the purpose. However, a key issue is the approach to be taken if, despite this, the desired development does not occur, governance and implementation does not improve, and the states remain backward. It could be argued that preferential funding should be made strictly conditional on reforms. At the same time, it is probably not an equitable or feasible option to actually curtail or reduce the flow of additional resources to less developed areas. Rather, it will be necessary to continue directing additional flows to these areas in the most effective way that is possible. This is a challenge that needs to be recognised and addressed in the formulation of any approach towards bringing about greater regional balance.

18.40 The basic approach has to be an outcome driven one. Additional funding must be seen as only the instrument to achieve the desired outcomes, and not as an end in itself. It should be possible to define nationally acceptable minimum norms of human development and infrastructure development that every district in the country must attain, and direct policies, initiatives and funds to fill the normative gaps and achieve these standards. Central initiatives such as the Sarva Shiksha Abhiyan and the proposed employment guarantee legislation are examples of such normative approaches.

18.41 This will require changes in the pattern of providing Central assistance to State Plans. If the intention is to sharpen the focus of planning for the states towards improving regional balance, the idea of providing significant allocations out of this Central assistance for funding to support regional balance initiatives needs to be considered. The question of how these significant allocations are to be provided needs to be considered. Since the total Central assistance is likely to increase only incrementally from year to year, these allocations have to be found from within the existing flows, by reorienting their present content and direction.

18.42 Presently, block loans/grants in the form of normal Central assistance to support State Plans are provided as non-discretionary flows according to the Gadgil Formula. The Formula can be modified only though a consensus in the National Development Council. Recent proposals for modification have not been able to generate the required consensus among states. It appears that normal Central assistance is likely to continue in its present form in the near term.

18.43 However, this is not the only channel for Central Plan assistance to states. More than half of such assistance is allocated through a number of sector-specific schemes of special Central assistance/ACA. Some of these schemes are area development programmes targeting hill areas, tribal areas or the north-eastern region. Such area development schemes tend to be consistent with regional balance objectives. Apart from these few schemes, a large number of the ACAs are essentially discretionary flows tied to a particular programme or sector reform initiative of the Central government, generally relating to subjects in the jurisdiction of the states. Most of these are indistinguishable in intent and content from Centrally sponsored schemes. It could be argued that if these ACAs are truly necessary for achieving desirable sectoral objectives, they could well be continued by the Central ministries and departments as centrally sponsored schemes.

THE WAY FORWARD

- The objective of bringing about greater regional balance must be the overriding consideration for determining the use of Central funds that flow as Central assistance to State Plans
- A Backward Regions Grant Fund (BRGF) mandated to address regional balance concerns could be structured with the following two windows:
  - Backward Districts Window: This could be an area-targeted grant facility, broadly on the lines of the existing RSVY. Initially the window will consist of all backward districts from RSVY list. This list will be enlarged to cover the hard core backward states, viz. Bihar, Orissa, Jharkhand, Chattisgarh, Assam, East UP and East MP, more intensively. Transitional provisions will be made for 32 districts (from the list of 55 naxalite activities affected districts, which are not strictly backward districts in the RSVY list, for the remaining two years of the Xth Plan, whereafter they

will be covered under a separate programme for Development of Districts affected by extremist activities.

- Compared to the provisions of the still nascent RSVY, a greater emphasis may be placed on human development indicators for identification of target regions and districts. Elimination of minimum normative gaps in local area developments; in physical infrastructure; in social attainments in health and education and land productivity should be the prime objective of financing interventions from this window. The selection will be based on objective parameters subject to minor changes in consultation with states.
- State Infrastructure & Reforms Window: This could also be a grant facility for providing viability gap funding which will enable resources to be leveraged for core infrastructure projects at inter district or state level in less developed states. These projects will include projects that would otherwise be considered as not viable financially but are necessary for removing backwardness. The amounts to be made available to states will be in proportion to the population residing in their backward districts.

- Unlike past practice, tripartite agreements or contracts between Central, State and local governments should be entered to incentivise appropriate State level policies that will improve regional balance. The role and the responsibilities of the State Governments should be factored in if the BRGF is to achieve its stated purpose. The emphasis has to be on outcomes, and necessary institutional reforms. Ignoring ground realities will not help. These agreements should link releases to achievement of listed outcomes in accordance with agreed schedules and also provide for strengthened and responsive delivery systems and for suitable remedial action by Government of India in case of misuse of funds.
- Convergent management of relevant ongoing Central government initiatives like the National Food for Work Programme, Sarva Shiksha Abhiyan and Mid Day Meals that, by their very nature, facilitate pro-equity resource flows to less developed states, should be achieved. This can be done effectively through the mechanism of a district plan, and would need to be accompanied by a determination of clear cut outcomes.
- The Planning Commission should be the bridge between the Centre and the states that its present role enables it to be. This is necessary because the Planning Commission is the only agency that directly supports the development Plans of states and is engaged in a regular development dialogue with them. This means that the Commission must see itself in a more proactive role in championing the cause of the states with Central ministries in key policy issues that have strong equity and regional balance dimensions. In a liberalised, market-driven policy environment, the responsibility of the Commission is greater in that it has to ensure a level playing field for less developed states and regions. Simultaneously, the State Plan allocation and dialogue process should be reoriented to focus more on macro-policy issues, equity and regional balance concerns, and promotion of decentralised planning structures. In line with its original mandate, the Commission's role and influence must be leveraged more effectively with both the states and the Central ministries for bringing about greater inter-state and intra-state regional balance.

List of Recommendations

CHAPTER 2 HUMAN DEVELOPMENT

Elementary Education and Literacy

1. The Tenth Plan target of enrolling of all children in schools and EGS/AIE centres by 2003 should be revised to 2005 as about 8.1 million children are still out of school as on September 2004 and the targets for retention and completion should have consequential revisions.
(Para 2.1.3)

2. The remaining 8.1 million hard to reach out of school children should be enrolled in regular schools/EGS-AIE Centres and plans to mainstream 12 million children already enrolled in non-formal education streams into regular schools should be pursued rigorously.
(Para 2.1.21)

3. High dropout rates and quality of education, the two main areas of concern of SSA, should be addressed through specific measures. The teacher-related issues like vacancies, absenteeism, untrained teachers and ineffective training should be addressed urgently.
(Para 2.1.22)

4. Adequate teaching-learning materials and provision of other joyful learning conditions in schools should be ensured, and the child tracking system should be intensified.
(Para 2.1.22)

5. SSA funding pattern of 75:25 between the Centre and states should be maintained till the Mission period i.e. 2010.
(Para 2.1.24)

6. The SSA guidelines should be reviewed to ensure that these optimise investment, meet output targets and cater to special regional circumstances.
(Para 2.1.25)

7. SSA should have a separate component for ECCE, where ICDS is not in operation. Even where ICDS is operating, pre-school component of ICDS should be covered under SSA. This component should include inter-alia need based training of anganwadi workers, supply of TLM like play-way kits, supporting development of curriculum and materials for ICDS and honorarium for ICDS workers for extension of anganwadi timings to the duration of school hours.
(Para 2.1.27)

8. Under MDMS, the States should ensure proper management structures and monitoring arrangements, including social audit, accountability and public private partnership. A concurrent evaluation of MDMS should be launched in all States.
(Para 2.1.29)

9. The factors leading to low learner's achievement, including poor classroom transactions, lack of pupil evaluation and low proportion of female teachers should be addressed effectively.
(Para 2.1.33)

10. Local community should also be involved in monitoring school performance through Village Education Committees and the institution be made responsible for outcomes in terms of quality education.
(Para 2.1.33)

11. Teachers' vacancies at all levels should be filled up urgently and there should be advance planning for future requirements too. Pre-service and in-service training of teachers should be strengthened and all the DIETs, BRCs, CRCs be made fully functional by filling up the vacant faculty positions.

(Para 2.1.33)

12. Teacher Education Scheme should be merged with SSA in the XI Plan in order to ensure effective organisational tie up for quality education.

(Para 2.1.33)

13. The literacy schemes like PLP, TLC Continuing Education, should be transferred to the State Governments along with funds to ensure better participation/ involvement and effective monitoring.

(Para 2.1.38)

14. A new scheme should be launched as a part of literacy programmes, operated through NGOs, to impart functional literacy to 35 plus age group as a sizeable proportion of the 31 crore illiterate persons is in the said age group.

(Para 2.1.38)

15. All NGO operated schemes under adult education should be amalgamated into a single CSS and funds routed through the State Governments.

(Para 2.1.40)

II. SECONDARY EDUCATION

16. In order to plan for a major expansion of secondary education in the event of achievement of full or near full retention under SSA, a new Mission for Secondary Education, on the lines of SSA, should be considered.

(Para 2.1.45)

17. The expansion of secondary education should recognize the scope for promoting public-private partnership in view of the substantial share of private sector in secondary education.

(Para 2.1.48)

18. Suitable taxation and land policies, concessional loan programmes should be evolved to encourage expansion of secondary schools by NGOs, trusts and registered societies in the private sector.

(Para 2.1.49)

19. The focus of public sector should be on opening of new secondary schools in unserved and difficult areas, organising second shifts in thickly populated areas, upgrading existing upper primary schools into secondary schools in specified locations.

(Para 2.1.49)

20. Urgent steps should be initiated to bring about reforms in curricula, review of examination system and the State Boards of Secondary Education should be strengthened to improve the quality of education.

(Para 2.1.51& para 2.1.52)

21. The main emphasis should be on investment in teacher education, pre-service and in-service training, and setting up of laboratories, libraries and greater usage of ICT.

(Para 2.1.52)

22. The secondary schools should focus on reorientation of vocational education and impart vocational training in non-engineering and tertiary sector activities rather than conventional subjects relating to manufacturing sector.

(Para 2.1.71)

23. Vocational education should be geared to meet the local demands and necessary linkages with the local industry, business and trade should be established.

(Para 2.1.72)

III. UNIVERSITY & HIGHER EDUCATION

24. The Knowledge Commission should comprehensively review university education and address some of the deep-seated problems of varying standards, outdated syllabi, inadequate facilities and also recruitment procedures and policies in order to reduce the disparities in academic standards of various Universities.
(Para 2.1.77)

25. A long-term plan should be devised for setting up new colleges and universities, especially in educationally backward districts, strengthening existing institutions and also for expanding 'open' and 'distance' education. These activities should be undertaken in a phased manner, based on a clear perspective plan.
(Para 2.1.82)

26. A separate programme should be launched to improve and upgrade select universities and make these globally competitive. Expert faculty, funds and infrastructure of international standards should be provided to these institutions and supported by appropriate policy changes. Part of the upgradation should be financed by increased fee income.
(Para 2.1.83)

27. A substantial increase in university fees should be combined with an effective scholarship for the deserving students and loan programme by public sector banks should be considered on a priority basis to improve the resource position of Universities and Colleges. The Central Government can give a lead in this matter by introducing the system in the Central Universities.
(Para 2.1.85)

28. A clear policy for inviting private sector investment in higher education should also be formulated.
(Para 2.1.85)

29. The accreditation process for higher and technical education institutions should be made transparent and very effective.
(Para 2.1.87)

30. The expansion of institutions like IITs, IIMs should be considered so that these set standards for technical and management institutions.
(Para 2.1.98)

IV. YOUTH AFFAIRS AND SPORTS

31. Sports Academies should be set up at different locations for training and developing sports infrastructure of international standards and making it accessible to those being trained for international competitive events.
(Para 2.1.105)

32. There should be greater transparency in the functioning of Sports Federations/ Associations.
(Para 2.1.104)

33. Disaster preparedness should be included as one of the regular activities of Nehru Yuva Kendra Sanghathan (NYKS) during the current plan itself.
(Para 2.1.109)

34. Greater dovetailing of the resources of the Ministry of Youth and Sports Affairs with those of the various state Governments should be ensured to avoid duplication of efforts.
(Para 2.1.111)

35. Promotion and development of sports at village, block and district levels should be the responsibility of the State Governments.
(Para 2.1.111)

36. Intervention of the central government should be restricted to providing support only for grooming the talented sports persons who have excelled at the district/ state levels for major national and international events.
(Para 2.1.111)

V. ART AND CULTURE

37. A National Mission for Monuments should be launched for documentation and conservation of monuments not protected by ASI.
(Para 2.1.112)

38. A programme for preservation of such monuments and development of selected monuments for promoting tourism in different regions should be taken up.
(Para 2.1.112)

39. Various folk and tribal art and culture of different tribes in the country should not only be documented but also conserved, promoted and integrated with tourism related activities.
(Para 2.1.112)

Health, Family Welfare and Nutrition

40. Augment resources for health. If health is a vital dimension of social justice, make an exception for the health sector and treat external grant money (with zero debt burden) as an additionality to the budget. The absence of budgetary constraints will facilitate early availability of grant funding for disease control programmes (HIV/AIDS, TB, Malaria), and for neonatal, infant, and maternal survival. This may well make the difference.
(Para 2.2.12 A (i)).

41. Commence Commence implementation of the National Rural Health Mission (NRHM). Focus on the monitorable targets of the Tenth Plan (accelerate reductions in maternal and infant moprtality) and develop a functioning primary health care system, from the habitat to community and district hospital levels, to address the unmet need for critical health care, particularly among the poorest segments of the population.
(Para 2.2.83)

42. Introduce a cadre of skilled birth attendants based upon learning from Kerala, Tamilnadu, Sri Lanka and China. Operationalise health sub-centres and primary health centers to function 24 hours, as in Tamilnadu. Orient, train and co-opt practitioners of Indian systems of medicine to address national priorities across public health programmes, at sub-centre, PHC levels. Set up a 30-50 bedded functioning community hospitals for every 100,000 population, to provide curative care. The community hospital will strengthen supervision over the primary health center and the health sub-centre, and will take comprehensive health services closer to the people. The hospital will have a full complement of trained doctors and nurses to provide comprehensive emergency obstetric care at the apex of the primary health care system (together with a AYUSH unit), and will include disease management, with a functioning referral system to higher facilities. Every health sub-centre, primary health centre and the community hospital may be registered as Rogi Kalyan Samitis.
(Para 2.2.83: 2,3,4)

43. Map the nearly 600 districts across the country using, inter alia geographical mapping systems to identify existing health providers (all systems), register each health provider, and bring those found eligible within an accredited network. Co-opt each health provider in a rigorous training regimen in respect of national health goals and priorities, disseminate health policies and guidelines, and provide updation on public health interventions and treatment protocols. Training programmes being run by national and state level Institutes of Health & Family Welfare could also address this unmet need for widespread training. Grassroot health care providers may be made accountable by institutionalising linkages with self help groups prior to being put through training, as this will increase accountability.
(Para 2.2.107-2.2.113)

44. Include the prevention, care, and support of HIV/AIDS squarely within the National Rural Health Mission. Integrate the National AIDS Control Programme with primary health care (as already achieved with other national disease control programmes like TB and Malaria), and also with the reproductive health programme so that the interventions and messaging on HIV prevention and care reach communities and household levels. Aim to step up treatment for AIDS over the next 12 months, and place 20,000 AIDS patients on anti-retroviral treatment by March 2006.
(Para 2.2.39, 2.83(11))

45. Sanitation is a crucial, currently under-provided, determinant of health status of a population, and could be instrumental in reducing disease burden up to nearly 50%. Implement a National Mission on Sanitation and Public Health (NMSPH) to provide toilets in 100 million households by 2010, at the rate of 20 million households per year. The NMSPH may be executed by village panchayats jointly with civil society mobilized for this task. Dovetail the Total Sanitation Campaign with the NRHM.
(Para 2.2.85 -2.2.88)

46. Introduce a maternity health insurance scheme in the NRHM, to increase institutional deliveries, achieve reductions in maternal and infant mortality, stimulate the development of accreditation systems across rural and urban India, institutionalise multiple partnerships, and contribute to the development of sound, inclusive referral systems.
(Para 2.2.91-2.2.93)

47. Introduce small risk pools led by a consortium of self help groups, to administer financial help to needy households at village levels, in the event of hospitalisation and death.
(Para 2.2.94-2.2.95)

48. Reform the CGHS into a social security and health insurance, and include an accredited panel of diverse health care providers, to cover a wide range of health needs
(Para 2.2.96-2.2.97)

49. Develop a basket of MOUs for carrying forward multiple partnerships at primary, secondary and tertiary levels so that government organizes a seamless provisioning of health care from the habitat right up to the district, secondary and tertiary levels of health care, when and where needed. Illustrative terms of reference for the Forum on Partnerships for health care are:
   - o Identify potential areas for PPP in the health sector
   - o Develop specific implementation models in each potential area for civil society and private sector partnership
   - o Develop contracts for each model, specifying deliverables, monitoring mechanisms, basis and terms of payment, dispute settlement, bidding processes, and selection parameters.

(Para 2.2.98-2.2.105)

50. Launch a "Sarwa Swasthya Abhiyan" in a manner similar to the "Sarwa Shiksha Abhiyan", launched in 2001. Augment financial resources for health by accessing the WB IDA credit for the "sarwa swasthya abhiyan" as is already being done for the "sarwa shiksha abhiyan".
(Para 2.2.12 A (ii))

51. Set up a National Authority for Drugs and Therapeutics (NADT) and ensure integrated planning to monitor the pricing, availability and quality control of drugs and medicines, to promote the rational use of drugs, to streamline the manufacture of critical bulk drugs and combat the problem of counterfeit and spurious drugs. It would reconcile the interest of both industry and conusmers. Government could consider levying a 1

per cent cess on the manufacture and import of pharmaceuticals to be collected along with customs and excise duties so as to mobilise resources to administer the NADT.

(Para 2.2.122-2.2.129)

52. Set up a Public Health Development Authority (PHDA) with a corpus of Rs 500 crores, to set standards for quality assurance in health care; develop national practice guidelines and consumer information; reform professional councils; build capacity in public health, and develop the Information Technology Infrastructure for Health. This will boost consumer confidence, curb malpractices, and create an ethical environment for generating more appropriate health care delivery across the country.

(Para 2.2.106 - 2.2.121)

Science & Technology

53. Activate all the existing apex-level S&T mechanisms for providing policy directives, defining priorities and reorienting the S&T system to suit changing needs as well as for effective programme implementation.

(Para 2.3.56)

54. Set up a national-level mechanism — viz. an Indian Science Foundation — similar to the National Science Foundation (NSF) of the United States for supporting basic research in all fields of science and engineering.

(Para 2.3.57)

55. Make concerted efforts to attract investments in R&D from industry through a mechanism such as the creation of a fund from R&D cess on sales turnover.

(Para 2.3.58)

56. Strengthen research in universities significantly by adopting a multi-pronged approach. Provide incentives to faculty for undertaking research, augment faculty positions so that teachers can devote sufficient time to research and introduce the concept of research projects at the post-graduate level.

(Para 2.3.59)

57. Provide S&T departments and institutions with greater autonomy and flexibility in their operations, especially greater financial powers, freedom in appointment and placement of scientists and technologists without the usual government ban on recruitments, assuring career prospects for young scientists, etc.

(Para 2.3.60)

58. Activate the science and technology advisory committees (STACs) of various development departments and the inter-sectoral STAC mechanism of DST in order to ensure specific S&T components in terms of technological inputs to improve the effectivness of various developmental programmes.

(Para 2.3.61)

59. Strengthen the industry-academia interface for smooth transfer of technology and protection of intellectual property rights. Pursue the proposed establishment of industry-S&T interface institutions with technology management centres.

(Para 2.3.62)

60. Strengthen the existing HRD programmes pursued by various departments/agencies. Launch initiatives for creating world-class R&D facilities and providing competitive compensation to the scientists to arrest flight of human capital. Identify and groom bright young students at the 10+ stage itself, ensuring them reasonable, assured career opportunities by creating positions at different levels including supernumerary positions.

(Para 2.3.63)

61. Activate the states' S&T councils so that they can act as an effective vehicle for

dissemination and transfer of technology at the state/Union Territory level. This will provide a new dynamism to the application of S&T for development.

(Para 2.3.64)

CHAPTER 3 SOCIAL JUSTICE & EMPOWERMENT

62. Put in place a mechanism to ensure timely disbursement of scholarships to SC/ST students.

(Para 3.9)

63. Formulate and expeditiously operationalize/ implement a national fellowship scheme for SC/ST students for pursuing higher education, especially M.Phil and Ph.D programmes.

(Para. 3.10)

64. Establish primary schools in localities with concentrations of Muslim population during the remaining period of the Tenth Plan, with buildings, equipment and teacher-pupil ratio according to the prescribed standards.

(Para.3.27)

65. Ensure that all the marginalized and deprived settlements, located on the outskirts of the main habitations, are provided with basic services.

(Para 3.32)

66. Involve the NGOs and Corporate sectors in complementing the government's efforts for the welfare and development of the disadvantaged groups.

(Para 3.33)

67. Set up a Central bureau for screening and accrediting NGOs

(Para 3.34)

68. Evaluate the activities of the various National Institutes for Persons with Disabilities from time to time and modify their training programmes to make them more relevant to available job opportunities.

(Para.3.41)

69. Promote credible voluntary organisations in states where their presence is weak.

(Para 3.43)

70. Evaluate the functioning of Artificial Limbs Manufacturing Corporation (ALIMCO) to assess how it caters to the needs of the poorer segments of the disabled population.

(Para 3.48)

71. Prepare, on priority basis, the Action Plan to operationlise the National Policy on Older Persons.

(Para 3.55)

72. Utilise funds available under Special Central Assistance (SCA) to Tribal Sub-Plan (TSP) and grants under Article 275 (1) of the Constitution for provision of minor irrigation facilities to the tribals and for the development of forest villages predominantly inhabited by tribals on a priority basis.

(Para 3.82 and 3.87)

73. Work towards ensuring that tribals are not denied their traditional rights over forest land and forest produce, including tendu leaves through enactment of suitable legislation conferring ownership rights to the tribals living in forests

(Para 3.89)

74. Enact suitable legislation to confer ownership rights to tribals living in forests. Plug loopholes in the administrative procedures relating to restoration of alienated tribal lands.

(Para 3.89)

75. Ensure effective implementation of the National Policy on Relief and Rehabilitation of Project Affected Families in tribal areas.

(Para 3.92)

76. Monitor the allocation of funds in the TSP areas and implement programmes with the active involvement of the tribals.

(Para 3.93)

77. Devise suitable welfare and development programmes for the nomadic and semi-nomadic tribes.

(Para 3.95)

78. Standardise procedures for the identification of NGOs to weed out spurious ones.

(Para 3.96)

CHAPTER 4 WOMEN, CHILDREN AND DEVELOPMENT

79. Expand the day care/crèche services by integrating them into ICDS. These services are essential requirements not only for children below two years age but also for working mothers.

(Para 4.24)

80. Complete the universalisation of the ICDS in a time-bound manner. Redesign the scheme to ensure qualitative improvement in the services delivered.

(Para 4.24 and Para 4.50)

81. Provide supplementary nutrition to all children under ICDS. Amend the funding pattern so that the cost of supplementary nutrition is shared by the Central Government.

(Para 4.24)

82. Strengthen the pre-school education component of ICDS in order to ensure smooth transit of children in the three to six years age group to formal education. Anganwadi workers need to be trained accordingly.

(Para 4.24)

83. Formulate and implement sector-specific WCP and gender budgeting in order to ensure gender justice. All Ministries/ Departments should strictly adhere to the plans. Develop a mechanism for regular assessment of the gender impact of all programmes.

(Para 4.34 to 4.36)

84. Launch a focused and intense literacy campaign for adolescent girls and young women, especially in the backward districts, in order to bring them together and further catalyse women's organisations towards empowering them with knowledge and political standing.

(Para 4.40)

85. Formulate a gender-sensitive resettlement and rehabilitation policy, especially to safeguard the interests of widows, elderly and divorced women plus female-headed households in instances of natural or man-made calamities and displacement.

(Para 4.42 to 4.44)

86. Undertake a high-powered inter-ministerial review (under the chairpersonship of the Prime Minister) of gender justice in order to bring the Tenth Plan back on track regarding its commitment to gender justice. Alternatively, consider a Prime Minister's Mission on Women, Children and Development.

(Para 4.7)

CHAPTER 5 AGRICULTURE AND FOOD SECURITY

87. Increase investment and input use and improve use efficiency of the latter. This should address the issue of low investment and low growth of input use, and of higher capital output ratios and low factor productivity growth experienced since the mid-1990s.

88. Step up public investment, particularly in irrigation and water resources management; watershed development and reclamation of waste/degraded land; and provision of essential infrastructure such as roads, markets and electricity.

(Para 5.43, 5.91)

89. Focus on reducing those subsidies that lead to distortions and have deleterious effects on natural resources and cropping patterns, instead of viewing subsidy reduction as a

means of mobilising resources for agriculture-related investment.

(Para 5.44, 5.45, 5.46)

90. Work out some innovative mix of proper utility pricing, community control and provision of subsidies on water conservation techniques in the regions displaying acute water stress, i.e., over-exploited and dark blocks, particularly in low rainfall regions. Proper pricing of water and electricity are essential elements of any solution to the problem of over-exploitation of groundwater. But this must be done within an acceptable framework, such as metered supply, a part of which is subsidised.

(Para 5.52)

91. Re-examine fertilizer subsidies in order to improve the nutrient balance and also to target this more to smaller holdings, for example, through higher subsidy on fixed quantity per farmer.

(Para 5.76, 5.77 & 5.78)

92. Reform and rejuvenate support systems such as agricultural research, extension and credit and delivery systems of inputs such as seeds, fertilizers, pesticides, veterinary services etc. Identify specific problems arising at the state level in these areas and link Central assistance to corrective action so that state government efforts become sustainable. In particular, this will involve re-balancing the roles of ICAR vis-à-vis the SAUs, of scheduled commercial banks vis-à-vis cooperatives, and enabling states to induct practices and personnel with the capacity to deal with new challenges.

(Para 5.47, 5.61, 5.66, 5.71, 5.72, 5.109)

93. Focus on the demand side problems, because the experience since the mid 1990s has been that growth of agricultural products exports has slowed down and per capita domestic consumption of most agricultural products have either remained stagnant or declined despite declining relative prices. Undertake some demand side initiatives and, in order to increase rural incomes, diversify cropping patterns. Simultaneously, provide adequate insurance to those carrying out diversification either within agriculture or from agriculture to non-agriculture.

(Para 5.9, 5.26, 5.27 & 5.38)

94. Restore the growth rate of yields per acre of cereals to levels actually attained during the 1980s from the current negligible levels. This is an essential pre-requisite for sustainable diversification. Although diversification from cereals to other crops is necessary both in view of changing demand patterns and of sustainability of natural resources, per capita production of cereals has actually been declining over the last decade.

(Para 5.85)

95. Move rapidly to full all-India coverage of welfare schemes like employment guarantee, Mid-Day Meals and the ICDS. Simultaneously, revert to uniform PDS pricing and to the clear-cut and much less expensive objective of stabilising prices at above costs of production. For this, the MSPs should be reasonable and extended to cover the entire country. Differential PDS pricing is not the best way of serving the equity objective since this distorts incentives and leads to heavy leakages.

(Para 5.34)

96. Improve the National Agriculture Insurance Scheme by transition to actuarial rates, increasing accuracy and timeliness of crop estimation methods and making the implementing agency, namely, Agriculture Insurance Company, share some risk. However, since actuarial premia are likely to be high for regions with low and erratic rainfall, a special budgetary subsidy might be necessary for these regions.

(Para 5.84)

97. Undertake policy changes in the area of management of common property resources in the villages to address the problem of the lack of green fodder and

grazing land. Place greater thrust on revitalising milk and other cooperatives at the grass root level to solve the problems in marketing dairy products. Policy roadblocks are discouraging the shift from crop agriculture to animal husbandry, dairy and fisheries.

(Para 5.85)

98. Change agricultural marketing laws of the states and facilitate contract farming to help develop the marketing links that are necessary for raising the efficiency of agriculture. Link Central assistance to the initiation of market reforms in order to bring about changes in the Agricultural Produce Marketing Committee (APMC) Acts. However, since transactions costs and contract enforcement can work against small farmers, this must be accompanied by steps to empower cooperatives/ panchayats to negotiate on behalf of such farmers.

(Para 5.87, 5.89)

99. Make demand management of milk and milk products one of the major priorities. Create a buffer stock of milk powder during flush season and use it to introduce a 'school milk programme' along with the ongoing Mid-Day Meal scheme. Similar programmes are in vogue in countries like Bangladesh, Indonesia, China, Germany, Sweden and the United Kingdom.

(Para 5.96)

CHAPTER 6 WATER RESOURCES

100. Improve water use efficiency in order to bridge the gap between supply and demand of water. The recommendations of the inter-ministry Task Group on Efficient Utilisation of Water Resources need to be implemented.

(Para 6.12, 6.15 and Boxes 6.3,6.4)

101. The AIBP needs to focus not only on completing projects but also maximising creation of potential at a given cost. The programme could be reviewed to provide 100 per cent Central funding without state share and placing of funds directly with project authorities through banks instead of routing them through states. Modern tools like use of satellite imageries should be adopted for monitoring.

(Para 6.21)

102. Fund the large irrigation projects as national projects to enable their speedy completion.

(Para 6.22)

103. Review the ultimate irrigation potential of all major and medium irrigation projects keeping in view actual cropping pattern, siltation, condition of canal systems, hydrology etc.

(Para 6.24)

104. States should set up water regulators on the lines of that being set up in Maharashtra to advise on water tariff for irrigation and water supply.

(Para 6.28)

105. Review Participatory Irrigation Management (PIM), as its intended objectives have not been achieved. PIM groups should be empowered to set tariff and retain a part of it.

(Para 6.30)

106. Implement the recommendations relating to irrigation of the Inter-Ministry Task Group on Development of SC & ST.

(Para 6.32)

107. Review the issue of ownership rights on groundwater, as legislation to control over-exploitation has not been successful. Free power to agriculture should be discouraged.

(Para 6.33, 6.44 and 6.46)

108. Implement the recommendations of the Task Force for Flood Management and Erosion Control.

(Para 6.49 and Box 6.7)

109. Encourage a gradual change in dependence from groundwater to surface

water for rural water supply to tackle the problems of sustainability and water quality.

(Para 6.55)

110. Provide additional requirement of funds in the Tenth Plan for urban and rural water supply and sanitation in order to achieve the Millennium Development Goal relating to drinking water supply and sanitation.

(Paras 6.57, 6.60 and 6.63)

111. Design and launch schemes to assist states in urban solid waste management.

(Para 6.66)

112. Prepare guidelines for Public Private Partnership (PPP) in irrigation and launch pilot projects.

(Paras 6.72 and 6.77)

113. Improve inter-ministerial coordination on water. Irrigation, rural drinking water and land resources should ideally be dealt with in one ministry.

(Para 6.79)

CHAPTER 7 POVERTY ELIMINATION AND RURAL EMPLOYMENT

Self-employment

114. There are a plethora of organisations that support SHGs and the processes of social mobilisation, financing norms and other related activities differ from organisation to organisation. A comprehensive review is needed to evolve a commonality in the approach of different SHG programmes.

(Para 7.15)

115. The SHGs movement must focus on women. At least 50 per cent of the SHG groups should be of women and a minimum of 25 per cent of the women in a village/habitation must be covered under SHGs programmes.

(Para 7.13)

116. The success of SHGs depends on bank lending for economic activities, but credit support has been a major constraint. A 'micro finance equity fund' should be created with contributions from commercial banks, which could be treated as a part of their priority sector lending programme.

(Para 7.9)

Wage employment

117. Merge the SGRY with the NFFWP. These programmes may be subsumed in the National Rural Employment Guarantee Act as and when it becomes operational.

(Para 7.29)

118. Consider the question of paying wages under SGRY and NFFWP only in cash. At present wages under these programmes are paid partly in cash and partly in the form of food grains valued at BPL rates. It is felt that there is an excess flow of foodgrains for the poor through the wage employment schemes as also TPDS, Antyodaya Anna Yojana and other food based programmes.

(Para 7.23, Box 7.4)

Rural Housing

119. Change the allocation criteria for IAY and base it on 75% weightage for housing shortage and 25% weightage for poverty ratio instead of the present 50:50weightage.

(Para 7.37)

120. Priority should be given to landless SC/STs including primitive tribes in provision of free houses. Other BPL families could be covered on the basis of relative deprivation index of shelter i.e households who do not have land/plot to construct IAY houses and also households who have received minimum score in the overall poverty ranking, once the BPL Census, 2002 results are ready.

(Para 7.37)

121. Explore the possibility of credit linked housing programme through institutions like HUDCO, National Housing Bank and State Housing Boards etc. Also consider the possibilities of linking the housing credit with income generated under the SGSY and Wage Employment programme after the NREGA is enacted as is being done by NGOs like SEWA.
(Para 7.37)

Urban Anti Poverty Programmes

122. Strengthen the micro-credit financing institutions to provide finance to encourage self-employment among the urban poor.
(Para 7.50)

123. Link training for skill upgradation under SJSRY to employability to establish a positive correlation between the number of persons trained and the number of persons employed or who set up micro-enterprises.
(Para 7.51)

124. Evolve a strategy to utilise the services of employment exchanges in the urban areas which can act as the focal point for the placement of unemployed youth trained under SJSRY in organised or unorganised sectors.
(Para 7.51)

Public Distribution System

125. Examine the rationale and structure of PDS, especially in the context of the several food-based schemes which have been introduced/expanded recently.
(Para 7.61)

126. Set up a Food and Nutrition Security Watch for monitoring outcomes of specific interventions and overall food availability in the country and to ensure that pockets of food insecurity and hunger receive adequate supplies of foodgrains.
(Para 7.62)

Land Reforms And Watershed Development

127. Revisit the issue of tenancy, as access to land is still a major source of livelihood for the poor.
(Para 7.67)

128. Work towards convergence of watershed programmes implemented by Ministry of Rural Development, Ministry of Agriculture and Planning Commission under the Department of Land Resources.
(Para 7.88)

129. Develop a framework for conjunctive use of surface and ground water in watershed development projects.
(Para 7.98)

130. Prepare guidelines on technical inputs, social process and accounting and auditing manuals for watershed programmes.
(Para 7.95)

CHAPTER 8 LABOUR AND EMPLOYMENT

Creation Of Employment Opportunities

131. The bulk of the employment creation is bound to result from the growth of the economy and therefore, efforts should be made to accelerate growth, especially in the labour-intensive sectors. To create additional demand for labour in rural areas, the National Rural Employment Guarantee Act be enacted, as a follow-up of the National Food For Work Programme.
(Para 8.16, 8.18, 8.19)

Vocational Training

132. Modify the course contents of the NCVT to include a module on shop floor training.
(Para 8.22, 8.23)

133. The NCVT system should allow the industry associations to design courses and award certificates to successful trainees.
(Para 8.23)

134. Establish recognising/accrediting agencies for vocational training institutes. Such agencies should also assign a grading to the existing ITIs.
(Para 8.24)

135. Assistance to State Governments for ITIs should be subject to the condition that they are organised as autonomous bodies.
(Para 8.25)

136. Develop a framework of National Qualification Pathway to interlink vocational education, vocational training and academic education in order to facilitate inter-stream movement of students and vocational trainees.
(Para 8.28)

Employment Information Services

137. Amend the Employment Exchanges Act to encourage a role for private employment information services in the collection and dissemination of information.
(Para 8.48)

138. Relocate employment exchanges to rural areas. The employment information services need to be provided in the e-governance mode to support the new initiatives at providing employment guarantee in the backward districts.
(Para 8.47)

Labour Laws

139. The Indian Labour Conference should deliberate upon the recommendations of the Second National Commission on Labour and a decision taken by the Government in the light of the NCMP.
(Para 8.45)

Social Security

140. State Governments should enact legislation for the welfare of unorganised workers, which should clearly identify the resources to be raised, benefits to be given as well as the institutional mechanism.
(Para 8.34, 8.35, 8.38)

141. The Government should provide welfare services to the unorganised workers such as compensation for accident at work, death, and old age pension in the 'risk cover mode' as distinct from the 'direct ex-gratia payments'.
(Para 8.40)

CHAPTER 9 TRANSPORT & COMMUNICATIONS

Railways

142. Implement an integrated modernisation plan by following a corridor approach. The Railways is saddled with old technology and this is a major reason for freight traffic throughput being four times lower than the Chinese railway system. There is a need to modernise the rolling stock, tracks, signalling system apart from introduction of information technology for increasing customer satisfaction. The modernisation, particularly of the Golden Quadrilateral and its diagonals, would lead to 100 per cent increase in the average speed of freight trains which, at present, is as low as 28 km. per hour.
(Para 9.1.19)

143. Rationalise the investment strategy. Future investment must be linked up with augmentation of capacity and improvement in the quality of services. An exercise for prioritisation of railway projects, particularly ongoing new railway lines, should be taken up on yearly basis. The Railways, however, need to observe caution, while sanctioning new projects, keeping in view financial viability and operational essentiality in order to avoid further stress on scarce resources.
(Para 9.1.17)

144. Ministry of Railways may prepare a paper in consultation with the Planning Commission on tariff setting mechanism

including the need for a Rail Tariff Authority. Meanwhile, Railways would move towards evolving a fare structure, even if gradually, linked to a rational indexing of the line-haul cost to the tariff.

(Para 9.1.18, 9.1.23)

145. Carry out organizational reforms. The elements could be :

- setting up a fully computerised accounting system to ensure conformity with internationally accepted accounting practices;
- making production units as profit centres;
- giving uneconomic lines to the private sector on concession basis; and
- outsourcing non-core activities

(Para 9.1.24)

146. Encourage public-private partnership in the development of high density corridors, introduction of tourist trains, additional goods trains between major commercial and industrial centres and between collieries and power stations.

(Para 9.1.13 and 9.1.14)

147. Allow competition in container movement. Allowing more players other than CONCOR is necessary for smooth movement of container traffic. As the Ministry of Railways has already announced that organisations other than CONCOR will be considered for the movement of container traffic, it is important that the Ministry evolves the policy framework expeditiously.

(Para 9.1.22)

148. Formulate a plan indicating a specific time frame for augmenting capacity in specific saturated routes to meet the growing requirements keeping in view the expected traffic growth. Some of these projects may be implemented by RVNL independently or through joint ventures/ PPP.

(Para 9.1.12, 9.1.16)

Roads

149. The Ministry of Shipping, Road Transport & Highways (MoSRTH) should prepare a detailed programme for the next two years keeping in view the level of budgetary support available and the need for leveraging this to the maximum extent by adopting a proper mix of engineering, procurement and construction (EPC) and BOT projects.

(Para 9.1.45, 9.1.46, 9.1.47)

150. MoSRT&H should prepare monitorable milestones and targets for the proposed programme that includes Special Accelerated Road Development Programme for North-East (NHDP- NE), NHDP- III (10,000 km on BOT basis), NHDP-IV (for 20,000 km), NHDP-V (6-laning of 5,000 km), NHDP-VI (1,000 km expressways) and NHDP-VII (for ROBs, bypasses etc.).

(Box 9.1.2, para 9.1.37, 9.1.38, 9.1.39, 9.1.49)

151. Evolve a Model Concession Agreement for BOT project.

(Box 9.1.2, para 9.1.47)

152. Enhance the institutional capacity of the NHAI by making it a multi-disciplinary professional body with high quality financial management and contract management expertise.

(Box 9.1.2)

153. A Committee of Secretaries (CoS) must address inter-ministerial issues including bottlenecks in ongoing projects.

(Box 9.1.2, para 9.1.50)

154. Develop a system to collect and analyze information on traffic and inventory, assets condition etc.

(Para 9.1.47)

155. Draw up a Model Concession Agreement on the operation, maintenance and tolling of the completed stretches of the NHDP.

(Box 9.1.2)

156. Set up a dedicated organization for road safety and traffic management.
(Para 9.1.51)

157. Enact a law for economic regulation and dispute resolution for public-private partnerships.
(Para 9.1.47)

158. Leverage the cess amount from Central Road Fund available for the PMGSY for raising resources.
(Para 9.1.44)

Ports

159. Increase the scope of private sector participation in the development of ports. This would require revision of guidelines and delegation of more powers to the ports to increase operational efficiency. The government/public sector would need to step in to provide common user facilities like capital dredging, where necessary.
(Para 9.1.59, 9.1.60)

160. Preparing Perspective Plan for long-term development of each major port.
(Para 9.1.61)

161. Implement organisational changes like corporatisation in order to achieve efficient management, get institutional funding and attract private investment.
(Para 9.1.64)

162. Rationalise manning scales to improve productivity.
(Para 9.1.65)

163. Improve productivity of major ports through upgrading technology.
(Para 9.1.66)

164. Review the role of TAMP. This is necessary since more private operators are coming up in ports.
(Para 9.1.67)

Civil Aviation

165. Formulate a civil aviation policy keeping in view the role of the sector in the inter-modal context and the promotion of trade and tourism.
(Box 9.1.6, Para 9.1.85, 9.1.86)

166. Speed up the modernisation of Delhi and Mumbai airports, as they handle the bulk of air traffic.
(Box 9.1.6, Para 9.1.83)

167. Draw up a plan for development of all airports. Chennai and Kolkata must be restructured on the lines of proposed restructuring of Delhi and airports.
(Box 9.1.6, Para 9.1.83)

168. Prepare Model Concession Agreements for development of airports in order to promote PPP.
(Box 9.1.6)

169. Revamp the Airports Authority of India with multi-disciplinary staff to meet the long-term goals of the civil aviation sector.
(Box 9.1.6)

170. Set up a statutory regulatory body for economic regulation and dispute resolution.
(Box 9.1.6, Para 9.1.88)

171. Consider permitting equity participation by foreign airlines in the domestic air transport operations in order to get the necessary expertise.
(Para 9.1.87)

Information & Communication Technology

172. To work out and implement in a time-bound manner an action plan for optimum utilization of spectrum including technology upgradation and allocation of appropriate spectrum for the defense, paramilitary and other organizations so that surplus spectrum is released for civilian use. Necessary funds need to be provided through plan route.
(Para 9.2.15)

173. Put in place policy regime aimed at lowering the costs of PC to make it affordable as to encourage large scale PC penetration in the rural areas.

(Para 9.2.22)

174. Devise a system aimed at substantially reducing the cost of international bandwidth.

(Para 9.2.22)

175. To initiate necessary legal and other measures to transfer the resources accruing through the USO levy to USO Fund to promote rural telecom services. Pending this, Plan route may be preferred over the non-Plan mode.

(Para 9.2.32)

176. Take necessary steps, including fiscal measures, for encouraging domestic manufacture of PC components to bring the prices to affordable level.

(Para 9.2.37)

177. Promote creation of content in local languages suited to local needs.

(Para 9.2.37)

178. Take necessary steps to ensure availability of uninterrupted power supply.

(Para 9.2.37)

179. Promotion of IT in the domestic market on a larger scale including promotion of low cost technology alternatives such as Linux.

(Para 9.2.37)

180. The Department of IT and the Department of Telecommunications needs to evolve a suitable policy framework for encouraging Rural Content Providers (RCPs).

(Para 9.2.40)

181. Leveraging the postal network for building a nationwide delivery mechanism for ICT connectivity and e-Governance efforts.

(Para 9.2.41)

182. Leveraging the postal network for building a nationwide delivery mechanism for ICT connectivity and e-Governance efforts.

(Para 9.2.41)

183. Adopt a promotional policy for setting up shared access to connectivity (including broadband wherever feasible) for front-end infrastructure for delivery of services as part of multi-product multi-service retail outlets or centres based on PPP model. This may take the shape of public teleinfo centers, kiosks, community information centres etc.

(Para 9.2.43)

CHAPTER 10 ENERGY

General

184. Improve regulation by:
   - Creating a Regulatory Academy.
   - Institutionalising the selection of regulators and their impact assessment under the Regulatory Academy
   - Mandating training for all regulators
   - Granting financial autonomy to regulatory institutions.
   - Limiting the quasi-judicial role of regulators to tariff setting and dispute resolution.
   - Providing for system to make regulators accountable to Parliament
   - Mandating annual reports from all regulators in compliance with the Act

(Para 10.1)

185. Develop a debt pool that would provide up to 20-year loan funding for energy projects.

(Para 10.4 & 10.30)

186. Establish and enforce energy efficiency standards. The Bureau of Energy

Efficiency (BEE) and Petroleum Conservation Research Association (PCRA) must be required to develop such standards for an initial set of energy intensive industries and appliances and develop modalities for a system of incentives/penalties for compliance/non-compliance.

Power Sector

187. As far as possible the power generation and transmission projects taken up for construction in future must be bid out competitively on level terms. At some points of time in future, this should become a mandatory requirement. Respective Regulators may grant exemption after allowing due process through public hearings.
(Para 10.32)

188. CERC must review compliance with the tariff guidelines it issues the state Electricity Regulators, especially with respect to returns on equity or net capital employed.
(Para 10.27)

189. All Central assistance to state governments for the sector must be linked exclusively to loss reduction and improved viability.
(Para 10.31)

190. Project finance must replace corporate finance as the norm, starting with projects taken up for construction in the Eleventh Plan to ensure that financial institutions appraise projects purely on their individual merit.
(Para 10.4 & 10.30)

191. Promote an industry structure that embodies the following elements to ensure efficiency and growth:
    - Multiple generators with access to transmission and distribution
    - Transco – a regulated monopoly only providing carriage
    - Competition in distribution through separation of content from carriage and regulated wheeling charges
    - Flexible and enabling captive regime
    - Consumer choice through open access
    - Independent load dispatch at regional and state levels
    - An independent planning body for transmission network
    - New technologies such as distributed generation with waste heat recovery where feasible.
    - Demand side management
    - Energy conservation and energy efficiency with incentives for Megawatts.

(Para 10.26 & 10.27)

192. Operationalising open access to consumers requires:
    - Respective regulators to notify normative wheeling tariffs for different transmission voltages up to 66 KV.
    - State regulators to notify normative wheeling tariffs for accessing distribution networks.
    - Respective regulators to notify norms for differential time-of-day pricing for electrical energy at the bulk and retail levels.
    - Identifying cross subsidies and replacing them with direct subsidies over time.

(Para 10.27)

193. States need to notify rural areas as required by the Electricity Act, 2003. Such notification could see the emergence of independent rural suppliers of electricity.
(Para 10.25)

194. Undertake an independent review of the APDRP programme in order to improve its functioning and impact on AT&C loss reduction.
(Para 10.21)

195. Develop up to 20,000 MW of coal based coastal thermal generation capacity by 2012. These plants can either fire domestic coal (moved by sea) or imported coal.
(Para 10.51)

Nuclear Power

196. An independent review of NPCIL's current construction costs and construction periods against international benchmarks.
(Para 10.35)

197. Seek 20,000 MWe of additional nuclear power capacity under bi-lateral arrangements, based on a competitive power tariff, to be built over the next 10-12 years. Alternatively, India must seek nuclear fuel on competitive terms for a similar level of capacity to be built by NPCIL in the next 12-15 years
(Para 10.38)

Coal Sector

198. Pending the passage of the Coal Bill 2000, increase the number of players in coal mining through captive mining. Increase the flexibility of captive mines by permitting captive block holders to sell incidental coal surpluses during development and operation of the block to CIL or directly to currently linked end users; and allow group-captive mines. Set a target for the Ministry of Coal to achieve at least 50 mt of captive production by 2012.
(Para 10.4 & 10.44)

199. Amend Section 3 fo the coal mines (Nationalisation) Act, 1973 to facilitate offering of coal blocks to potential entrepreneurs through competitive bidding.
(Para 10.40)

200. Restructure CIL. One possibility could be dismantling of the holding company structure, extending autonomy to the individual coal companies, allowing these coal companies to compete with one another and reviving the loss making coal PSUs.
(Para 10.40)

201. Permit trading and marketing of coal by removing it from the list of essential commodities.
(Para 10.40)

202. Make available about 10 per cent of the domestic production through e-auctions open to traders and actual users.
(Para 10.40)

203. Promote additional thermal coal imports (through MMTC or any other body) under long term supply contracts similar to those followed by Japan. Starting with a commitment to import an additional 5 mt by 2006-07, negotiate up to 50 mt of thermal coal imports by 2012 at prices competitive with domestic coal. Such coal imports could feed coastal power plants. Further, the Ministry of Coal should encourage captive mines and/or equity coal in the source countries in support of such imports.
(Para 10.47)

204. Change grading and pricing of non-coking coal from the existing useful heat value (UHV) (based on excessively wide bands for grading coal on the basis of an obsolete empirical formula whose validity is in doubt) to the international practice of pricing coal based on gross calorific value (GCV). This is expected to encourage efficient use and promote use of washed coal.
(Para 10.48 & 10.49)

205. Amend the provisions of Contract Labour (Regulation & Abolition) Act, 1970 to facilitate offloading of certain activities in coal mining for improved economics of operations.
(Para 10.40)

206. Replace coal linkages with fuel supply agreements. As a step towards abolishing

coal linkages completely, these linkages could be made tradable in the first instance.
(Para 10.40)

207. Promote in situ coal gasification and tapping of coal bed methane.
(Para 10.54)

208. Rationalise rail freight rates for coal transport.
(Para 10.49)

209. Extend infrastructure status to the coal industry. Lower duties on capital goods imported for coalmines.
(Para 10.39)

210. Institute an independent regulatory mechanism for the coal sector.
(Para 10.40)

211. Review the royalty on coal and consider switching to an advalorem basis.
(Para 10.60)

Petroleum and Natural Gas Sector

212. Restructure the oil and gas CPSUs in order to promote effective competition.
(Para 10.77)

213. Review the current pricing of crude (both domestic and imported), natural gas and all its components, petroleum products and pipeline transportation and other services.
(Para 10.73 & 10.74)

214. Introduce price competition in all petroleum products. Impose universal service obligations by requiring a percentage of sales in notified areas but allow differential pricing in different markets to reflect cost of supply. States may choose to subsidize prices in remote areas.
(Para 10.73)

215. Bid out subsidies for LPG and kerosene.
(Para 10.73)

216. Encourage competing private participation in each element of the oil and gas industry (exploration and production, refining, marketing).
(Para 10.77)

217. Rationalise the tax and duty structure prevailing in the oil and gas sector
(Para 10.75)

218. Declare authorised end uses (as long as demand exceeds supply) for domestic natural gas and piped natural gas imports. Allow the market to determine the price of natural gas for these recognised end uses. LNG may be sold for any end-use and could compete with natural gas to meet any residual demand for the authorised end uses.
(Para 10.84)

219. Increase emphasis on acquiring equity oil and gas abroad. Develop capacity and structures that provide better assessment/ control of commercial and political risks of such investments.
(Para 10.80)

220. Increase emphasis on transnational pipelines and LNG imports.
(Para 10.81)

221. Develop transportation and distribution assets in the oil and gas sector that provide services under common carrier principles applicable to natural monopolies.
(Para 10.85 & 10.87)

222. Modify the Petroleum and Natural Gas Regulatory Bill, 2004 to include regulation of upstream sector.
(Para 10.78)

223. Allow foreign operators to bring technology and investment to recover oil/gas from currently abandoned and/ or marginal fields on economic considerations.
(Para 10.82)

Non- Conventional Energy Sources

224. Switch incentives and support from the supply driven programmes to demand driven programmes and technologies
(Para 10.96)

225. Explore alternative subsidy structures that encourage utilities to integrate wind, small hydro, cogeneration etc. into their systems.
(Para 10.96, 10.98 & 10.102)

226. Phase out capital subsidies linked to creation of renewable capacity with subsidies linked to renewable energy generated.
(Para 10.96)

227. SERCs to mandate purchase of energy from renewable sources as per the provisions of the Electricity Act.
(Para 10.27)

228. Improve coordination and synergise the various programmes of MNES with similar programmes of other Central ministries and state governments.
(Para 10.12, 10.99 & 10.10)

CHAPTER 11 URBAN INFRASTRUCTURE

229. Step up investments in urban infrastructure in a major way in order to bring our cities on par with those in the emerging economies of Asia. Intensify urban reform efforts on a substantial scale. Enhance Central assistance for urban development and link all such assistance with urban reforms to be undertaken by the states and ULBs.
(Para 11.4, 11.14, 11.15, 11.41, 11.42,11.45,11.50)

230. Encourage each city to prepare a perspective plan encompassing all aspects of urban infrastructure including water supply, sanitation, drainage, sewerage and urban transport. This is necessary to enable enhanced investment. Build a reliable database on urban infrastructure and services as an integral part of the plan.
(Para 11.12, 11.45)

231. Implement reforms in urban governance. These are needed for augmenting the resources of ULBs to undertake investment and for maintaining the assets that are created. The goal must be to set in motion a virtuous cycle of urban growth leading to better resources, which are then used for improved infrastructure and further growth of the cities. Include, as part of the reforms measures for decentralisation, making the elected ULBs institutions of self-governance. In addition, the reforms must encompass, among other things, accounting reforms, enactment of laws for public disclosure and community participation, transfer of all civic services to ULBs, introduction of e-governance, reform of property tax and levy of reasonable user charges.
(Para 11.14, 11.15,11.41,11.42, 11.45,11.50)

232. Design a two-track approach for Plan assistance, with focus on urban reforms and e-governance.
    - On the first track, merge all schemes of the Government of India for urban infrastructure and civic amenities. In future, make normal levels of assistance available on a platform of reforms. Such allocations would be conditional on urban reforms being carried out by the state governments and the ULBs.
    (Para 11.41, 11.42)
    - On the second track, take up the million plus cities, the capital city in every state and a small number of other cities that are of historical importance for a considerably enhanced level of Plan assistance through the National Urban Renewal Mission.
    (Para 11.45)

233. Undertake reforms of urban land ceiling, rent control and stamp duty in order to

unleash housing activity in the urban areas. For the urban poor, a three-pronged approach is needed, involving availability of land, cheap and easy credit and promotion of low cost building material and technology.

(Para 11.50, 11.51)

234. Formulate a National Slum Policy. A single comprehensive Integrated Housing and Slum Development Programme should be evolved, merging the existing schemes of VAMBAY and NSDP.

(Para 11.56, 11.58)

235. Formulate a National Urban Transport Policy and undertake road-rail network planning for improving connectivity.

(Para 11.31, Box 11.1)

CHAPTER 12 INDUSTRY

Fiscal Policy

236. Reduce the cumulative incidence of indirect taxes and customs duties. The peak customs tariff needs to be brought down to 10 per cent and the simple average to even lower levels. The inefficient and distortion-riven system of cascading taxes needs to be changed to a full VAT system at both the Central and state levels. As recommended by the Kelkar Task Force, the total tax burden on most goods - by the Centre and the states - should be no more than 20 per cent.

(Para 12.37)

237. Rectify the inverted duty structure. It is imperative that urgent attention is paid to rationalisation of the inverted duty structure on certain specific segments.

(Para 12.38)

Initiatives For Food Processing

238. Enact an Integrated Food Law at the earliest. The absence of such a law is a major impediment to the growth of the food processing industry. A Group of Ministers is examining the issue.

(Para 12.47)

239. Amend the Agricultural Produce Marketing Committee (APMC) Acts to allow contract farming. This is important for the growth of the food processing industry.

(Para 12.48)

Labour Market Reforms

240. Build a consensus on the need to amend labour laws to remove some of the rigidities that adversely affect the competitiveness of the Indian manufacturing industry and can also be a constraint on the expansion of employment in labour-intensive manufacturing activities. Till such time as a consensus emerges, selective exemption from the applicability of some of the laws could be considered for SEZs, EOUs and the proposed SERs.

(Para 12.31, 12.32)

Scarcity of Fuel and Feedstock

241. Take steps to address the supply side constraints on the availability of adequate quantities of coal of the required grades for units that use non-coking coal. Coal should be removed from the Essential Commodities Act and the process of trading commenced in a non-disruptive way by permitting trading in imported coal and allowing existing coal linkages to be made transferable. Adequate supply of domestic natural gas/LNG at internationally competitive prices to fertilizer and steel units must be ensured. The recommendations of the inter-ministerial group need to be implemented at the earliest.

(Para 12.44)

242. Seriously consider initiatives like Joint Forest Management for growing fibre for use by the paper industry.

(Para 12.44)

Exit and Entry Policy

243. Address the problem of long drawn out liquidation procedures. Remove the legal impediments in the way of the of the National Company Law Tribunal (NCLT) established by the Companies (Second Amendment) Act, 2002.
(Para 12.41)

244. Mandate hosting on the relevant websites the status report on all pending investment proposals at both Central and State government levels.
(Para 12.40)

Small Scale Sector

245. Adopt a promotional approach to the SSI sector. There is growing realisation that the policy of reserving the manufacture of certain items exclusively for small-scale units is unsustainable and prevents them from attaining economies of scale and dealing with competition. Make further progress on dereservation in September 2005.
(Para 12.43)

246. Raise the ceiling on investment in plant and machinery to Rs. 5 crore for SSIs. Allow small-scale industry to graduate smoothly into medium enterprises.
(Para 12.84)

247. Address the problem of multiple inspections and consequent harassment of small scale units. Expedite the recommendations of the Committee established for the purpose.
(Para 12.91)

248. Provide the SME sector with adequate term and working capital loans. Credit rating, capacity building in project appraisal and compliance with RBI instructions on collateral-free loans are some areas which merit consideration.
(Para 12.89)

Skilled Manpower

249. Take steps to stem the decline in the quality of education for engineers.
(Para 12.45)

250. Increase the capacity of ITIs for training, upgrade the quality of training and make it demand driven.
(Para 12.46)

Industrial Subsidies

251. Review the subsidy schemes for geographically disadvantaged states and adjust them in light of experience. Consider replacing differential taxation with direct subsidies.
(Para 12.58, 12.60)

252. Conduct a rigorous scrutiny of the industrial subsidy scheme and consider phasing out, within the next two years, those which are not found to be justified in economic terms.
(Para 12.58, 12.61)

Public Sector Enterprises

253. Make bankability a prerequisite for taking forward rehabilitation proposals of sick CPSEs. The norm in developing the financial package must be that the government takes the responsibility for strengthening the equity base while financial institutions provide the loan. Private sector involvement should be sought through transparent means, particularly in cases in which it is felt that the CPSE would benefit from the technical, managerial and commercial expertise available in the private sector.
(Para 12.55)

Handloom Sector

254. Constitute a Steering Committee for Handlooms to take the industry from its present weak position to a position of strength by ensuring the linkage of its strong production base with

contemporary market, strengthening delivery mechanisms, performance evaluation and course correction in existing institutions. Such a committee will also provide inputs for policy formulation.

(Para 1.2.92)

Mineral Sector

255. Set up a high level committee to consider the whole gamut of questions related to development of mineral sector including procedural delays, requirement for infrastructure, expeditious clearance from the environmental angle and other related issues.

(Para 1.2.73)

CHAPTER 13 TOURISM

256. Set up budget hotels in order to maintain India's competitiveness as a tourist destination. To speed up the creation of additional rooms it is necessary to:
   - increase the supply of land by making available sites on Central government land (e.g. cantonment and railway land) and state-owned land for construction of hotels;
   - relax the municipal and zone restrictions;
   - facilitate identification of hotel sites and their allocation by state governments to deserving entrepreneurs with facilities for speedy single window clearances through various governmental bodies;
   - recognise and approve residential lodges and inns in cities such as Delhi, Agra and Jaipur;
   - approve and register paying guest arrangements; and
   - consider basing the luxury tax on the actual room rent charged rather than on rack rates.

(Para 13.24, 13.25, 1.3.26)

257. Develop the major airports at New Delhi and Mumbai into world-class airports. Upgrade other international airports as well, in order to meet the requirement for growth of international and domestic traffic at the rate of 12 per cent per annum.

(Para 13.8)

258. Increase the number of international flights, which are currently affected by the restrictive bilateral regime. The present ad-hoc arrangement, in which an open-skies policy is introduced during the rush tourist period every year, militates against long-term planning by airlines and the cost of travel remains high.

(Para 13.8)

259. Bring down sales tax on ATF, currently ranging from 4 per cent to 36 per cent in various states, to a uniform level of 4 per cent by notifying ATF as a 'declared good' attracting only Central sales tax. ATF constitutes 30 per cent of the operating cost for domestic flights and one-third of its cost is on account of taxes.

(Para 13.8)

260. Take up work relating to road connectivity of 20 world heritage sites and other places of tourist importance identified by the Ministry of Tourism. This involves the improvement of State Highways and District Roads and should be undertaken during the Tenth Plan period after notifying the State Highways and District Roads as National Highways.

(Para 13.23)

261. Put in place a policy for national level tourist vehicle registration with provision for free movement, without taxes at entry and exit points for hassle-free movement and lower cost for the tourists.

(Para 13.9)

262. Introduce a scheme under which tourists can pay concessional entry charges if they visit a number of heritage sites

during their trip. Open up hitherto undeveloped archaeological sites for development and maintenance through public-private partnerships

(Para 13.17)

263. Modernise and update the curricula of institutes offering courses in Hotel Management/Catering Technology/ Tourism. This must be done in addition to initiating large-scale Master Trainers and Training of Trainers Programmes and exposing existing trainers to the changes in the hospitality industry through refresher courses.

(Para 13.11)

264. Prepare an integrated plan for improving the connectivity and urban infrastructure in Buddhist sites, which have potential to attract large international tourist traffic from East and South East Asia. The plan, to be prepared by the Ministry of Tourism in collaboration with the concerned state governments, should include proposals for special trains like the Palace on Wheels and the Deccan Odyssey through public private partnership arrangements.

(Para 13.23)

CHAPTER 14 ENVIRONMENT AND FORESTS

265. Conduct a series of CDM capacity Building Workshops at national, regional and State levels for popularizing the mechanism among stakeholders

(Para 14.15)

266. Take an inventory of the assets created under various river action plans and their operational status.

(Para 14.23)

267. Link the Central assistance to a reforms driven program for improving urban governance for efficient operation of treatment facilities created.

(Para 14.25 - 14.29)

268. Motivate the states to adopt JFM for all afforestation programmes in addition to the NAP

(para 14.37-14.39).

269. Encourage sustainable management of NTFP resources for improving the income of the primary collectors by development of value addition chains .

(Para 14.40)

270. Ensure that, apart from converting the forest villages into revenue villages, specific development programmes are undertaken for economic upliftment of the tribals and other people living in forest villages

(Para 14.41)

271. Undertake an evaluation of the impact of the central assistance provided regularly to the sanctuaries for development of habitats

(Para 14.42 - 14.44)

272. Make close monitoring of the status of tiger population a concurrent activity in project tiger areas

(Para 14.48)

273. Establish a national database on the forestry sector linking with the States for effective monitoring of the forestry related programmes

(Para 14.52)

274. Make the proposed National Institute of Animal Welfare in Balabhgarh, Haryana, fully functional

(Para 14.53)

275. Launch the national mission for promotion of bamboo based value added high volume products, for income generation in the rural area

(Para 14.34)

276. Launch the National Biodiesel Mission for production of biodiesel from non-edible oils obtained through cultivation of suitable species.

(Para 14.34)

277. Initiate a programme for afforestation of available community and public lands through Panchayati Raj Institutions for development of common property resources and green cover.
(Para 14.34)

278. Implement the action plan to deal with the problem of gregarious flowering of Muli Bamboo in the North East .
(Para 14.34)

279. Create an enabling environment for people's involvement in growing trees by awareness on forest laws, rationalising forest produce transit rules and encouraging farm and agro forestry .
(Para 14.34)

280. Ensure that urban Development Planning has an inbuilt component of greening integrated in landscape development plans
(Para 14.34)

281. Integrate forest development plans on the lines of the Integrated Tribal Development Projects in order to ensure rational development planning in fringe villages.
(Para 14.34)

CHAPTER 15 FINANCING THE PLAN

282. The feasibility of financing the remaining part of the Tenth Plan will depend very critically on the ability of the Centre to increase its tax revenues. This requires expeditious removal of exemptions and an approach that takes into account effects likely from reduction of customs duties. Slippage in this area could lead to a tradeoff between FRBM targets and growth in the early years of the Eleventh Plan.
(Para 15.20, 15.23)

283. In view of the limitation on expenditure by fiscal legislation, the Special Purpose Vehicle for financing infrastructure announced in the budget provides a mechanism for directing additional resources to infrastructure and needs to be operationalised at the earliest.

284. Where the NCMP allows sale of equity of Central PSUs, additional resources may be available. Whether and how this can add to Plan finances would however depend on the way the Fund set up for this purpose is designed. This matter needs to be examined.

285. Rationalisation of domestic indirect tax structures is required not only to increase buoyancy and reduce cascading but also for customs duties to provide true protection to domestic industry. The transition to VAT enables reduction in economic disparities and should encourage investment. Its expansion to all States and a future move to the destination principle should further strengthen its structure. The goal should be movement to a comprehensive consumption tax regime at the level of both the States and the Centre.
(Para 15.25, 15.26, 15.44)

286. The power sector continues to be a burden on State finances with effects related to the operation of Central public sector utilities also. Comprehensive reform in this area will have a significant effect on Plan financing as a whole.
(Para 15.52, 15.53)

287. The TFC has correctly pointed towards a shift of State borrowings from the Centre to markets to enable them to raise resources in an autonomous and responsible manner. However, balance sheets of States need to be cleaned before they are made to depend upon the market for loans. Debt relief offered by the TFC is limited to interest on Central loans with debt write-off is conditional on States being able to eliminate their revenue deficits. This is inadequate for severely debt-stressed States. Because of their high and inelastic interest burden, some of these States will not be able to eliminate their revenue deficits and become ineligible for debt relief. Such States will not only have to forego the full TFC benefits but are also likely to face higher costs in future market

borrowings. This needs to be rectified urgently through a more case sensitive approach.

(Para 15.41)

288. If States are to have the option of not borrowing from the NSSF, the maturity transformation currently made by this fund should be removed. In parallel with market loans, States should be on-lent at the same maturity as collection and at rates which differ only by a reasonable commission charge.

(Para 15.49, 15.51)

289. The whole area of Centrally Sponsored Schemes remains unresolved. Although the NCMP mandates reduction in the number of such schemes, it also suggests large increases in expenditure on some of these schemes. This is an outcome of the fact that expenditure compression in the past has led to cuts in areas such as health and education. The issue needs to be approached with greater sensitivity to the nature and quality of expenditure compression in future fiscal responsibility measures.

(Para 15.58, 15.59)

CHAPTER 16 THE INTERNATIONAL CONTEXT

290. Calibrate the reduction of agricultural tariffs to the progress made by the major industrialised countries in bringing down the level of subsidies that hugely distort international markets. Reduce industrial tariffs to a maximum of 10 per cent within the next two years and an average which is lower.

(Para 16.39, 16.45)

291. Intensify autonomous action for introducing trade facilitation measures to reduce transaction costs and the time taken for customs clearance, for both import and export consignments, in order to make industry more competitive.

(Para 16.51)

292. Cut administrative and procedural hurdles that delay the fruition of FDI intentions; enhance investment in power and transportation infrastructure and make changes in the restrictive labour policies. Continue the process of liberalisation by further increasing the ceiling on FDI in telecommunications, financial services and civil aviation and allowing FDI in areas such as retailing, which remain excluded from its purview.

(Para 16.53)

293. Exercise caution in entering into new RTAs with limited preferences, as they result in negligible trade flows, while adding considerably to the administrative burden on customs. On the other hand, joining comprehensive FTAs with South, South Eastern and East Asian countries is necessary for geo-political reasons.

(Para 16.44, 16.45)

294. Adopt a proactive approach in WTO negotiations in order to improve market access for Indian goods and services in international markets through ambitious non-discriminatory trade liberalisation of world trade. In non-agricultural market access, press for the average tariff level of each country being taken as a factor in the harmonisation formula to be adopted as the core modality for tariff reduction. As for sectoral approach in product groups of interest to developing countries, India should press for them being allowed to retain tariff at the modest level of 5 per cent while others eliminate tariffs.

(Para 16.33, 16.35, 16.36)

295. Seek a fundamental reform in world agriculture, with the major industrialised countries eliminating all forms of export subsidies and bringing about very substantial reduction in domestic support (not only amber and blue box but green box measures as well) and improvement in market access. India should table substantial offers on market access which should be conditional on the industrialised countries bringing down

the levels of support and market access barriers to the desired extent.

(Para 16.39)

296. Pursue the proposals for liberalisation of Mode IV in the negotiations on services and, in return, be willing to put on the table the existing regime in all service sectors for binding commitment as well as to make additional liberalisation efforts. India should also seek to lock in, to the maximum extent possible, the somewhat liberal regime that now exists in the industrialised countries in respect of Modes I and II, by proposing across-the-board binding commitments in the area by all WTO members.

(Para 16.42)

297. Pursue the proposal, in the negotiations in the area of rules, for making non-actionable the rebate of duties on capital goods used in the production of exported products. Separately the DEPB scheme of export incentives should be redesigned so as to make it non-counter available by conforming to the requirements of a substitution drawback scheme as laid down in the WTO Agreement.

(Para 16.27)

CHAPTER 17 GOVERNANCE

Decentralisation and Panchayati Raj

298. Transfer of the three Fs – functions, funds and functionaries – to the PRIs, commensurate with the responsibilities assigned to them.

(Para 17.5)

299. Empower the Gram Sabhas, which are the foundation of the Panchayati Raj system.

(Para 17.19)

300. Give greater attention to training and capacity building of the Gram Sabha members.

(Para17.21, 17.22)

301. Notify the division of functional responsibilities between the three tiers of the Panchayati Raj system on the basis of activity mapping.

(Para 17.23)

Institutional and Administrative Reforms

302. Enhance the productivity of the civil service through rightsizing of government. Identify the surplus staff, set up an effective redeployment plan and devise a liberal system for exit.

(Para 17.32)

303. Ensure openness and transparency in the functioning of government. Press for the adoption of Right to Information legislation across the country. Subject departments with extensive public dealing to social audit at periodic intervals.

(Para 17.33 – 17.34)

304. Ensure accountability of public servants for their actions.

(Para 17.35)

305. Persuade the States to institute mechanisms for providing security of tenure to civil servants and discouraging their frequent and arbitrary transfers

(Para 17.39)

306. Speed up reforms that will speed up the judicial process. This has to be done through:

(Para 17.38 – 17.40)

- Empowering the presiding officers the courts to exercise better control over their case lists or List of Businesses.
- Bringing the counsel-client relationship and counsel fee-payment system under some principled regulation
- Providing greater finality to the adjudicatory processes
- Moving from a two appeal system to a single appeal system

307. Use the benefits of information technology to manage casework and speed up processes. Allow e-filing of plaints, statements, affidavits and other documents. Permit video-conferencing for examination of witnesses in certain situations. Allow audio/video recorded versions of evidence.

(Para 17.42, 17.43)

308. Pursue amendments to the Evidence Act, Criminal Procedure Court and Civil Procedure Code.

(Para 17.44)

e-Governance

309. Push for political ownership at the highest level and a national vision for e-Governance. In the absence of such ownership, e-Governance would remain a purely technology initiative and would not penetrate into day-to-day use.

(Para 17.55)

310. Build up India's e-readiness in a systematic way by overcoming infrastructural inadequacies, re-engineering the processes to weed out outdated procedures and making them user friendly, strengthening e-governance drivers, building institutions for capacity building and training and putting in place appropriate laws.

(Para 17.55)

311. Design applications to respond to citizen's needs and aspirations.

(Para 17.56)

312. Implement projects in stages of increasing complexity; providing information in the first stage and then moving on to providing interactive forms and finally a payment gateway where monetary transactions can take place.

(Para 17.56)

CHAPTER 18 REGIONAL BALANCE AND PLANNING

313. The objective of bringing about greater regional balance must be the overriding consideration for determining the use of Central funds that flow as Central assistance to State Plans

314. A Backward Regions Grant Fund (BRGF) mandated to address regional balance concerns could be structured with the following two windows:

- Backward Districts Window: This could be an area-targetted grant facility, broadly on the lines of the existing RSVY. Initially the window will consist of all backward districts from RSVY list. This list will be enlarged to cover the hard core backward states, viz. Bihar, Orissa, Jharkhand, Chhattisgarh, Assam, East UP and East MP, more intensively. Transitional provisions will be made for 32 districts (from the list of 55 naxalite activities affected districts) which are not strictly backward districts in the RSVY list, for the remaining two years of the Xth Plan, whereafter they will be covered under a separate programme for Development of Districts affected by extremist activities.
- Compared to the provisions of the still nascent RSVY, a greater emphasis may be placed on human development indicators for identification of target regions and districts. Elimination of minimum normative gaps in local area developments; in physical infrastructure; in social attainments in health and education and land productivity should be the prime objective of financing interventions from this window. The selection will be based on objective parameters subject to minor changes in consultation with states.
- State Infrastructure & Reforms Window: This could also be a grant facility for providing viability gap funding which will enable resources to be leveraged for core infrastructure projects at inter

district or state level in less developed states. These projects will include projects that would otherwise be considered as not viable financially but are necessary for removing backwardness.. The amounts to be made availalble to states will be in proportion to the population residing in their backward districts.

(Para 18.35 - 18.37, 18.5, 18.6)

315. Unlike the past practice, tripartite agreements or contracts between Central, State and local governments should be entered to incentivise appropriate State level policies that will improve regional balance. The role and the responsibilities of the State Governments should be factored in if the BRGF is to achieve its stated purpose. The emphasis has to be on outcomes, and necessary institutional reforms. Ignoring ground realities will not help. These agreements should link releases to achievement of listed outcomes in accordance with agreed schedules and also provide for strengthened and responsive delivery systems and for suitable remedial action by Govermment of India in case of misuse of funds.

(Para 18.28 - 18.31)

316. Convergent management of relevant ongoing Central Government initiatives like the National Food for Work Programme, Sarva Shiksha Abhiyam and Mid Day Meals that, by their very nature, facilitate pro-equity resource flows to less developed states, should be achieved. This can be done effectively through the mechanism of a district plan, and would need to be accompanied by a determination of clear cut outcomes.

(Para 18.29, 18.39)

317. The Planning Commission should be the bridge between the Centre and the states that its present role enables it to be. This is necessary because the Planning Commission is the only agency that directly supports the development Plans of states and is engaged in a regular development dialogue with them. This means that the Commission must see itself in a more proactive role in championing the cause of the states with Central ministries in key policy issues that have strong equity and regional balance dimensions. In a liberalised, market-driven policy environment, the responsibility of the Commission is greater in that it has to ensure a level playing field for less developed states and regions. Simultaneously, the State Plan allocation and dialogue process should be reoriented to focus more on macro-policy issues, equity and regional balance concerns, and promotion of decentralised planning structures. In line with its original mandate, the Commission's role and influence must be leveraged more effectively with both the states and the Central ministries for bringing about greater inter-state and intra-state regional balance.

(Para 18.3, 18.19, 18.23)