SIXTH FIVE YEAR PLAN
1980—85

MID-TERM APPRAISAL

GOVERNMENT OF INDIA
PLANNING COMMISSION
(August, 1983)

FOREWORD

The work of preparation of the Sixth Five Year Plan covering the period 1980—85 was taken up in April 1980. The Plan was approved by the National Development Council in February 1981 and presented to Parliament and the nation.

Three years of the Plan have now been completed. A mid-term appraisal of a Five Year Plan is normally conducted half-way through its progress. Thus, the mid-term appraisal of the Sixth Five Year Plan 1980—85 should have been presented sometime towards the latter half of 1982. As is known, however, adverse weather in the kharif season of 1982 affected agricultural production, which is by far the most important component of the economy. The prospects for growth in 1982-83, together with the likely impact on savings, resources, and investments that would be available over the balance of the Plan period had therefore to be carefully assessed. This has taken some time. In the result, the mid-term appraisal now covers the progress of the first three years of the Plan.

Though there has been delay in the finalisation and the presentation of the mid-term appraisal document, the exercise has been purposeful. A close and detailed evaluation has been made of the performance so far and of the prospects for the remaining period of the Plan. The estimated growth over the Plan period will be close to the Plan target, and the comparatively efficient use of resources together with structural adjustments have developed significantly the resilience and self-reliance of the economy. An ambitious programme of mobilisation of additional resources was drawn up and successfully implemented both by the Centre and the States.

While the Plan targets will be fulfilled in full or adequate measure in a number of areas including many in the sectors of agriculture and industry, some special efforts would yield improved performance in the production of foodgrains, as also in the infrastructural sectors. The appraisal deals with some of the measures necessary in this regard, so that a firm basis is laid for the continued growth of the economy to the end of the Plan period, as well as in the post-Plan period.

I have great pleasure in presenting this appraisal to Parliament and the nation.

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Minister for Planning

New Delhi,
19 August, 1983.

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PART I

CHAPTER 1

OVERVIEW OF THE ECONOMY IN THE FIRST THREE YEARS OF THE PLAN

The Sixth Five Year Plan started in extremely difficult circumstances and had to contend with a number of unfavourable factors. The year 1979-80 witnessed a bad drought which affected agricultural production considerably. Foodgrain production recorded a heavy fall of 16.8 per cent compared to the previous year. There was an absolute decline in GDP of nearly 5 per cent. As a consequence, savings and investment went down significantly, thereby reducing the resources base of the Sixth Plan. In general, the economy was not in a very satisfactory state and the functioning of the infrastructure, in particular, had been badly affected. Against this background, the Sixth Plan was launched with a very ambitious programme of growth, poverty alleviation and self-reliance. The task of recovery from the low base was made more difficult by the contemporary international situation which was extremely unfavourable with heavy economic recession in most of the countries of the world, especially in the developed countries, and a shrinking volume of international trade. The external terms of trade in India had significantly deteriorated, one of the main reasons for this being the consequential effects of the second oil price hike. In the domestic economy, the Plan effort had to contend with a high rate of inflation.

1.2 An almost complete recovery of the economy was achieved in 1980-81. This was due largely to the ambitious investment programme of the Sixth Plan. This was concentrated in all the major infrastructure sectors, which had stagnated in the years immediately preceding the Sixth Plan. Indeed, in 1980-81 the economy was set for a fast growth and development in alignment with the major targets of the Sixth Plan and the GDP grew by 7.9 per cent. In 1981-82, almost all the sectors picked up the growth rate stipulated in the Plan and the GDP went up by 5.2 per cent. Thus, over the first two years of the Plan, the economy grew at a rate of 6.5 per cent in real terms, exceeding the Plan annual growth rate of 5.2 per cent per annum. The year 1982-83, however, proved to be a very bad year for agriculture with severe drought, floods and cyclones in different parts of the country. However, the damage to the economy was significantly minimised, principally as a result of the public sector programmes, and the fall in foodgrain production was comparatively much lower than in previous years of adverse seasonal conditions. The growth rate in 1982-83 is estimated to be 2 per cent. Industrial growth which was 5.6 per cent in 1980-81 and 8.6 per cent in 1981-82 fell to about 3.5 per cent in 1982-83. The average growth rate of the economy over the first three years of the Plan came to 5 per cent. This performance has to be viewed in the background of a number of growth decelerating elements prevailing during this period. The recession in the international situation continued, the recovery being extremely slow. The international trade prospects also continued to be gloomy. Between 1980-81 and 1982-83 the growth of international trade was almost zero. India's realised volume of growth of export of 1.4—1.5 per cent should be seen against this background. The Government's efforts to protect the development activities of the economy were successful and the domestic rate of inflation was significantly reduced as measured by the movement in the wholesale price index from the very high rate of nearly 18 to 20 per cent in 1980-81 to around 2 per cent in 1982-83.

1.3 Additional resource mobilisation (ARM) both by the Centre and the States is likely, in the first four years of the Plan, to exceed the targets for the whole of the Sixth Plan. This represents a substantial effort in resource mobilisation by the public sector. The respective performances are summarised in the Table 1.1 below :

TABLE 1.1

Additional Resources Mobilisation

(Rs. in crores)

	VI Plan 1980—85 Target	1980-81 Actuals	1981-82 Actuals	1982-83 (Latest Estimates May 1983)	1983-84 (Plan)	Total 1980—84
Centre	12,290	501	2,597	3,960	5,623	12,681
States	9,012	425	1,573	2,849	4,388	9,235*
	21,302	926	4,170	6,809	10,011	21,916

*Includes State's share in the yield from Central measures.

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In over-all availability of resources for the Plan, however, there has been a heavy deficit in the States, principally due to the State Electricity Boards and State Road Transport Corporations not achieving their targets of surpluses. Increases in current expenditure on the services sector, due partly to DA and wage increases, have also cut into the resources available for developmental outlays, both at the Centre and in the States. The mobilisation of additional external borrowings has been close to target and a prudent foreign exchange reserve policy has been adopted in the initial years of the Plan, both for protecting essential technological imports and for facilitating the required structural adjustment of the country's economy.

1.4 Taking the first four years of the Plan, the total actual or approved outlays come to 83 per cent (Rs. 79,880 crores) of the public sector Plan outlay of Rs. 97,500 crores. However, inflation, particularly in the costs of capital goods, especially imported capital goods, has eroded the real value of Plan investments. At 1979-80 prices, this represents 62 per cent of the Plan outlay. For 1983-84, it has been decided now (July, 1983) to raise the Centre's Annual Plan investment by Rs. 800 crores directed mostly towards the core sectors. Public Sector investment in real terms would have been higher but for the adverse factors already mentioned and such exogenous causes as the second oil price hike.

1.5 Turning to physical achievement, the mid-term estimates indicate that the Plan targets will be fulfilled in full or adequate measure in a number of areas including many in the sectors of agriculture and industry. But special efforts will be called for to improve performance in some other areas notably in the infrastructural sectors.

1.6 Specifically, as against the 1984-85 foodgrains production target of 149—154 million tonnes projected in the Plan, the achievement may be nearer the lower end of the range i.e. 146-148 million tonnes. In sugarcane again, the production is likely to be short of the Plan projections. However, the production of other crops, like jute and mesta, cotton, the five major oilseeds, tea and coffee will be generally equal to the Sixth Plan targets. The production of sugar and vanaspati is likely to equal or exceed the targets.

1.7 In the field of manufactured goods, the production of newsprint, low-density and high-density polyethylene, paper and paper board, DMT, viscose filament yarn, polyester filament yarn and acrylic fibre, decentralised sector cloth, commercial vehicles together with passenger cars and jeeps, and industrial machinery generally, is likely to be equal to the Plan targets or a little more. However, shortfalls in production against Plan targets are likely in the case of steel ingots and saleable steel, non-ferrous metals (aluminium, blister copper and zinc), caustic soda, soda ash and sulphuric acid, PVC, mill sector cloth, power cables and electrical transformers, as well as in the electronics sector generally. Production of synthetic rubber, caprolactam, cement, hydro and thermal turbines, and agricultural tractors is likely to be equal to or near about the Plan targets. The production of nitrogenous and phosphatic fertilisers is likely to be slightly short of target while production of iron ore and concentrates is likely to fall appreciably short of target.

1.8 The production of crude oil and petroleum products will be substantially in excess of the original Plan target, as a result of the large increase in investment as compared to the Plan, decided upon with a view to quicker achievement of self-reliance in this sector. Generation of electricity will be about 170 billion KWH in the last year of the Plan, while additional electricity generating capacity installed over the Plan period will be of the order of 14000—14500 MW. While these represent increases in electrical generation by over 51 per cent and capacity addition by over 46 per cent compared to 1979-80, there are, nevertheless, shortfalls in these two areas against the Plan targets of 191 billion KWH and 19666 MW respectively. Coal production is expected to be 154 million tonnes against the projected 165 million tonnes. This, again, would be a 50 per cent addition to the production level at the beginning of the Plan. Here, however, it is likely that this order of production, with draw-down from accumulated stocks, would be adequate to meet requirements. Lignite production will hit the Plan target. Railways originating traffic, which is a derived demand, is likely to be only 280—285 million tonnes as against the original target of 309 million tonnes.

1.9 In the aggregate, over the first three years of the Plan, the public sector investment has exceeded the Plan target. Along with this, the real GDP growth per annum over the three years is also equal to the Plan target rate. But keeping in view the fact that, on the one hand, there has been an erosion in the nominal investment by cost escalation and that on the other hand, the realised additional production in 1980-81 took advantage of the idle capacity that existed in the year 1979-80, the Plan objective of a significant step up in the rate of growth in investment has to be pursued with greater determination. Investment in those sectors which are sensitive to real investment shortfalls, and which have strong linkages throughout the economy, namely, irrigation (and agriculture in general), power, coal, railways and some segments of industry have to be protected against such shortfalls to the maximum extent possible. If this should require some temporary shift of priorities in sectoral allocations and within the sectors themselves in the last year of the Plan, such shift should be considered in order that the tempo already created is not disrupted and new starts are not severely affected. Any delays in such long-lead investment cannot be made-up in the short-term; and in the medium term, unless corrective steps are taken now, capacity constraints may develop in these sectors which would then act as major brakes on sustained growth in the Seventh Plan and beyond.

1.10 The economy would appear to have made comparatively efficient use of resources. Structural adjustments in terms of developing a self-reliant production system are in progress especially in the use of oil as an indigenous energy source, though our limited economically extractable reserves should be exploited with some degree of caution. What is necessary is to improve the efficiency of utilisation of the investment in infrastructure and in productive equipment. It is also essential that public enterprises function so as to maximise surpluses. The improvement in resources and the lowering of the capital-output ratio that would result would ensure more efficient implementation of the Plan. An encouraging fact is that elasticity of tax revenues to price changes is close to unity. Given the present tax ratio to GDP, and the efforts needed for additional resource mobilisation for the Plan, efforts would be called for to expand the tax base and streamline the tax administration. This has to go hand in hand with a significant curb in the current consumption expenditure of Government. The export thrust has to be intensified as part of achieving our goal of self-reliance, together with very carefully worked out strategies for managing the foreseable strains in the balance of payments position in the Seventh Plan. This will require a coordinated set of policies and measures in a number of areas : further strengthening of the trade policy framework to attain a more rapid development of exports; continued prudent management of the economy to ensure relative price stability and to contain pressures on the balance of payments; and avoidance of infrastructure bottlenecks or shortages of basic intermediates.

1.11 In conclusion, some concentration of investments in the infrastructure and a few other sensitive areas is called for, and some economy in Government's current consumption expenditure would be necessary, both to achieve the maximum possible in physical terms in the Sixth Plan and to establish a firm basis for the Seventh Plan.

CHAPTER 2

GROWTH OF OUTPUT

On the basis of the growth achieved in the first three years of the Plan (7.57 per cent, 5.2 per cent and about 2.0 per cent respectively), the attainment of the Sixth Plan GDP growth target of 5.2 per cent per annum between 1979-80 and 1984-85 would require an average annual growth rate of 5.8 per cent per annum over the period 1983-85. This will not be easy.

2.2 The growth rates (in terms of value added) for the production sectors are given in Table 2. These are macro figures for the broad sectors as a whole. The position relating to the components of each of the important broad sectors is dealt with below.

2.3 Agricultural growth reached a high level of 8.1 per cent per annum over the first two years. However, the base year 1979-80 was a bad year agriculturally. Estimated on the trend, the growth is less. The picture would be affected by the negative growth expected in 1982-83 over 1981-82 as a result of the loss in Kharif. Within the sector, however, the growth rates for the non-food grain sectors in general, and for oilseeds, fibre, vegetables and horticulture and sugarcane in particular, are comparatively higher, with some sectors reaching production levels higher than the Plan targets. The forestry and fisheries sectors, however, appear to have been static in the first two years.

2.4 Sectoral growth rates for manufacturing, construction and communications in 1980-81|1981-82 are significantly below those stipulated in the Plan. Mining (including petroleum) has shown a rising trend in growth, in terms of value added, between 1980-81 and 1981-82, with the rate being 3.83 per cent in 1980-81 and 13.89 per cent in 1981-82. Over the two years, the growth rate comes to 8.7 per cent per annum, very close to the Plan target. A considerable slowing down in the production of iron ore is noticeable mainly due to a decline in its export, as a result of the fall in demand, but this is to some extent balanced by the growing production of crude petroleum, which had a rate of growth of around 17.0 per cent per annum in physical terms, much higher than the average annual Plan target of 13.0 per cent. In 1982-83 it is expected to grow by more than 33.0 per cent. In the manufacturing sector, the production expected of various manufactured goods has been brought out in paragraph 1.6 as also in Appendix I to Chapter 12. In the infrastructural areas, the growth rates in terms of value added in 'electricity and gas and water supply' in the first two years were higher than the Plan targets, mainly due to extremely good performance in 1981-82. But electricity generation has shown a fall in the growth rate to around 7 per cent from about 10 per cent in 1981-82. This trend has to be checked. As for the Railways, while the performance in 1981-82 improved significantly, the growth rate in terms of originating traffic has come down to around 5.2 per cent per annum over the first three years as against the Plan target of 7.2 per cent.

2.5 The deceleration in industrial production in 1982-83 was caused by a number of factors. In a few specific sectors, lack of demand apparently acted as a constraint but a detailed analysis shows that, in many cases, the demand constraints arose because of a comparative slowing down of growth-rates in the consuming areas, which in turn was the result of a shortage of availability of one or more key inputs needed for production in those sectors. In the field of finance and credit, some sectors witnessed temporary restrictions in the availability of working capital.

II. Growth of Investment

2.6 The total investment in the Sixth Plan was estimated at Rs. 158,710 crores of which 53 per cent (i.e. Rs. 84,000 crores) was to be in the public sector (in addition to current outlays of Rs. 13,500 crores), and 47 per cent (Rs. 74,710 crores) in the private sector. As a percentage of GDP, total investment was to rise from 21.8 per cent in 1979-80 to 25.1 per cent in 1984-85.

2.7 The investment growth rate of the public sector implicit in the Sixth Plan was 16.5 per cent per annum, on the basis of an annual average of 9.0 per cent per annum for both public and private sectors taken together.

2.8 Over the first three years of the Sixth Plan, the growth rate of gross investment in the economy was 4.5 per cent estimated at constant prices, the annual figures being 9.9 per cent in 1980-81, 7.8 per cent in 1981-82, and a likely decline in 1982-83 Investment as a percentage of GDP, both calculated at market prices, rose from 23.7 per cent in 1980-81 to 24.2 per cent in 1981-82 (at 1979-80 prices), but this is estimated to have declined to about 22.8 per cent of GDP in 1982-83 due principally to the poor kharif crop.

2.9 At constant prices, over the first three years of the Plan nearly 53 per cent of the targetted investment (in the private and the public sectors put together) was achieved. The growth in investment at current prices over the first two years reached nearly 23 per cent per annum, due mainly to a faster rise in prices. The nominal rate of investment in public sector outlays shows a high growth rate of 21 per cent per annum over the first three years. In real terms, this works out to 8 per cent per annum, as against the Plan assumption of 16.5 per cent per annum. The increase in outlay of 12 per cent (in real terms) in 1983-84 Annual Plan would correct this to some extent. The difference between real and nominal growth rates in public sector investment is explained largely by a significant rise in the investment cost index—nearly 11 per cent in the aggregate in 1980-81 and 14 per cent in 1981-82, both being higher than the increase in the GDP deflators for these years.

2.10 A sectoral analysis of public sector outlays presented in Table 3. The Sectoral comparison of investment, after making corrections for changes in prices, indicates the need for increase in investment in sectors like irrigation, power, coal and railways. This is necessary because of their long gestation periods and very strong backward and forward linkages throughout the economy and is of particular importance in the context of Seventh Plan prospects.

III. Growth of Savings

2.11 The Sixth Plan assumed an increase in the domestic savings (as percentages of GDP at constant prices) from 22.5 per cent in 1979-80 to 24.48 per cent in 1984-85. Domestic savings were assumed to grow at nearly 9.2 per cent per annum and add upto a total of Rs. 149,647 crores over the Plan Period. Implied was a marginal savings rate of 33.7 per cent over the period 1980—85.

2.12 Over the first two years the growth rate of domestic savings achieved came to nearly 18.1 per cent at current prices which was much higher than the plan assumption, with inflation no doubt contributing its share. The savings rate estimated on the basis of its purchasing power (in terms of investment goods) was 6.7 per cent per annum. Expressed in terms of percentages of GDP (at constant prices), the savings rates achieved in 1980-81 and 1981-82 came to 21.9 per cent and 22.7 per cent respectively, implying a marginal savings rate of 24.1 per cent between 1979-80 and 1981-82.

Public Savings

2.13 Table 5 presents the Sixth Plan target of public savings both for the Centre and the States taken together. Of this, the public sector's target of "own resources" was placed at Rs. 45,175 crores representing 30 per cent of total domestic savings and comprising : (i) contribution from the balance of current revenues of the Centre and the States arising as budgetary surpluses, and (ii) the surpluses of the public sector enterprises. All additional revenues arising from proposed new fiscal measures are included in these resource estimates of the public sector. Nearly 60 per cent of the Rs. 45,175 crores was to come from budgetary surpluses from current revenues of the Central|State Governments. and the rest from public sector enterprises.

2.14 Against these targets, the actual achievement in the first three years of the Plan was Rs. 21,207 crores or 46.9 per cent in nominal terms (36.8 per cent at 1979-80 prices). The surpluses of public enterprises were 47.0 per cent in nominal terms (36.4 per cent in 1979-80 prices).

2.15 There are four other major sources which finance the public sector investment programmes. These are: (a) draft on private savings (including provident funds, small savings, term loans from financial institutions, and net miscellaneous capital receipts), (b) market borrowings, (c) net external assistance, and finally, (d) deficit financing. Table 6 gives the Plan targets under these heads and the achievements in the first three years of the Plan.

2.16 The resource mobilisation effort of both the Centre and the States (taken together) has been significantly large and the buoyancy of revenues has been maintained. The public sector revenue over the first three years of the Plan has been rising by nearly 15.7 per cent per annum. However, current expenditure particularly on salaries|DA also rose at about 14.5 per cent per annum. The increase in the investment costs also was faster than the corresponding GDP deflator. Cost of imported equipment and machinery rose much more than the costs of other inputs required by the public sector. At the Centre, the increased outlays on Defence have reduced further the availablity of the balance from the current revenues. Thus, even though the total revenues raised by the Central and the State Governments over the first three years of the Plan were significantly large, the public sector investment outlay, as a percentage of the total investment over the first three years of the Plan is below the Plan target. Private sector investment has, broadly, kept to target largely through increased nominal investment.

2.17 The improvement in the resource mobilisation of the public sector is reflected in an increase in the percentage of the public sector's own resources to total domestic saving. This is brought out in Table 5. It reached a figure of 24.67 per cent in 1982-83, significantly higher than what had been achieved in the recent past. But additional efforts will be needed in future to reach the target of 30.2 per cent.

IV. Financing of the Public Sector Outlay

2.18 The total Plan outlay of the Centre and the States over the first four years comes to Rs. 79,880 crores. The details of this and the sources from which it has been raised are given in Table 7.

The detailed yearwise sources of financing have been given in Tables 8, 9, 10 and 11.

2.19 These figures are evidence of the substantial effort in raising resources that has been successfully undertaken. These resources have come from the total domestic budgetary resources and from deficit financing, with net external aid contributing Rs. 4,257 crores over the first three years of the Plan.

2.20 In 1980-81, there was shortfall in the Centre's Plan expenditure (and resources) to the extent of Rs. 390 crores, while the Plan outlay of the

States was higher than budgeted by Rs. 304 crores. But in 1981-82, there was an improvement in Central resources by about Rs. 599 crores in relation to the original Annual Plan estimate, despite higher Central assistance to the States and lower deficit financing. This improvement in the Centre's resources occurred mainly on account of the yields from post-budgetary measures for resource mobilisation undertaken by the Central Government and the Central Public Sector enterprises such as the ONGC, Railways and Posts and Telegraphs. Oil prices were raised in July 1981, while Railway fares and frieght were raised with effect from January 1982. Revised P&T rates were given effect to from March 1982. These measures together with the improvement registered in market borrowings and small savings collections increased the resource availability for the Plan outlay of the Centre (including UTs) which went upto Rs. 9,545 crores (from the Rs. 7,305 crores of the previous year), or an increase of nearly 31 per cent in nominal terms. On the other hand, the budgetary resources of the States in 1981-82 showed a very large deterioration of about Rs. 850 crores from the original Plan estimates. This was despite the fact that the yield from the fresh measures introduced by the States brought in Rs. 297 crores more of revenue than the original estimates and small savings collections also exceeded the original targets. The main factor responsible for the sharp deterioration in the resources of the States was the substantially reduced contributions from the State Governments' enterprises, principally from the State Electricity Boards and the State Road Transport Corporations. Nevertheless, the States were able to raise their Plan outlays in 1981-82 from Rs. 7,527 crores (in 1980-81) to Rs. 8,666 crores i.e., about 15 per cent in nominal terms, partly financed by overdrafts from the Reserve Bank to the extent of Rs. 1,127 crores.

2.21 The third year of the Plan, 1982-83, saw further increase is outlays, both in the Centre (including UTs) and the States. The Central Plan outly rose to Rs. 12,018 crores from Rs. 9,545 crores and the outlay of the States to Rs. 9,338 crores from Rs. 8,666 crores. Thus, the total outlay, in nominal terms, over the first three years of the Plan, of the Centre (including the UTs) came to Rs. 28,868 crores and of the States to Rs. 25,531 crores, making a total of Rs. 54,399 crores or nearly 55.8 per cent of the total public sector Plan outlay of Rs. 97,500 crores. The aggregate resources of the Centre, according to the revised estimates of 1982-83, showed a significant improvement by about Rs. 982 crores. However, to help the States to clear the substantial overdrafts run up by them with the Reserve Bank, an amount of Rs. 1,743 crores was sanctioned by the Centre (thus increasing its own deficit) by way of medium term loans to eighteen states. This measure was undertaken in order to enable the States to step up their Plan outlays, as otherwise their developmental outlays would have been severely curtailed due to the financial stringency they experienced at the end of 1981-82.

2.22 Another feature of 1982-83 was a large increase in Central assistance to the States for relief undertaken following natural calamities, namely the widespread drought of the year, as also cyclones and floods. Overall an amount of Rs. 372 crores had to be given by way of such assistance, as compared to Rs. 191 crores in 1980-81 and Rs. 162 crores in 1981-82. The total deficit of the States at the end of 1982-83 had been estimated at about Rs. 1,115 crores. With a view to devising means for covering these deficits, detailed discussions were held with the Chief Ministers of the States. In these discussions the State Governments were urged to keep the Plan and Non-Plan expenditures within the resources available in sight. As a result, all the State Governments, except six, agreed to close the year 1982-83 without any uncovered deficits. The agreed deficit for these Six States, as at the end of 1982-83, was about Rs. 85 crores. However, the total net deficit of all the States taken together, as on 31st March 1983, was about Rs. 673 crores according to the Reserve Bank of India. With the exception of Andhra Pradesh, Gujarat, Maharashtra, and Punjab, which had a combined surplus of Rs. 100.52 crores, the combined deficit of all the other States amounted to over Rs. 773 crores.

2.23 Against the background of the very large assistance which the Central Government had to give to the State Governments to clear their deficits in 1982-83, a new Overdrafts Regulation Scheme was introduced with effect from 1st July, 1982, by the Central Government in consultation with the Reserve Bank of India. This has had the result of keeping the overdrafts down very considerably in 1982-83 as will be seen from the figures mentioned in the previous paragraph.

V. Foreign Savings

2.24 Against the Sixth Plan estimate of net capital inflow of the order of Rs. 11,976 crores at 1979-80 prices (including draw down of foreign reserves by over Rs. 1000 crores), the estimated purchasing power of imports would be Rs. 9,063 crores (at 1979-80 prices) over the Plan period, after an adjustment for the deterioration in the terms of trade. To the end of 1982-83, the total net capital inflow came to Rs. 5687 crores at 1979-80 prices (Rs. 9,350 crores at current prices). This implies that the country had utilised nearly 63 per cent of the total Plan provision of foreign savings in real terms. However, the external assistance for the public sector over the same period, is somewhat behind schedule, though representing a significant step up as compared to the three-year period before the commencement of the Sixth Plan.

VI. The Foreign Trade Sector—Exports, Imports and Balance of Payments

2.25 Table 12 presents the balance of payments (in current prices) position after 1979-80. In this presentation, exports and imports are given exclusive of POL swap arrangements. The Sixth Plan document presented the balance of payments projections as follows :

(Rs. crores)

	Plan Target (at 1979-80 prices) 1980-85	Estimates (at current prices) 1980-83	Estimates (at 1979-80 prices) 1980-83
1. Exports	41078	22317	19674
2. Imports	58851	39752	31695
3. Balance of Trade	—17773	—17435	—12021
4. Invisibles	8710	8754	7066
5. Balance on Current A/c (net)	—9063	—8681	—4955

2.26 As the table shows, the exports at 1979-80 prices over the first three years of the Plan came to nearly 48 per cent of the Plan's total targetted value. Similarly, the percentage of import was 54 per cent. Thus, a sizeable fall in export is noticeable, although this has been compensated partly by a higher level of import substitution than stipulated in the Plan. As for import, the comparatively lower volume as against the Plan figures in this period is partly the result of some slowing down in the rate of growth of the economy compared to what was assumed in the Plan. The rate of growth of export over the first three years came to 7.6 per cent in nominal terms, but when converted to 1979-80 constant prices it comes down to nearly 1.4 per cent per annum. The low volume growth of exports is explained partly by the adverse international trading environment. The growth rate of 1.4 per cent should be compared to the zero growth rate of the world as a whole and the negative growth rate (—0.5 per cent) of the developing countries. Similarly, on the import side, the rate of increase over the three years in nominal terms comes to 14.6 per cent, and in real terms to 4.5 per cent. Since the import base in 1979-80 was 50 per cent more than the export, a higher growth rate of import as against that of export implies an increasing deterioration of the balance of the trade.

2.27 Over the first three years of the Plan, the import elasticity came down on the average to 1.2. This is to be reckoned against the plan assumption of 1.5, and the observed trend in the 1970s of 1.5 to 2.0. This decline over 1980-83 is explained largely by the substitution of bulk imports, particularly crude oil. This emphasises the need for intensification of structural adjustment through greater diversification of import substitution and vigorous export development efforts.

2.28 Turning to the individual years, 1980-81 was a bad one with a decline in the volume of exports and a very high rise in imports. The slow growth of export was mainly the consequence of an unfavourable world market and protectionary barriers in the importing countries and was not so much due to supply constraints in the domestic sector. On the other hand, due to declining production in some of the key sectors like crude oil, petroleum products, nitrogenous fertilisers and steel and cement, the need for bulk imports greatly increased in 1980-81. As a consequence, the trade balance deteriorated significantly and a large part of it had to be financed by the depletion of foreign exchange reserves. Invisible earnings in 1980-81, however, showed a significant increase mainly because of a spurt in remittances from expatriate workers and helped to offset half of the trade gap.

2.29 There was a notable turn-around in export performance during 1981-82. The volume of non-traditional exports continued to expand. In contrast, the rate of growth in the volume of import went down sharply. Domestic production picked up significantly, making large import substitution possible. POL and fertiliser imports, in particular, dropped significantly. These two together accounted for nearly 80 per cent of the bulk imports in 1981-82. Despite the lower imports and higher exports, the trade deficit remained almost unchanged at current prices and marginally fell at constant prices. This was primarily due to further deterioration in the terms of trade. In addition, there was a significant decline in the level of invisible earnings.

2.30 In 1982-83, the export performance excluding the oil swap, has not been very satisfactory compared to the Plan targets. The volume of bulk import continued to decline largely as a result of a higher domestic crude oil production. The domestic production in crude oil reached the Plan targetted level of 21 million tonnes in 1982-83.

VII. Prices and Money

2.31 The behaviour of prices in the first three years of the Sixth Plan was encouraging, showing a declining trend in the rate of inflation. The growth in the wholesale price index which was as much as 18.2 per cent in 1980-81, came down to 9.3 per cent in 1981-82 and to nearly 2.5 per cent in 1982-83. The rise in the consumer price index during 1982-83 was also less as compared to the rise in 1981-82. Investment costs have, however, risen comparatively faster due to the sharp rises in the costs of construction inputs like iron and steel, cement, logs and timber, etc.

2.32 Monetary policy was used flexibly with a view to controlling inflationary pressures and to meeting the growing needs of the production and priority sectors. Aggregate monetary supply (M3) increased by 16.8 per cent in 1980-81, 12.6 per cent in 1981-82 and 14.8 per cent during 1982-83. Monetary policy will continue to be restrained and cautious because of probable inflationary pressures, but the growing requirements of credit for poduction purposes will also have to be met fully.

2.33 Particular attention will have to be given to increasing domestic production and efficient management of supplies in the case of essential commodities. Where necessary, domestic production will have to be supplemented by timely imports. Since the maintenance of adequate stocks of foodgrains with public agencies helps in keeping in check the market expectations of price rises, continued efforts will have to be made to maximise the procurement of foodgrains. The public distribution system will have to be further expanded, strengthened and streamlined in order to make available essential consumer goods to people, particularly the weaker sections, at reasonable prices throughout the country. Besides, hoarding, profiteering and other anti-social activities will have to be effectively curbed by taking stringent action against those indulging in such activities.

VIII. Population

2.34 The Sixth Plan document used the estimates of population projections for 1971-91 prepared by an Expert Committee constituted by the Planning Commission under the Chairmanship of the Registrar General and Census Commissioner. The provisional 1981 population, according to the Census, was 12 million more than the Plan projection for that year. Although this is less than 2 per cent, the size of the 1981 population puts a substantial extra burden on the country's resources, and also affects all the per capita targets of the Plan. However, a re-estimation of population projections on the basis of the latest Census has not been undertaken since detailed tables on fertility and mortality of the 1981 Census are not yet available.

IX. Poverty and Employment

2.35 The Sixth Plan document assumed a reduction in the percentage of people below the poverty line from 47 per cent to 30 per cent. In absolute terms, the number of persons below the poverty line was expected to come down to 215 million from 316 million. Subsequently, because of the revision in the population estimates based on the 1981 census, the figures of population below the poverty line in 1979-80 were revised, and worked out to 51.1 per cent (nearly 339 million people). Over 1980-81 and 1981-82, a large number of families below the poverty line are expected to have crossed it because of the rise in their real incomes, partly through the adoption of specific poverty alleviation programmes like IRDP and NREP. The exact distribution pattern of expenditure below and above the poverty line will not be available until the results of the National Sample Survey for the year 1983 become available. Until that time, the number and percentage of people below the poverty line may be estimated on the basis of the assumption that increase in real income is uniform in all the expenditure classes and the number of families brought above the poverty line is relatable directly to the corresponding expenditure in IRDP and NREP. Adopting this method, the percentage of poverty, it is estimated, came down to 41.5 and the total number of persons below the poverty to 282 million in 1981-82. Thus, over the two years 1980-82, 34 per cent of the total Plan target of people to be taken above the poverty line were so taken.

2.36 The aggregate employment target in term of "Standard person year" has been placed at 34 million over the Sixth Plan period. This employment is primarily to be generated in agriculture, manufacturing and the services sectors, the last including the two major employment generation programmes, IRDP and NREP. An employment of 4 million standard person years exclusively from these two programmes, is expected over the Plan period.

2.37 As indicated in Table 13, nearly 12 million standard person years of additional employment were estimated to have been generated over the first two years of the Plan, constituting about 34 per cent of the total employment target of the Plan. This suggests some shortfalls in this area. The major shortfall is located in the Manufacturing and Construction sector, where the growth rate over the Plan period is below the Plan target. Furthermore, in the year 1982-83, a further deceleration in growth is expected, mainly due to a bad harvest. Taking all this into consideration, a significant shortfall in the Plan's employment target in 1982-83 is apprehended. The 1981 population Census has shown that the rate of growth of population is higher than assumed in the Sixth Plan document. The pressure on the labour market, as a result, however, will not be felt in the immediate failure.

CHAPTER 3

THE PROSPECTS FOR THE SIXTH PLAN

I. General Review

Three years of the Sixth Plan are over. Over these three years there have been many areas of success in our Plan programmes. But at the same time, there are a few specific areas where our achievements fall short of our goals. Many unexpected turns in the internal and external environment of the country largely disturbed the Plan's course of development. The economy's capacity to adjust to, and recover from, some of these setbacks will largely shape the future course and the level of achievements as against Sixth Plan targets. The main aim of this mid-term appraisal is to examine the economy's capacity to adjust to the new situation, and to identify appropriate strategies and policy packages best suited to these changed conditions so that the Sixth Plan achievements will be as near the targets given in the Plan document as possible.

3.2 The year 1980-81 witnessed a good recovery from the low base of 1979-80. This happened inspite of very high inflation and adverse external terms of trade. This was made possible by a sizeable increase in public sector investment, moderately good weather and a more efficient use of the resources and installed capacity of the economy. All these helped the economy to recover from the very low dip of 1979-80.

3.3 In the year 1981-82, the economy reached an appropriate tempo of development, matching closely the Sixth Plan goals. In almost all sectors, the growth rates picked up and attained the targets stipulated in the Plan. Also, the rate of investment kept pace with the Plan stipulation, in nominal terms. Increase in the level of investment to compensate for the significant rise in investment costs was found difficult because of the problem of mobilisation of additional resources. In the event, the realised increase in the level of public sector outlay and its financing had to rely on depletion in our foreign exchange reserves and a higher level of deficit financing.

3.4 Although the growth of the economy in general was satisfactory in 1981-82, the growth rates in manufacturing and construction were below the Plan targets. As for other sectors, including power and transport, where the forward and backward linkages are very high, the improvements in growth rates came mainly from better utilisation of capacities. Though this, in itself, is a good sign, in the longer perspective it will be equally important to create new and additional capacities in order to sustain a reasonably high growth rate. Over the first three years of the Plan investment shortfalls are noticeable in some of the major infrastructure sectors like power, railways, irrigation, coal and steel. In the two years 1982-83 and 1983-84, the rate of growth in real investment comes to 9 per cent per annum, which is below the plan annual average target, and is well below the 1980-81 rate of real investment.

3.5 Keeping these facts in view, an approximation has been made regarding the likely rivisions needed in the Sixth Plan's output, investment, savings and other relevant targets. This has been worked out with the help of a dynamic input-output model. This model is almost the same as the one used while formulating the Sixth Plan. The following broad assumptions regarding the future have been made in using this model for projecting the relevant macro-variables for the year 1984-85.

3.6 It has been assumed that the years 1983-84 and 1984-85 will witness normal seasonal conditions. It is also assumed that the real foreign resources inflow over the remaining years of the Plan period will be very close to what has been stipulated in the Plan. Regarding imports, significant success in import substitution has been assumed, based partly on the experience of the first three years and partly on information regarding the likely additional capacities that will be available in many sectors covering mainly those where there are bulk imports (including oil) over the remaining years of the Plan. In the light of the recent movement of oil prices and trends in international inflation, an improvement in the terms of trade in favour of India has also been assumed. Furthermore, in these projections, an export volume growth of 7 per cent for the remaining years of the Plan has been stipulated. Although judging by past performance this is optimistic, all efforts need to be made to attain it so as to strengthen the structure of the balance of payments.

II. Output Projections

3.7 Table 2 presents the sectoral "value added" growth rates, projected upto the end of the Sixth Plan as emerging from the present exercise. They show a decline from the Plan targetted GDP growth rate of 5.27 per cent to 4.98 per cent, on an annual average. The sectors where significant shortfalls are expected are power, railways, construction and, to some extent, manufacturing. In agriculture, the assumption is that it will grow at 3.9 per cent per annum in term of value added, at constant prices over the last two years of the Plan. This is based on a moderately optimistic assumption of normal weather conditions prevailing during the remaining plan period. The revised Plan target of foodgrains production is placed at 146-148 million tonnes by 1984-85, which is considered achievable.

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3.8 In the power sector, the likely generation of electricity in the year 1984-85 will be about 170 billion KWH. This may match the likely demand forecast for 1984-85. The rate of increase of electricity generation decelerated in 1982-83 significantly to 6.5 per cent as against 9.85 per cent in 1981-82. However, according to the latest information the growth or generation of electricity may again accelerate to a figure of 10.40 per cent in 1983-84.

3.9 In 1983-84 the demand for coal is expected to be around 147 million tonnes (excluding 3 million tonnes of middlings). Taking into account the production capacity that has been built up over the previous years, the 1983-84 target has been set at 142 million tonnes together with a liquidation of 4 million tonnes of pit-head stocks and about 1.2 million tonnes of imports of superior quality coal. For the last year of the Plan, an output of 154 million tonnes, together with some draw down of stocks and marginal import of coking coal is likely to be adequate to meet the anticipated level of demand.

3.10 In July/August, 1982, the projection of originating traffic for 1984-85 was revised at 280-285 million tonnes including 257-262 million tonnes revenue earning. Within the outlays approved for 1983-84, it is estimated that the railways would have the capacity to carry about 264 million tonnes of traffic (including 241 million tonnes revenue earning) in 1983-84, against a projected demand of about 275 million tonnes (including 252 million tonnes revenue earning) and with some additional allocations in 1983-84 the gap may be reduced from 11 million tonnes to 6 million tonnes.

3.11 Railways may be able to achieve a capacity of about 280 million tonnes by 1984-85 if the investments in the last two years are substantially increased enabling acquisition of at least 77,000 wagons and execution of other works to enable mobility at the level of 1175 net tonne-kilometers (NT-KMS) per wagon day.

3.12 The target of output of iron-ore has been reduced from 60 million tonnes to 45 million tonnes. This should not create any supply shortage since a large part of it will be matched by corresponding decrease in the export demand for iron-ore.

3.13 In the manufacturing sector, the production target of saleable steel has been reduced to 10.9 million tonnes as against the Plan target of 11.51 million tonnes. The shortfall in production can be attributed mainly to slower improvement in capacity utilisation than assumed in the Plan. But this is not expected to pose any problem in meeting the likely demand.

III. Investment Projections

3.14 The total investment stipulated in the Sixth Plan was Rs. 158710 crores (at 1979-80 prices) over the entire Plan period. Of this, Rs. 84283 crores, i.e. 53 per cent, has been covered over the first three years. But taking into account the revised output projections and the actual rate of mobilisation of resources so far, the aggregate investment target has been projected at Rs. 152216 crores (at constant prices). This should mean revising the investment growth rate from 9 per cent to 8 per cent per annum over the whole Plan period. This reduction is required mainly in order to match a corresponding shortfall in domestic savings mobilisation. The major shortfall in the domestic savings mobilisation is in the public sector's mobilisation of "Own Resources". The growth in real investment in the private corporate sector (excluding cooperative but including non-financial services) over the first two years of the Plan came very close to the Plan stipulated rate. The total "Own Saving" (depreciation plus retained earnings) of the private corporate sector over the Plan period 1980-85 is likely to be Rs. 13336 crores (at current 1981-82 prices). This converted to constant prices, comes very close to Rs. 10588 crores assumed in the Sixth Plan for investment in this sector. Thus, the savings of the private non-corporate sector can be regarded to have grown significantly above the indicated rate in the Plan. This is the sector which includes household establishments, non-factory production and possibly a sizeable part of the unreported economy.

3.15 The public sector's "Own Resources" over this Plan, at 1979-80 prices, on the other hand, are likely to be lower than the target. The rate of growth of investment in this sector over the last four years has been much lower than that assumed in the Plan. In the present exercise, an acceleration in the public sector investment programme of 10 to 12 per cent in real terms to the end of the Plan has been assumed, primarily to work out the growth implications of the Sixth and Seventh Plans. In nominal terms, the estimated total Plan outlay will exceed the Plan target by nearly 10 to 12 per cent. This would mean that a sizeable amount of erosion in the Plan's total public sector real investment arising due to price rise will be compensated by a higher resources mobilisation effort in nominal terms. Nevertheless, on a rough calculation, the shortfall in the public sector outlay in real terms would come to about 15—20 per cent over the whole Plan period.

IV. Sectoral Investments

(i) Irrigation

3.16 The shortfall in investment in this case has to some extent been made up in 1983-84 by raising the allocation in the Annual Plan by about 12 per cent over that of 1982-83. If further additional investment could be made in the last two years of the Plan, additional irrigation potential of one million hectares could be created and, further, utilisation of irrigation potential created could also be stepped up by one million hectares by some marginal investment. These additional investments deserve priority.

(ii) *Power*

3.17 Since this is one of the "universal intermediate inputs", and because of the long gestation periods involved in power projects, any shortfall in investment, in real terms, in this sector will give rise to problems both in the Sixth and the Seventh Plans. If the paucity of resources affects the on-going projects expected to yield results in the Seventh Plan and new starts, it will effectively mean the slowing down of activity in the economy as a whole in the medium term.

(iii) *Coal*

3.18 This, too, is a sector with long gestation, and any retardation in on-going projects designed to meet demand in the Seventh Plan or on fresh starts for projects whose production is already linked to other Seventh Plan consuming units should be avoided. Additional outlay in this sector will be required.

(iv) *Railways*

3.19 It has to be ensured that the ability of the railways to carry projected demand levels is built up continuously. This is of importance for all sectors of the economy. Though, as a result of the detailed review of demand carried out recently, the original target of 309 million tonnes can be scaled down to about 250-285 million tonnes of originating traffic, additional investment is necessary even for the reduced level.

(v) *Steel*

3.20 Shortfall in investment here will mainly affect the projects designed for the Seventh Plan. As far as the Sixth Plan is concerned, the total production of saleable steel in this sector in 1984-85 will remain close to the target, i.e., 10.9 million tonnes as against 11.51 million tonnes. But due to the fall in investment in the Sixth Plan, the capacity generation in the Seventh Plan will be adversely affected. It is necessary to ensure that resource constraints do not further delay the on-going projects expected to come to production in the Seventh Plan.

V. The Balance of Payment Prospects

3.21 Considering commodity-wise prospects, the aggregate volume of exports could be expected to increase at an average annual rate of about 7 per cent over the next two years. However, as a result of the decline in the volume of exports in 1980-81 and the further setback in 1982-83, exports (excluding crude oil) over the Plan period as a whole may increase on an average at an annual rate of only about 4 per cent.

3.22 The volume of imports over the rest of the Plan period could be expected to increase on an average by 8 per cent annually, and as compared to the 9.5 annual increase envisaged in the Sixth Plan, the actual growth of imports during 1980-85 may eventually turn out to be only 6 per cent.

3.23 It now appears that the terms of trade would be less unfavourable during the rest of the Sixth Plan period. Even so, because of the serious worsening of the terms of trade in earlier years, the loss from adverse international price movements over the Plan period as a whole may not differ significantly from initial projections.

3.24 The prospects are not very favourable for invisible earnings, which are likely to decline in real terms during 1983-85. Still, owing to the higher than expected average level of earlier years, net receipts from invisibles would significantly exceed the projections for the Plan period.

3.25 The overall balance of payments outlook for 1980-85 emerging from the present reassessment of prospects does not materially differ from the Sixth Plan projections in constant prices. The substantial shortfall in exports would be compensated more or less by greater import savings and higher net invisible receipts, with the result that the current account deficit in 1979-80 prices would not, allowing for the margin of error to which such projections are subject, diverge significantly from the initial Sixth Plan estimates. Even as regards net aid and other external borrowings the Sixth Plan assumptions do not, in retrospect, appear to have been unrealistic, so that gross foreign exchange reserves are unlikely to decline more than had been projected (Please See Table 4.2).

3.26 The adjustment strategy adopted in the Sixth Plan has been successful in bringing about significant improvements in the structure of the balance of payments, despite setbacks caused by an unfavourable economic environment and the severe drought of 1982-83. Thus, by 1984-85, the cost of energy imports, as a proportion of the total import bill would fall to about 20 per cent from 43 per cent in the initial year of the Plan. Also, between 1980-81 and 1984-85 the dependence on oil imports relative to requirements is expected to drop from about 71 per cent to about 35 per cent. Again, as compared to a little over half of the cost of imports in 1980-81 exports are likely to cover nearly two-thirds by the terminal year of the Plan. Finally, following a declining trend, the current account deficit relative to GDP would drop from 2.2 per cent in 1981-82 to 1.7 per cent in 1984-85.

3.27 To conclude, the assessment of prospects at this stage reveals that there is little likelihood of the emergence of a serious foreign exchange constraint during the rest of the Plan period. But the likely shorfall in exports increases the vulnerability of the balance of payments in the post-Plan period. Accordingly, timely corrective action to birng about a substantial reduction in the trade gap, and so in the current account deficit in 1985-86 and subsequent years will be needed to avert renewed strains in the balance of payments position.

VI. Concluding Observations

3.28 The revisions in the major macro economic variables are presented in Table 1-A column (4). In general, the achievements of the Plan are seen to be very close to all assumptions made during its formulation.

CHAPTER 4

BALANCE OF PAYMENTS

General

Following a relatively short period of adjustment to the first oil crisis there was an overall improvement in the balance of payments situation during the second half of the 1970s. However, the second oil price hike and, to a smaller extent, the severe drought in 1979-80, subjected the external sector to a massive shock, leading to a sudden and serious worsening of the balance of payments situation. The problem was further aggravated by a marked deterioration in the international economic environment characterised by the onset of recessionary trends, near stagnation of world trade, depressed commodity prices, unencouraging outlook for concessional aid, high interest rates and the prospect of harder terms for external assistance as well as conventional borrowing. The Sixth Five Year Plan strategy was, accordingly, designed to help the economy adjust to the disruptions triggered by high oil prices and deteriorating terms of trade without sacrificing output growth and capital formation. Thus, priorities were reoriented to attain a rapid increase in the output of petroleum, coal, fertiliser, cement and metals so as to restrain the growth of bulk imports at a comparatively low cost in terms of domestic resources. Higher growth of exports was sought to be achieved through removal of obstacles to expansion of production for the international market by timely and adequate provision of scarce inputs, including imported materials, intermediates and equipment. At the same time, incentives to exporters were to be suitably restructured in order to insulate exports from the pull of domestic demand. Moreover, pressures on the balance of payments were to be dampened generally through vigorous resource mobilization, easing of infrastructure bottlenecks and maintenance of relative price stability. These structural adjustment measures to narrow the trade gap and to strengthen the balance of payments could, in the nature of the case, become fully effective only over a period of time, and so were expected to be sustained by recourse to other sources of external finance besides anticipated net aid flows. The Government, therefore, entered into an Extended Fund Facility (EFF) arrangement with the IMF for SDR 5 billion, to be provided as balance of payments support for the Sixth Plan adjustment strategy, over a three year period from November 1981 to November 1984.

Balance of payments developments

4.2 The balance of payments situation deteriorated sharply during 1980-81, the first year of the Sixth Plan; the trade deficit more than doubled largely as a result of the setback suffered by exports, steep increase in the demand for imports due to poor performance of the economy, and a severe worsening of the terms of trade. The volume of exports declined by about 1.4 per cent, more as a consequence of unfavourable world market conditions and protectionist barriers than due to infrastructure bottlenecks or shortages of basic inputs. In fact, better access to imports had largely insulated export production from the scarcity of essential materials and inputs, and enabled such non-traditional manufactures as engineering goods, chemicals, gems and jewellery to record rather high real rates of export growth. But other dynamic non-traditional manufactures, such as marine products, leather and leather goods were hit by non-tariff barriers, while the growth of garment exports was constrained by quota restrictions. Handicrafts, particularly handknitted carpets fared badly as a result of slack demand in principal import markets. Among traditional exports, tea, and more so coffee, recorded substantial real growth, reflecting high output and the consequent improved availability for sales abroad. However, increasing competition from synthetics, on the one hand, and Bangladesh, on the other and the resulting erosion of the market for carpet backing led to a steep drop in the volume of exports of jute manufactures. As for cotton textiles, export performance suffered due to a weakening competitive position and inadequate adaptation of the product mix to the changing pattern of world demand.

4.3 The malfunctioning of the economy, particularly stagnant or declining production in such key sectors as crude oil, petroleum products, nitrogenous fertilisers and steel greatly increased the requirements for bulk imports. As a consequence, the volume of bulk imports were up by nearly 18 per cent, with POL and fertilisers alone accounting for over 40 per cent of the addition to the aggregate real inflow of imports. Other imports, which include capital goods, chemicals, plastic materials, pharmaceuticals, fibres, precious and semi-precious stones, also recorded a similar steep increase because of domestic shortages and, to some extent, due to inventory related demand. While the overall volume growth of imports rose to 18 per cent, the accompanying marked worsening of the terms of trade, due mainly to the rise in international energy prices, led to a further widening of the trade gap. The merchandise deficit thus more than doubled to a staggering Rs. 5,849 crores in 1980-81.

4.4 Invisible earnings, however, showed a significant increase, mainly because of a spurt in remittances from expatriate workers, and helped offset well over half of the trade deficit. Even so, the current account deficit amounted to Rs. 2,131 crores, or about 1.7 per cent of GDP. The current account deficit of this magnitude, however, did not create an unmanageable financing problem. Higher net aid, owing mainly to the Trust Fund Loan of Rs. 538 crores, and drawings under the Compensatory Financing Facility of IMF limited the drain on foreign exchange reserves to Rs. 342 crores, a level more or less consistent with Plan projections.

4.5 There was a notable turn around in export performance during 1981-82. The volume of non-traditional exports, such as engineering, chemicals and gems and jewellery continued to expand. Benefiting from a revival of demand, exports of handmade carpets and other handicrafts increased, in real terms, by about 10 per cent, while a much more rapid growth was recorded by exports of processed foods. However, other competitive exports such as leather manufactures and marine products lost their dynamism because of emerging supply constraints, both increasing only marginally in volume terms. The market for garments, another internationally competitive export product, expanded only slightly because of quota restrictions. Among traditional commodities, the tonnage of tobacco exports went up by about 50 per cent, but the volume of cashew kernel declined a little. Furthermore, reduced availability affected the quantum of exports of tea and coffee while major traditional manufactures—jute goods and cotton textiles—continued to lose ground in the world market. However, the overall expansion of export was in marked contrast to the poor performance in 1980-81. Yet, when exports of crude oil* (Rs. 196 crores) are excluded from the recorded total value of exports, the estimated volume growth of 5.1 per cent remained well below the 9 per cent annual average Plan target.

4.6 In contrast to the very sharp increase in the preceding year, the volume of imports (net of POL import counterpart of crude oil exports) actually declined in 1981-82 by over 2 per cent; while bulk imports fell by about 18 per cent, the volume growth rate of other imports increased only marginally over the year. Better all round performance of the economy and sizeable increases in the output of crude oil, fertilisers, steel and cement as well as in power generation and rail freight haulage considerably eased critical shortages and bottlenecks, which, in turn, greatly reduced the demand for bulk imports. POL and fertilizer imports in particular dropped significantly, and together accounted for over 80 per cent of the decline in the volume of bulk imports.

4.7 Despite lower imports and more rapid growth of exports, the trade deficit remained more or less unchanged because of a further deterioration in the terms of trade. And as net invisible earnings are estimated to have fallen sharply, the current account deficit widened to about Rs. 3,250 crores. At the same time, concessional financing fell below the preceding year's level. Consequently, despite a drawal of Rs. 637 crores under the EFF, gross foreign exchange reserves fell by Rs. 1,468 crores.

TABLE 4.1

Balance of Payments—1980—83

	1979-80	1980-81	1981-82	1982-83
	Preliminary		Estimates	
			(Rupees crores current)	
Exports f o b[1]	6418	6711	7606	8000
Imports c i f[1]	—9143	—12560	—13442	—13750
Trade balance	—2725	—5849	—5836	—5750
Invisibles, net[2]	2151	3718	2586	2450
Balance on current account	—574	—2131	—3250	—3300
Memo items :				
1. Beginning year foreign exchange reserves[3]	5220	5164	4822	3354
2. Beginning year reserves as months of import equivalent	6.9	4.9	4.3	2.9

[1] Excluding crude oil exports and crude or POL imports under balancing arrangements in 1981-82 and 1982-83.

[2] Including adjustment in 1979-80 and 1980-81 for the difference between customs and balance of payments trade data.

[3] Exclude valuation changes in 1979-80 and 1980-81.

4.8 A clearer picture of trade flows and export performance in 1982-83 emerges only if, as in the proceeding year, crude oil exports necessitated by the mis-match between domestic crude mix and refining capacity, and the corresponding increase in crude or POL imports, are excluded from merchandise trade estimates. On the whole export performance in 1982-83 was disappointing; and there was no significant increase in the volume of exports (other than crude oil) during the year. The setback to exports is attributable, in the main, to a number of factors : continuing slack demand and competitive disadvantage in the case of traditional and plantation exports such as tea and jute manufactures; recessionary conditions and protective barriers encountered by non-traditional products such as chemicals, leather goods and garments; and supply problems, as in the case of cotton piece goods. The overall export performance would have been worse but for the substantial increase in the volume of other exports like coffee, sugar, marine products, tabcco and raw cotton.

4.9 The volume of bulk imports continued to decline in 1982-83 largely as a result of higher crude oil output, which reached the initial 1984-85 Plan target level of over 21 million tonnes during the year itself, and low rate of growth of offtake of fertilizers even as domestic production recorded a further significant increase. Consequently, despite raising steel imports, the quantum of bulk imports registered a fall of the order of 9 per cent. As regards non-bulk imports, volume growth slackened, with the result that, in real terms, aggregate

*Undertaken during the year to bring about a better balance between the composition of domestic crude output and that of requirements.

imports continued to decline. Accordingly, with the terms of trade improving a little, the trade deficit can be expected to have been smaller than in 1981-82. Even though net invisible earnings might have declined somewhat during the year, the current account balance is likely to have recorded a small increase. Taking into account the drawal of Rs. 1891.00 crores under the EFF as well as other capital inflows, some replenishment of foreign exchange reserves was anticipated by the end of the year; the actual increase in foreign exchange reserves, however, turned out to be of the order of Rs. 900 crores, partly as a result of leads and lags in settlements.

Balance of Payments Prospects

4.10 The Sixth Plan balance of payments prospects have been favourably influenced by a number of developments. The implementation of the adjustment programme to strengthen the balance of payments is unlikely to be constrained by the growth performance of the economy. Real GDP over the first two years of the Plan increased at an average annual rate of about 6 per cent; and despite the setback resulting from poor harvests and slower industrial growth in 1982-83, the pace of growth over the five years ending in 1984-85 may not on average deviate significantly from the 5.2 per cent target. Fiscal and monetary policies succeeded in bringing about a sharp abatement of the rate of inflation. Critical shortages and constraints were greatly eased by sizeable increases after 1980-81 in the output of basic intermediates, including power, coal, steel, cement, fertilizers and crude oil. The accelerated offshore production programme, initiated after the commencement of the Plan, is now expected to raise crude oil production by nearly 12 million tonnes over the target for 1980—85, while the initial output target for 1984-85 has already been attained. Despite rising industrial production and power output, significant reserves of capacity exist for power generation as well as for the manufacture of fertilizers, railway wagons and newsprint. Moreover, additional capacity is slated to go on stream in such key sectors as petroleum refining, fertilizers, steel, aluminium and cement. Finally, international oil prices of late have weakened; and even though the market situation remains unclear, it is becoming evident that international oil prices would continue to be lower than the levels that had earlier been anticipated.

4.11 The balance of payments, however, will continue to be under pressure over the rest of the Plan period partly because of the size of the trade gap itself, and partly due to the operation of certain adverse factors over the past three years. The volume growth of exports, affected as it was, among other things, by persistent recession in industrialised countries and consequent protectionist policies, has remained far below the 9 per cent annual target. Although international price movements are now likely to be less unfavourable, the loss imposed by the deterioration of the terms of trade over the Plan period would, as had been initially expected, remain substantial. Invisible earnings, which had helped finance a sizeable part of the trade deficit in 1980-81 as well as in 1981-82, are estimated to have fallen in 1982-83; and the outlook is unencouraging for subsequent years as well.

4.12 Considering past developments and commodity-wise prospects, the aggregate volume of exports can be expected to increase at an average annual rate of about 7 per cent over the two years ending in 1984-85. However, as a result of the decline in the volume of exports, in 1980-81 and a further setback in 1982-83, exports (net of POL) over the Plan period as a whole may increase on average at an annual rate of only about 4 per cent.

4.13 Over the rest of the Plan period, the volume of imports could be expected to increase on average by 8 per cent annually owing to a number of factors: anticipated higher GDP growth rates following recovery from the drought in 1982-83; step up in real investment in certain key sectors necessitated by the comparatively slow pace of expansion in earlier years; and contingency provision for unforeseen developments such as unfavourable weather or adverse changes in international prices. However, as compared to the 9.5 per cent annual increase envisaged in the Sixth Plan, the likely average growth of imports during 1980—85 may eventually turn out to be only about 6 per cent. Moreover, this deviation from initial projections would be accompanied by a significantly different pattern of import growth. Thus, bulk imports may decline by 4.5 per cent per year during 1980—85 as compared to the projected growth rate of 15.1 per cent, partly because of the declining trend of POL imports over the Plan period. On the other hand, as it now appears, the average annual olume growth of non-bulk imports, including contingency requirements would, if at all, exceed only marginally the 13 per cent Sixth Plan forecast for the five years ending in 1984-85.

4.14 As it appears, the terms of trade would be less unfavourable during the rest of the Plan period. Consequently, the loss resulting from adverse terms of trade during 1983-85 would be smaller than the one actually suffered during the first three years of the Sixth Plan. Even so, because of the serious worsening of the terms of trade in the earlier years, the loss from adverse international price movements over the Plan period may not differ significantly from initial projections.

4.15 According to present indications, net invisible earnings would be declining in real terms during the last two years of the Plan. All the same, taking the five years 1980—85 together, net receipts from invisibles would significantly exceed the Sixth Plan projections, due particularly to the larger than expected level of expatriate remittances.

4.16 The overall balance of payments outlook for 1980—85 emerging from the present reassessment of prospects does not materially differ from the Sixth Plan projections in constant prices. The substantial shortfall in exports would be compensated more or less by greater import savings and higher net invisible receipts, with the result that the current account deficit in 1979-80 prices would not, allowing for the margin of error to which such projections are subject, diverge significantly from the initial Sixth Plan estimates. Even as regards net aid and other external borrowings the Sixth Plan assumptions do not, in retrospect, appear to have been unrealistic, so that gross foreign exchange reserves are unlikely to decline more than had been projected.

BALANCE OF PAYMENTS PROJECTIONS 1980—85
(Rs. crores in 1979-80 prices)

	Sixth Plan	Revised
Exports	41078	34903
Imports	58851	55392
Balance of Trade	—17773	—20489
Invisibles	8710	10854
Current Account (Net)	—9063	—9635
Depletion of Resources due to terms of trade deterioration	—2913	—2947

4.17 The adjustment strategy adopted in the Sixth Plan has been successful in bringing about a significant improvement in the structure of the balance of payments despite setbacks caused by an unfavourable economic environment and the severe drought of 1982-83. A few key indicators reveal the nature and extent of adjustment likely to be accomplished over the Sixth Plan period. Thus, by 1984-85 the cost of energy imports, as a proportion of the total import bill would fall to about 20 per cent from some 43 per cent in the initial year of the Plan. Also, between 1980-81 and 1984-85 the dependence on oil imports relative to requirements is expected to drop from about 71 per cent to only about 35 per cent. Again, as compared to a little over half of the cost of imports in 1980-81, exports are likely to cover nearly two thirds of it by the terminal year of the Plan. Finally, following a declining trend, the current account deficit relative to GDP would drop from 2.2 in 1981-82 to 1.7 per cent in 1984-85.

Balance of Payments 1980—85
Selected Indicators of Structural Adjustment

	Ratio of exports to imports	Share of POL in imports	POL imports consumption ratio	Current account deficit-GDP ratio
		(Per cent)		
1980-81	53.4	42.6	71.3	1.7
1981-82	56.6	37.1	58.5	2.2
1982-83	58.2	32.6	47.8	2.1
1984-85 (Projections)	64.7	20.2	34.9	1.7

4.18 All the same, the revised projections reveal some critical areas for corrective action. Given the comparatively uncertain nature of invisible earnings, the shortfall in exports increases the vulnerability of the balance of payments in the Post-Plan period. In fact, the unencouraging outlook for exports emerges as a major weakness of the adjustment programme. Since recourse to the EFF will cease after the Sixth Plan period, while the debt service payment would grow more sharply until about the end of the present decade, the longer run viability of the balance of payments would depend crucially on a substantial reduction in the trade gap, and thus in the current account deficit in 1985-86 and subsequent years. For, otherwise increased reliance on commercial borrowings would raise the debt service burden to excessive levels, an outcome which could be avoided only by cutbacks in imports and consequent slackening of the tempo of growth and development. Accordingly, a coordinated set of policy measures as also some re-orientation of investment priorities will be required not only for the management of the balance of payments until 1984-85, but also to facilitate accelerated structural adjustment in the post-Plan period.

4.19 In the first place, the foreign trade policy framework will need to be fully restructured in consonance with the approach outlined in the Sixth Plan so as to induce well-equipped manufacturers and merchant houses to plan for a sustained and rapid growth of export sales. This implies, in effect, the creation of a policy environment which generates stable expectations about the long-run profitability of exports, does not discriminate between different types of exports except when warranted by intractable supply constraints or inflexible export demand, and ensures exporters incentives and facilities at least comparable to those extended to production for the domestic market. The policy problem thus is far more basic than one of periodic adjustments in response to short-term developments. Since the full impact of policy changes may be felt after a time lag of, say, two to three years, appropriate measures will have to be initiated early enough to lay the basis for a sustained and more rapid growth of exports during the second half of the 1980s.

4.20 Secondly, the balance of payments tends to be sensitive to the performance of infrastructure and basic industries such as rail transport, power generation, steel, fertilizers, cement, coal and crude oil. The decline in the volume of bulk imports during 1981-82 and 1982-83 was made possible by the rise in output of most of these sectors, particularly by the marked increase in crude oil production. In order, therefore, to restrain the growth of bulk imports, and of imports generally, import substitution will have to be sustained by more rapid growth of non-oil sectors, through better management, avoidance of industrial unrest, timely supply of equipment or other inputs and continuous monitoring of performance. Moreover, it might also become necessary to modify investment priorities to ensure a relatively larger allocation of resources to these sectors.

4.21 Thirdly, pressures on the balance of payments can be relieved directly, and within a comparatively short period of time, through more intensive resource mobilization. Any reduction in the shortfall in public savings achieved through appropriate fiscal, pricing and interest rate policies, would also lower foreign borrowing, in the form of non-concessional aid, conventional loans and suppliers' credits, to finance the local cost component of priority investment projects.

4.22 Finally, measures to speed up balance of payments adjustment would also require effective demand management. Therefore, the existing strict fiscal and credit policies will need to be maintained barring such selective relaxation as may become necessary to sustain the pace of expansion in specific segments of the economy.

4.23 The policy measures outlined above could be expected to ensure continued access to imports of critical materials, intermediates and equipment for the modernization as well as optimal utilization of existing productive capacities without excessive foreign borrowings on commercial terms. Nevertheless, import policy should be administered in a flexible manner permitting such selective curbs on imports as might become necessary from time to time to prevent disruption of domestic production due to dumping at exceptionally low prices.

4.24 To conclude, the assessment of the balance of payments outlook at this stage reveals that the pressure emerging in the wake of the second oil shock in 1979-80 have been contained. Also, there is little likelihood of serious foreign exchange constraints during the rest of the Plan period. However, the Indian economy will still have to cope with strains on the balance of payments during the second half of 1980s, but these difficulties can be overcome by initiating corrective action well in time.

TABLE 1

Physical Targets of Production for Principal Commodities/Services

Sl. No.	Item	Unit	1979-80	1984-85 Sixth Plan Projections	1984-85 Mid-term Estimates
1	2	3	4	5	6
1.	Foodgrains	Mill. tonnes	109	149—154	146—148
2.	Sugarcane	Mill. tonnes	128	200—215	190—19
3.	Jute and Mesta	Lakh bales	80.3	91.0	91.0
4.	Oilseeds (five major)	Lakh tonnes	81	110	110
5.	Cotton	Lakh bales	77	92	90.92
6.	Tea	Mill. Kgs.	550	705	705
7.	Coffee	Mill. Kgs.	150.00	159.45	159.45
8.	Milk	Mill. tonnes	30.27	38	38
9.	Eggs	Mill. Nos.	12320	16300	14000
10.	Coal	Mill. tonnes	103.96	165.00	154
11.	Lignite	Mill. tonnes	3.12	8.00	8.00
12.	Crude Petroleum	Mill. tonnes	11.77	21.6	27.52
13.	Iron ore and concentrates	Mill. tonnes	39	60	45.0
14.	Sugar	Mill. tonnes	3.9	7.6	7.64
15.	Vanaspati	'000 tonnes	626	900	950
16.	Cloth (Mill and decentralised sector)	Mill. metres	10435	13030	13000
17.	Jute Manufactures	Thousand tonnes	1336	1500 to 1540	1500
18.	Paper and Paper Board	Thousand tonnes	1050	1500	1500
19.	Newsprint	Thousand tonnes	47.45	180	200
20.	LD Polyethylene	Thousand tonnes	71.3	100	105
21.	H.D. Polyethylene	Thousand tonnes	25.4	27.0	35.0
22.	P.V.C.	Thousand tonnes	49.9	128.0	120
23.	Natural Rubber	Thousand tonnes	148.47	200.0	200.0
24.	Synthetic Rubber (SBR & PBR)	Thousand tonnes	30.3	45	42
25.	Petroleum Products (including lubricants)	Mill. tonnes	25.8	35.3	39.26
26.	Sulphuric Acid	Thousand tonnes	2131	3600	2600
27.	Caustic Soda	Do	549.6	850	775
28.	Soda Ash	Do	555.8	850	720
29.	Polypropylene	Do	13.4	27.0	27.0
30.	Caprolactam	Do.	13.5	18.0	18.0
31.	D.M.T.	Do.	27.9	56.0	65.0
32.	Nitrogenous Fertilizers (N)	Do.	2226	4200	4100
33.	Phosphatic Fertilizers (P_2O_5)	Do.	757	1400	1300
34.	Nylon Filament Yarn	Do.	17.7	28.0	28.0
35.	Polyester Filament Yarn & Staple Fibre	Do.	32.6	73.0	75.0
36.	Cement	Mill. tonnes	70.68	34 to 34.5	34.5
37.	Pig Iron for sale	Do.	1.09	1.52	1.47
38.	Saleable Steel (Plain Carbon)	Do.	7.38	11.51	10.90
39.	Aluminium	'000 tonnes	192	300	260
40.	Copper Refined	Do.	18.8	45.0	40.0
41.	Zinc	Do.	52.65	85.00	70.0
42.	Lead	Do.	11.4	25.0	25.0
43.	Agricultural Tractors	'000 Nos.	62.5	100.0	100.0
40.	Machine tools	Rs. million	1633	2500	3500
45.	Hydro Turbines	Mill. KW	0.95	1.20	1.20

Sl. No.	Item	Unit	1979-80	1984-85 Sixth Plan Projections	1984-85 Mid-term Estimates
1	2	3	4	5	6
46.	Thermal Turbines	Mill. KW	2.28	3.50	3.50
47.	Electric Transformers	Mill.KV	18.7	35.00	25.00
48.	Commercial Vehicles	'000 Nos.	57.4	105.00	120.00
49.	Electricity Generation	Billion KWH	112	191	170
50.	Railways Originating Traffic	Million tonnes	217.8	309	280 to 285
51.	Irrigation :				
	(a) Additional Potential	Mill. Hecs	56.50	13.74	11.45
	(b) Additional utilisation	Do.	52.32	13.60	11.50 to 12

TABLE 1-A

Selected Macro-Economic Indicators

Sl. No.	Indicator	1979-80 (actual)	Plan 1984-85	1984-85 (Revised)
Growth Rates (%)				
1.	Gross Domestic Product at factor cost		5.20	4.98
2.	Private Final Consumption Expenditure		4.69	3.14
3.	Gross Domestic Capital Formation		9.27	7.16
4.	Import of Goods		7.89**	6.0
5.	Export of Goods		9.0	3.9
Ratios and Propensities (%) *				
1.	Saving Ratio	22.5	24.48	24.00
2.	Ratio of Current Account Balance to Investment over the Plan period (Balance of Payments)		5.71	6.34
3.	Marginal propensity to save over the Plan period	—	33.73	29.42
4.	Marginal propensity to consume over the Plan period	—	64.37	67.32
5.	Import elasticity (Merchandise) over the Plan period	—	1.27	1.20
6.	Imports to GDP (Market Prices) ratio	8.54	8.77	8.97

**All ratios and propensities are with respect to GDP at 1979-80 market prices.
**Excluding contingency imports.

TABLE 2

G.D.P. at Factor Cost and its Growth by Sectors

(Rs. crores at 1979-80 prices)

Sectors	1979-80	1980-81	1981-82	1984-85** Target	1984-85** Revised
1	2	3	4	5	6
1. Agriculture	32567	36778 (12.93)	38057 (3.48)	39566 (3.97)	39414 (3.89)
2. Forestry & Logging	1028	1012 —(1.58)	993 —(1.88)	1036 (0.16)	1036 (0.16)
3. Fisheries	774	784 (1.26)	774 —(1.28)	930 (3.73)	930 (3.73)
4. Mining & Quarrying	1515	1573 (3.83)	1791 (13.89)	2582 (11.25)	2713 (12.36)
5. Manufacturing	16989	17473 (2.85)	18479 (5.76)	23276 (6.50)	23080 (6.32)
6. Construction	4658	4747 (1.91)	4961 (4.51)	5973 (5.10)	5613 (3.80)
7. Railways	1105	1137 (2.93)	1231 (8.31)	1547 (6.96)	1439 (5.42)
8. Electricity, Gas & Water Supply	1701	1801 (5.89)	1995 (10.75)	2403 (7.15)	2198 (5.20)
9. Other Transport	3884	4173 (7.44)	4476 (7.26)	5336 (6.56)	5336 (6.56)
10. Communication	760	817 (7.55)	862 (5.48)	1021 (16.08)	1021 (6.08)

Sector	1979-80	1980-81	1981-82	1984-85 **	
				Target	Revised
1	2	3	4	5	6
11. Trade, Hotels & Restaurants	13941	14702 (5.46)	15475 (5.26)	19020 (6.41)	18100 (5.36)
12. Banking & Insurance	2869	2878 (0.31)	3025 (5.11)	3889 (6.27)	3400 (3.45)
13. Real Estate & Ownership of Dwellings	3679	3787 (2.93)	3901 (3.01)	4852 (5.69)	4263) (2.99
14. Other Services	9400	10386 (10.46)	11386 (9.63)	11229 (3.62)	12442 (5.77)
15. Total :	94870	102048 (7.57)@	107406 (5.25)	122660 (5.27)*	120985 (4.98)

Note :—Figures in brackets are growth rates over the previous year.

**Bracket figures are growth rates 1984-85/1979-80.

*Different from Plan growth rate of 5.2 per cent because of difference in weights in the light of CSO's revision of GDP for 1979-80.

@ Different from CSO 1970-71 price growth rate because of difference in weights at 1979-80 prices.

TABLE 3

Public Sector Outlay according to Plan Heads

(Rs. crores at current prices)

	1979-80 Actual	1980-81 Actual	1981-82 Actual	1982-83[1]	1983-84 Plan Outlay	1980-84	1980-85 Plan (at 1979-80 prices)	Percentage Expenditure 1980-84/ 1980-85 (Plan)
	1	2	3	4	5	6	7	8
1. Agriculture	783.27	981.54	1129.43	1248.79	1397.73	4757.49	5695.07	83.777
2. Rural Development	708.77	1040.19	1100.85	1234.41	1278.73	4654.18	5363.73	86.77
3. Special Area Programme	173.13	206.41	258.47	320.64	362.50	1148.02	1480.00	77.57
4. Irrigation and Flood Control	1665.97	1777.30	1948.44	2144.01	2464.06[3]	8333.81	12160.03	68.53
5. Energy	**3005.07**	**3828.01**	**5064.86**	**6737.00**	**8323.36**	**23953.23**	**26535.44**	**90.27**
(i) Power	2240.53	2656.84	3182.24	3821.38	4532.19	14192.65	19265.44	73.67
(ii) New & Renewable sources of energy	1.46	4.26	13.91	19.80	30.00	67.97	100.00	67.97
(iii) Petroleum	484.21	735.17	1204.79	2023.66	2815.00	6778.62	4300.00	157.64
(iv) Coal	278.87	431.74	663.92	872.16	946.17	2913.99	2870.00	101.53
6. Industry & Minerals	**1876.08**	**2194.45**	**2777.93**	**3021.51**	**3492.51**	**11486.40**	**15017.57**	**76.49**
(i) Village & Small Scale industry	255.69	273.16	322.91	324.51[4]	411.18	1331.76	1780.45	74.80
(ii) Large & Medium industry	1620.39	1921.29	2455.02[2]	2697.00[2]	3081.33[2]	10154.64[2]	13237.12	76.71
7. Taansport	**1722.72**	**2162.96**	**2583.12**	**2727.96**	**3033.57**	**10507.61**	**12411.97**	**84.66**
(i) Railways	714.28	973.00	1210.00	1331.95	1342.25	4857.20	5100.00	95.24
(ii) Road & Road Transport	668.59	829.46	934.68	871.76	1004.21	3640.11	4634.51	78.54
(iii) Other transport	339.85	360.50	438.44	524.25	687.11	2010.30	2677.46	75.08
8. Communications	330.62	356.75	576.13	607.87	704.49	2245.24	3134.26	71.6
9. Science & Technology	89.89	97.40	148.26	215.89	238.71	700.26	865.20	80.94

(Rs. crores at current prices)

	1979-80 Actual	1980-81 Actual	1981-82 Actual	1982-83[1]	1983-84 Plan outlay	1980-84	1980-85 Plan (at 1979-80 prices)	Percentage Expenditure 1980-84/ 1980-85 (Plan)
	1	2	3	4	5	6	7	8
10. **Social Services**	**1548.03**	**2074.65**	**2487.15**	**2953.21**	**3682.10**	**11197.11**	**14035.26**	**79.78**
(i) Education	262.96	339.54	435.64	537.55	686.44	1999.17	2523.74	79.21
(ii) Health & Family Planning	341.66	411.52	530.43	682.99	798.02	2422.96	2831.05	85.59
(iii) Housing & Urban Development	392.77	477.34	488.13	538.84	650.83	2155.14	2488.40	86.61
(iv) Other Social Services	550.64	846.25	1032.95	1193.83	1546.81	4619.84	6192.07	74.61
11. Others	72.98	112.78	136.21	145.36	202.56	596.91	801.47	74.48
12. Special Incentives	—	—	—	—	300.00	300.00	—	—
13. **Total**	**12176.53**	**14832.44**	**18210.85**	**21356.65**	**25480.32**	**79880.26**	**97500.00**	**81.93**
14. Central Assistance against Natural calamities		191.00	162.00	372.00	—	725.00		

[1] Figures for Central Plan 1982-83 are based on R.E. 1982-83 and anticipated expenditure for States and U.Ts. as circulated by the State Plans Division.

[2] Includes outlay/expenditure for Export-Import Bank of India and Share capital to Nationalised Banks.

[3] A provision of Rs. 0.11 crore for Manipur on account of Command Area Development has been included under Agriculture.

[4] Excludes Rs. 5.82 crores for Madhya Pradesh and Rs. 0.24 crore for Chandigarh which have been reflected in the figure for Large and Medium Industries.

TABLE 4

Investment for the economy as a whole and Public Sector Plan Investment

(Rs. crores at 1979-80 prices)

Year	Total	Public Sector
1979-80	24678	10490
1980-81	27133	11491
1981-82	29255	12305
1980-81 & 1981-82	56388 (35.53)	23796 (28.33)
1982-83	28125	13131
1980-81 to 1982-83	84513 (53.25)	36927 (43.96)
Sixth Plan (1980-85)	158710 (100.00)	84000 (100.00)

Figures in brackets are the percentages to the total plan investment (1980-85).

TABLE 5

Own Resources and Investment of Public Sector

(Rs. crores at current prices)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1980-85 (1979-80 prices)
1	2	3	4	5	6	7	8
1. Own Resources of which	4026	5015	4301	4819	7567	8821	45175
(i) Balance from current revenue	2604	3317	2783	3285	4115	5238	26930
(ii) Contribution of public enterprises	1422	1698	1518	1534	3452	3583	18245
2. Total Domestic Savings	19235	23797	24098	28068	33627	35998	149647
3. Public Sector Investment	8341	9607	10490	12780	15690	18410	84000
4. Ratio of own resources of Public sector and its investment (percent)	48.27	52.20	41.00	37.71	48.23	47.91	53.78
5. Ratio of public sector own resources to total domestic saving (percent)	20.93	21.07	17.85	17.66	21.55	24.67	30.19

TABLE 6

Resources for Public Sector Plan Outlay

(Rs. crores at current prices)

	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	1	2	3	4	5	6
1. Revenue Receipts	**18264**	**20905**	**22764**	**25712**	**30327**	**35237**
(i) Tax Revenue	13215	15491	17296	19888	24113	28252
(ii) Non-Tax Revenue	5049	5414	5468	5824	6214	6985
2. Total Expenditure	**15660**	**17588**	**19981**	**22427**	**26212**	**29999**
(i) Non-Development expenditure	8043	8983	9983	12845	14125	16329
(ii) Non-Plan Development expenditure	7617	8605	9998	9583	12087	13670
3. Balance from current Revenues	2604	3317	2783	3285	4115	5238
4. Market Borrowing	1387	1857	2147	3160	3700	4705
5. Draft on other Private savings	2059	2542	2129	1644	3073	3498
6. Contribution by Public enterprises	1422	1698	1518	1534	3452	3583
7. Net External Assistance	738	728	939	1719	1352	1724
8. Budgetary Deficit	1016	631	2661	3490	2519	2608
9. Plan Expenditure including UTs	**9226**	**10773**	**12177**	**14832**	**18**	**2135**

Note : Draft on other private savings includes State provident funds, small savings, compulsory deposits, term loans from financial institutions, miscellaneous capital receipts etc.

TABLE 7

Plan Outlay & Resources Raised

(Rs. crores)

Plan Outlay	1980-81			1981-82		
	Centre/ UTs	States	Total	Centre/ UTs	States	Total
Plan Outlay	**7305**	**7527**	**14832**	**9545**	**8666**	**18211**
Financed from						
(i) Total Domestic Budgetary Resources	5980	3834	9814	9881	4621	1450[2]
(ii) Net External Aid	1181	—	1181	1352	—	1352
(iii) Loan from IMF Trust Fund	538	—	538	—	—	—
(iv) Budgetary Deficit	2577	913	3490	1392	1127	2519
(v) Central Assistance for State Plans	—2971	+2971	—	—3080	+3080	—
(of which, relief assistance)	(191)	—(191)	—(191)	(162)	—(162)	—(162)
	7305	**7527**	**14832**	**9545**	**8666**	1821
	1982-83			1983-84		
	Centre/ UTs	State	Total	Centre/ UTs	States	Total[1]
Plan Outlay	**12018**	**9338**	**21356**	**14351**	**11130**[1]	**25481**
Financed from						
(i) Total Domestic Budgetary Resources	12224	5172	17396	14625	7289	21914
(ii) Net External Aid	1724	—	1724	1940	—	1940
(iii) Loan from IMF Trust Fund	—	—	—	—	—	—
(iv) Budgetary Deficit	1935[2]	673	2608	1687	—	1687
(v) Central Assistance for State Plans	—3865	+3865	—	—3901	+3901	—
(of which, relief assistance)	(372)	—(372)	—(372)	(60)	—(60)	—(60)
	12018	**9338**	**21356**	**14351**	**11130**	**2548**[1]

[1] Excludes outlay on REC Programmes.

[2] Excludes Rs. 1743 crores given as loans to States for clearing their over-drafts with RBI, as on 31-3-82.

TABLE 8

Estimates of Financial Resources for the Plan in the Public Sector for 1980-81

(Rs. crores)

1	Annual Plan Estimates Centre* 2	States 3	Total 4	Actuals Centre* 5	States 6	Total 7
A. Plan Outlay	**7695**	**7414**	**15109**	**7305**	**7718**	**15023**
B. Financing of the Plan						
I. Domestic resources at 1979-80 rates of taxes, freights & tariffs :						
1. Balance from current revenues	483	2028	2511	691	1971	2662
Internal resources of public Enterprises	1770	246	2016	1411	—180	1231
(i) Railways	212	—	212	351	—	351
(ii) Posts & Telegraphs	342	—	342	210	—	21
(iii) Others	1216	246	1462	850	—180	6700
3. Market borrowings of Government Public Enterprises & Local Bodies	2500	570	3070	2579	581	3160
4. Small Savings	385	367	667	409	712	1121
5. State Provident Funds	300	715	1100	247	344	618
6. Term loans from financial institution	—	435	435	—	438	348
7. Misc. Capital Receipts (net)	699	—549	150	115	—457	—432
Total I	**6137**	**3812**	**9949**	**5479**	**3409**	**8888**
II. Additional Resource Mobilisation						
(a) Centre : 1980-81 Measures	1018	59	1077	501	61	562
(b) States : 1980-81 Measures	—	402	402	—	364	364
Total : II	**1018**	**461**	**1479**	**501**	**425**	**926**
III. Total Domestic Budgetary Resources (I+II)	**7155**	**4273**	**11428**	**5980**	**3834**	**9814**
IV. External Assistance (Net)	1252	—	1252	1181	—	1181
V. Loan from IMF Trust Fund	540	—	540	538	—	538
VI. Budgetary Deficit	1445	277@	1722	2577	913	3490
VII. Aggregate Resources	**10392**	**4550**	**14942**	**10276**	**4747**	**15023**
VIII. Assistance to State Plans	—2547	2864£	317	—2971	2780	
IX. Assistance to States for relief on account of Natural Calamities	—150	—	—150	—	191	
X. Resources for the Plan	**7695**	**7414**	**15019**	**7305**	**7718**	**1592**

(a) Represents withdrawal from Reserves.
£Represents actual allocation made by the Planning Commission on the basis of Plan Outlays financed in July-August,1980.
*Inclusive of Union Territories.

TABLE 9

Estimates of Financial Resources for the Plan in the Public Sector for 1981-82

(Rs. crores)

1	Annual Plan Estimates Centre 2	States 3	Total 4	Actuals Centre 5	States 6	Total 7
A. Plan Outlay	**8946**	**8471**	**17417**	**9645**	**8828**	**18373**
B. Financing of the plan						
I. Domestic resources at 1979-80 rates of taxes, fares, freights & tariffs						
1. Balance from current revenue	385	2255	2640	523	2033	2551
2. Internal Resources of Public Enterprises	**1808**	**—73**	**1735**	**1549**	**—713**	**836**
(i) Railways	196	—	196	368	—	368
(ii) Posts & Telegraphs	409	—	409	251	—	251
(iii) Others	1203	—73	1130	930	—713	217

1	2	3	4	5	6	
3. Market borrowings of Govt. Public enterprises and local bodies	2800	782	3582	2913	787	370
4. Small Savings	460	790	1250	517	882	139
5. State Provident Funds	320	373	693	298	307	60
6. Term loans from financial institutions	—	481	481	—	446	44
7. Miscellaneous Capital Receipts (Net)	1795	—405	1390	1479	—694	78
Total : I	**7568**	**4203**	**11771**	**7284**	**3408**	**1033**
II. Additional Resources Mobilisation						
(a) Centre : 1980-81 Measures	1056	84	1140	1145	92	123
1981-82 Measures	454	—75	379	1452	—75	137
(b) States : 1980-81 Measures	—	507	507	—	662	66
1981-82 Measures	—	752	752	—	894	89
Total : II	**1510**	**1261**	**2778**	**2597**	**1573**	**4170**
III. Total Domestic Budgetary Resources (I+II)	**9078**	**5471**	**14549**	**9181**	**4621**	**1450**
IV. External Assistance (Net)	1379	—	1379	1352	—	135
V. Loan from IMF Trust Fund	—	—	—	—	—	
VI. Budgetary Deficit	1539	—	1539	1392	1127	251
VII. Aggregate Resources	**11996**	**5471**	**14457**	**12652**	**5748**	**18**
VIII. Assistance of State Plans	—3000	3000	—	—2918	2918	—
IX. Advance Plan assistance to States for relief against natural calamities	—50	—	—50	—162	+162	—
X. Resources for the Plan	**8946**	**8471**	**17417**	**9545**	**8828**	**18373**

TABLE 10

Estimates of Financial Resources for the Plan in the Public Sector for 1982-83 :

(Rs. in crores)

	Annual Plan Estimates			Latest Estimates		
	Centre*	States	Total	Centre*	States	Total
1	2	3	4	5	6	7
A. Plan Outlay	11394	9540[1]	20934	12018	9710	21728
B. Financing of the Plan						
I Domestic resources at 1979-80 rates of taxes, fares, freights & tariff s						
1. Balance from current revenues	—62	1710	1648	—688	1297	609
2. Internal resources of Public Enterprises	**2423**	**—939**	**1484**	**2731**	**—1328**	**1403**
(i) Railways	110	—	110	191	—	191
(ii) Posts & Telegraphs	331	—	331	242	—	242
(iii) Others	1982	—939	1043	2298	—13282	970
3. Market borrowings of Govt. Public Enterprises & Local Bodies	3200	904	4104	3800	905	4705
4. Small Savings	500	930	1430	450	1100	1550
5. State Provident Funds	330	434	764	480	469	949
6. Term Loans from financial institutions	—	523	523	—	535	535
7. Misc. Capital Receipts (net)	1479	—408	1071	14913	—6553	—836
Total : I	**7870**	**3154**	**11024**	**8264**	**2323**	**10587**
II. Addl. Resources Mobilisation						
(a) Centre : 1980-81 Measures	1195	92	1287	1052	97	1149
1981-82 Measures	2268	—83	2185	2095	—81	2014
1982-83 Measures	528	54	582	813	53	866
(b) States 1980-81 Measures	—	796	796	—	770	770
1981-82 Measures	—	1390	1390	—	1327	1327
1982-83 Measures	—	656	656	—	683	683
Total : II.	**3991**	**2905**	**6896**	**3960**	**2849**	**6809**

1	2	3	4	5	6	
III. Total Domestic Budgetary Resources (I—II)	**11861**	**6059**	**17920**	**12224**	**5172**	**17396**
V. External Assistance (Net)	1669	—	1669	1724	—3	1724
V. Budgetary deficit	1371	—	1371	1935[3]	673	2608
VI. Aggregate Resources	**14901**	**6059**	**20960**	**15883**	**5845**	**21728**
VII. Assistance for State Plans	—3407	3481	74	—3865	3865	
VIII. Advance plan assistance to States for relief against natural calamities	—100	—[2]	—100			
IX. Resources for the Plan	**11394**	**9540**	**20934**	**12018**	**9710**	**21728**

1. Excludes lump sum provision of about Rs. 55 crores for REC Programmes, the State-wise break-up of which is not available.
2. Includes the finally approved outlay of Rs. 490 crores for West Bengal against Rs. 638 crores as finalised in Annual Plan 1982-83 discussions.
3. Excludes Rs. 1743 crores of loans given by the Centre to the States to clear the deficit with the RBI as on 31-3-1982.

*Inclusive of Union Territories.

TABLE 11

Estimates of Financial Resourcces for the Plan in the Public Sector for 1983-84

(Rs. crores)

	Annual Plan Estimates		
	Centre*	States	Total
1	2	3	4
A. Plan Outlays	14351	11130	25481
B. Financing of the Plan			
I. Domestic Resources at 1979-80 rates of taxes, fares, freights and tariffs			
1. Balance from current revenues	—1648	1723	75
2. Internal resources of public enterprises	3710	—1537	2173
(i) Railways	—56	—	—56
(ii) Posts & Telegraphs	238	—	238
1. (iii) Others	3528	—1537	1991
3. Market borrowings of Govt. Public Enterprises & Local Bodies	4000	1109	5109
4. Small Savings	600	1100	1700
5. State Provident Funds	330	481	811
6. Term loans from financial institutions	—	575	575
7. Misc. Capital, Receipts (Net)	2111	—521	1590
8. others	—	—29**	—29
TOTAL	**9103**	**2901**	**12004**
I. Addl. Resources Mobilisation			
(a) Centre : 1980-81 measures	1000	112	1112
1981-82 measures	2003	—86	1917
1982-83 measures	1667	117	1784
1983-84 measures	953	97	1050
(b) States : 1980-81 measures	—	858	858
1981-82 measures	—	1482	1482
1982-83 measures	—	978	978
1983-84 measures	—	830	830
TOTAL—II	**5623**	**4388**	**10011**
III. Total Domestic Budgetary Resources (I+II)	**14726**	**7289**	**22015**
IV. External Assistance (Net)	1940	—	1940
V. Deficit Financing	1586	—	1586
VI. Aggregate Resources	**18252**	**7289**	**25541**
VII. Assistance to the State Plans	—3841	3841	—
VIII. Assistance to States for relief on account of natural calamities	—60	—	—60
IX. Resources for the Plan	**14351**	**11130**	**25481**

*Inclusive of Union Territories.

**Adjustment of 1982-83 Deficit of Two States.

TABLE 12

Balances of Payments—1980-83

(Rs. crores at current prices

	1979-80 Preliminary	1980-81	1981-82 Estimates	1982-83
(1)	(2)	(3)	(4)	(5)
Exports f.o.b.[1]	6418	6711	7606	800
		(6331)	(6826)	(6689
Imports c.i.f.[1]	9143	12560	13442	1375
		(10790)	(10465)	(10440
Trade Balance	−2725	−5849	−5836	−575
		(−4459)	(−3811)	(−3751
Invisibles, net[2]	2151	3718	2586	245
alance on current account	**−574**	**−2131**	**−3250**	**—330**
Memo items				
1. Beginning year reserves[3]	5220	5164	4822	33
2. Beginning year reserves as months of import equivalent	6.9	4.9	4.3	2.

1. Excluding crude oil exports and POL imports under balancing arrangements in 1981-82 and 1982-83.

2. Including adjustment in 1979 -80 and 1980-81 for the difference between customs and balance of payments trade data.

3. Exclude valuation changes in 1979-80 and 1980-81.
Figures in brackets are estimates at constant prices (1979-80).

TABLE 13

Sectoral Employment in 1979-80 *and* 1984-85

(In million Standard Person Years

Sr. No.	Sector	1979-80	1984-85 (Sixth Plan)	1981-82	Addition in Sixth Plan)	Achievement upto 1981-82	Addition i the Sixth Plan (Revised)
1	2	3	4	5	6	7	8
1.	Agriculture*	80.331	95.251	85.292	14.920	4.961	14.15
2.	Mining & Quarrying	0.724	0.894	0.773	0.170	0.049	0.27
3.	Manufacturing	22.012	27.759	23.209	5.747	1.297	5.54
4.	Construction	9.286	11.321	9.764	2.035	0.478	0.97
5.	Electricity, Gas & Water Supply	0.723	0.927	0.779	0.204	0.056	0.36
6.	Railways	1.662	1.704	1.675	0.042	0.013	0.18
7.	Other Transport	7.109	8.677	7.995	1.568	0.886	1.04
8.	Communications	0.800	0.917	0.848	0.117	0.048	0.18
9.	Others**	28.463	37.939	32.621	9.476	4.158	9.71
	TOTAL	**151.110**	**185.389**	**162.956**	**34.279**	**11.846**	**32.44**

*Including forestry, logging and fishing.

**Include Trade, storage and warehousing, banking and insurance, real estate and ownership of dwellings, other services and empl ment generation in IRDP and NREP.

PART II

8 PC/83—5.

CHAPTER 5

AGRICULTURE & ALLIED SECTORS

The Sixth Plan aims at a compound annual growth rate of 3.83 per cent in the gross value added in agriculture and over 5 per cent per annum in value of gross output. To achieve these goals and the stated Plan objectives, the main strategy for crop production during the Sixth Plan period is based on a steady growth of foodgrains production, substantial increase in pulses production, self-sufficiency in oilseeds and increased production of export oriented crops like tea, coffee, tobacco, spices etc. A measure thrust in agricultural research and education would be on dry land farming, scientific land and water management, recycling of organic matter, energy management, improvement in productivity of crops like pulses and oilseeds, development of technology against pests and deseases risk-distribution agronomy, post harvest technology, agro-forestry and agro-meteorology etc. Increasing the irrigation potential by an additional nearly 14 million hectares (mHa), improving utilisation of potential by 13.6 mHa, extension of HYV and a major increase in fertilizer consumption are also part of the agricultural production strategy.

5.2 Table 5.1 below indicates the targets of crop production and inputs for the Sixth Five Year Plan alongwith the base level, and the overall achievement over the first three years of the Plan :

TABLE 5.1

Agri ultural Targets and Production

Sl. No.	Crop/Item	Unit	Assumed base level 1979-80	Sixth Plan Target 1984-85	Actual 1980-81	Actual 1981-82	Anticipated 1982-83	Target 1983-84
1	2	3	4	5	6	7	8	9
I.	**Production**							
1.	Foodgrains	Mill. tonnes	127.86	153.60	129.59	133.06	126.8	142
2.	Oil Seeds	,,	10.20	13.00	9.38	12.06	10.8	12.5
3.	Sugarcane (cane)	,,	175.80	215.00	154.2	183.6	183.6	180—185
4.	Cotton	Mill. bales	7.34	9.20	7.01	7.83	8.0	8.2—8.5
5.	Jute & Mesta	Mill. bales	7.54	9.08	8.16	8.40	7.17	8.2—8.5
6.	Wool	Mill. Kg.	34	39	34.2	35.5	36.75	37.9
7.	Milk	Mill. tonnes	30	38	31.5	33	34.6	36.2
II.	**Physical Programmes**							
8.	Gross cropped Area	Mill. Hectares	171.11	181.00				
9.	HYV	Mill. Hectares.	35.20	56.00	43.05	46.50	47.68	52
10.	Fertilizer Consumption (NPK)	Lakh tonnes	52.60	96.50	55.16	60.64	64.18	72
11.	Pesticides (Technical Grade Matl.)	Thou. tonnes	60.00	80.00	53.30	61.20	61	72
12.	Seeds (Certified)	Lakh Quintals	13.71	54.00	25	29.8	42	
III.	**Irrigation**							
13.	(i) Major & Medium	Mill. Hectares	22.32	27.92	22.84	23.40	24.33	25.43
	(ii) Minor	,,	30.00	38.00	31.40	32.77	34.21	35.64
	TOTAL	,,	52.32	65.92	54.24	56.17	58.54	61.07

5.3 The Sixth Plan outlays* (Central as well as States and Union Territories) by sub-sectors on Agriculture and Allied Sectors and the actuals|anticipated expenditure are given below in Table 5.2.

TABLE 5.2

Financial Outlays

(Rs. in crores)

Head of Development	Sixth Plan Outlay	1980-81 Actuals	1981-82 Actuals	1982-83 R.E.	1983-84 Outlay	1980—84 Total (Col. 3+4+5+6)
1	2	3	4	5	6	7
Agricultural Research & Education	537.67	64.20	72.85	84.37	101.62	323.04
Crop Husbandry	1233.98	183.25	227.72	284.36	347.36	1042.69
Soil & Water Conservation	433.57	75.09	96.28	95.30	126.23	392.90
Animal Husbandry & Dairying	851.38	133.31	143.94	175.90	187.27	640.42
Fisheries	371.42	48.86	48.05	52.62	66.71	216.24
Forestry	692.64	96.25	118.97	142.45	187.80	545.47
Land Reforms	304.63	44.62	52.88	56.67	63.69	217.86
Management of Natural Disasters	15.00	—	—	—	—	—
Agricultural Marketing	96.11	17.26	17.30	17.08	13.99	65.63
Food Storage & Warehousing	337.61	47.93	41.82	44.63	51.77	186.15
Investment in Agricultural Financial Institutions	821.06	270.77	309.62	295.41	251.29	1127.09
TOTAL :	5695.07	981.54	1129.43	1248.79	1397.73	4757.49

Review of Agricultural Performance

5.4 That there has been marked progress in Indian agriculture since 1950s is a fact now universally accepted. Production of rice increased from 23.54 million tonnes to 53.59 million tonnes between 1949-50 and 1981-82 and that of foodgrains by 2.4 times from 54.92 million tonnes to 133.06 million tonnes. Increase in wheat production was much more spectacular, being nearly six times over 1949-50. Cash crops too recorded significant gains, particularly cotton and sugarcane.

5.5 The upsurge in agriculture was punctuated by frequent upsets, brought about mainly by the truant weather. As agricultural production climbed to newer and newer heights, supported by a series of measures like irrigation development, supply of seed, fertilizers and credit, extension and research support and similar programmes organised by the Centre and the State Governments, the country also witnessed shortfalls brought about by exogenous forces like widespread failures of the monsoon (sometimes in successive years), devastating cyclones and floods, and untimely hailstorms and rain which destroyed crops ready for harvesting. Nevertheless, the fact remains that the new peak reached has been invariably higher than the preceding one and the latest trough to which production has been foced down has always been higher than the previous one. This is a more reliable measure of the new strength acquired by the agriculture sector and the resilience gained by it since the country chose the path of planned development. Table 5.3 below gives an illustration of the big leaps made in foodgrains production, from peak to peak, and the rate of increase registered at every stage:

TABLE 5.3

Peak Production of Foodgrains

Peak year	Peak Year production (Million Tonnes)	Average annual increase (Million tonnes per year)
1	2	3
1953-54	69.82	—
1961-62	82.71	1.61
1970-71	108.42	2.86
1978-79	131.90	2.94

5.6 Performance of all crops during the last three decades, however, has not been similar. A brief review of crop production targets set for different Five Year Plans and relative achievements (Annexure 5.1) can facilitate a better appreciation of the agricultural scenario.

5.7 Table 5.4 below gives the annual average rate of growth of major crops during 1949-50 to 1980-81 for the country as a whole.

TABLE 5.4

Crop Production (Triennial Average) and Growth Rates

Crop	Unit	1949-50 to 1951-52	1978-79 to 1980-81	Annual Growth Rate (Per cent)*
1	2	3	4	5
Rice	Mill. tonnes	21.80	49.78	2.9
Jowar	,,	5.82	11.20	2.3
Bajra	,,	2.59	4.98	2.3
Maize	,,	1.95	6.20	4.1
Wheat	,,	6.34	34.60	6.0
Other Cereals	,,	5.75	6.42	0.4
Total Cereals	,,	44.25	113.18	3.3
Pulses	,,	8.33	10.64	0.8
Total Foodgrains		52.58	123.82	3.0
Cotton	Mill. bales (of 170 kgs. each)	3.02	7.63	3.4
Jute	Mill. bales (of 180 kgs. each)	3.71	6.35	2.0
Sugarcane	Mill. tonnes of cane	56.29	143.67	3.3
Oilseeds				
Groundnut	Mill. tonnes	3.37	5.66	1.8
Rape/Mustard	,,	0.84	1.84	2.8
Sesamum	,,	0.45	0.43	(—)0.1
Major oilseeds (5 oilseeds)	,,	5.14	8.58	1.8

*Growth rates are worked out on the basis of triennial averages of production for 1949-50 to 1951-52 and 1978-79 to 1980-81.

The laggards are easily identified as millet crops, mainly jowar, bajra and small millets and pulses among foodgrains, groundnut and sesamum among oilseeds and jute, Major growing areas of these crops other than jute are broadly the same. By and large, these areas are situated in the rain-shadow belt of the country stretching from Tamil Nadu in the South to Haryana in the North, and also extending through Madhya Pradesh and parts of Uttar Pradesh and Andhra Pradesh to reach up to Bihar and Orissa. These areas generally receive comparatively inadequate & rainfall, and this itself is marked lay a wide degree of variability and uncertainty. Any improvement in the performance of these crops will lead not only to higher production and availability, but also to an overall improvement in the agricultural performance by the States growing these crops in a sizeable manner.

5.8 The performance of the States in regard to agricultural production to a large extent could be explained in terms of certain important inputs like irrigation, fertilier application, area under high yielding varieties and multiple croping, credit availability etc. The availability position regarding these inupts is indicated State-wise in the table 5.5 below

TABLE 5.5

Availability/Use of inputes—Statewise

State	Percentage of gross irrigated areato gross sown area (1978-79)	Percentage of area under HYV to gross sown area (1978-79)	Per hectare consumption of fertilizers (1981-82) (Kg./ha)	Institutional credit p/ha of gca. (1978-79) (Rs.)	Average yield of foodgrains per ha. (Tonne/ha) (1981-82)
1	2	3	4	5	6
Andhra Pradesh	35.8	24.8	50.0	7.29	1.24
Assam	17.3	19.7	3.3	4.0	0.97
Bihar	32.6	27.8	18.0	21.8	0.87
Gujarat	18.6	18.7	38.6	146.0	1.07
Haryana	53.9	36.1	45.5	177.9	1.39
Himachal Pradesh	16.7	42.9	19.5	2.5	1.24
Jammu & Kathmir	40.9	42.9	21.8	27.9	1.53
Karnataka	15.4	15.3	34.4	71.1	0.98
Kerala	12.3	9.7	32.9	481.5	1.54
Madhya Pradesh	11.1	13.5	10.9	47.0	0.72
Maharashtra	11.6	19.4	26.6	81.3	0.74
Orissa	19.2	11.7	9.9	23.5	0.91
Punjab	83.0	56.3	123.7	184.2	2.67
Rajasthan	19.6	8.4	7.9	41.0	0.55
Tamil Nadu	49.7	35.6	66.7	159.4	1.52
Uttar Pradesh	43.5	33.8	52.2	74.0	1.19
West Bengal	19.6	26.3	32.8	81.3	1.07
All-India	27.5	22.9	34.6	83.1	1.03

In Assam, Bihar, West Bengal, Madhya Pradesh, Maharashtra, Rajasthan, Karnataka and Kerala, availability/use of the four inputs was generally in the lower side, much below the national average level.

Sixth Plan—Crop Targets and Achievements

5.9 Keeping in view the past trends, the Sixth Plan has set a target of 149—154 million tonnes of foodgrains which implies an annual increase of 2.6 per cent per annum over the achievement of 131.90 million tonnes of 1978-79. Table 5.6 gives details of the targets set and achievement in the Sixth Plan and the constituent Annual Plans.

TABLE 5.6

Targets Under the Sixth Plan/Annual Plans

(Million Tonnes)

	Rice	Wheat	Millets	Pulses	Total Food-grains
1	2	3	4	5	6
Sixth Plan (Target)	63.00	44.00	32.10	14.50	153.6 (154.0)
Annual Plan 1980-81					
Target	55.00	36.00	30.00	14.00	135.0
Achievement	53.63	36.31	29.02	10.63	129.59
Annual Plan 1981-82					
Target	58.00	38.00	30.00	12.50	138.50
Achievement	53.59	37.83	30.29	11.35	133.06
Annual Plan 1982-83					
Target*	58.00	39.00	31.00	13.50	141.50
Anticipated Ach.	45.80	41.60	27.50	11.90	126.80
Annual Plan 1983-84					
Target	57.00	41.00	31.00	13.00	142.00

*1982-83 Annual Plan targets are indicated in ranges—upper limits are indicated.

5.10 Among different crops only wheat has been keeping pace with the Plan targets. Production of rice, though it came close to the target of 55 million tonnes in 1980-81, did not show any improvement in 1981-82. In 1982-83 however the kharif crop suffered a severe setback as a result of drought condition in many parts of the country. Pulses production, as in the past, continued to lag behind. The lag, vis-a-vis, the Sixth Plan targets, has been as much as 22 per cent in the case of pulses and 14 per cent in the case of rice, which needs to be made up in the two years 1983-84 and 1984-85 if the Sixth Plan targets are to be realised. Though millet production during the first two years of the Plan has been moving close to the targets, it need to be admitted that these were pitched rather low.

5.11 Thus the focus falls on the pulse-millet conglomeration, with rice on the side lines. Any significant improvement in agriculture at the national level will be possible only if the performance of millets and and pulses is improved and if rice cultivation in the eastern region, including Madhya Pradesh and eastern Uttar Pradesh, is assisted to give a better account. Similar measures in respect of wheat in Madhya Pradesh could also yield good results.

Inputs and other Supporting Programmes

5.12 Efforts being made for extending irrigation facilities, promoting use of high yielding varieties and fertilizers and making available credit for agricultural purposes are discussed in this part. Weather continues to play a dominant role in agriculture, particularly in States where agricultural operations are carried out mainly under rainfed conditions. Institutional factors like tenancy, size and state of agricultural holdings too have a bearing on agricultural production. These factors are also discussed in this part.

Weather

5.13 Agriculture in India is dependent on weather and rainfall conditions. Out of the total net sown area of 143 million hectares, nearly 105 million hectares continue to be rainfed despite the continuous efforts made to increase irrigation. Weather conditions in terms of quantum and timeliness of rainfall received were more favourable in recent years, in 1978-79 and 1981-82, enabling farmers to make better use of infrastructure and inputs and reap a bountiful harvest. Foodgrains production in these two years was estimated at 131.9 million tonnes and 133.1 million tonnes respectively. On the other hand, production of foodgrains sustained a fall of 22.2 million tonnes in 1979-80 when the country suffered a severe drought. Adverse weather including drought, cyclones and floods affected agricultural production during 1982-83 and, as a result, agricultural production had been lower as compared to 1981-82.

5.14 Even so, the year 1982-83 could be considered as marking a turning point in Indian agriculture for a very valid reason. For the first time in Indian agriculture, the new production technology based on modern inputs and a well co-ordinated approach could stand the challenge of natural calamities and emerge from it with comparatively less damage. The shortfall in production of foodgrains during the current year compared to the preceding year is expected to be only about 5 per cent or 6.20 million tonnes, as against a drop of 16.8 per cent or 22.2 million tonnes in 1979-80. This can be taken as a fair measure of the inherent strength and the much desired resilience developed by Indian agriculture in recent years.

Socio-Institutional Factors

5.15 About half of the population in rural areas lives below the poverty line. A major part of the assets in rural areas are concentrated in a few hands. For example, in 1971 the top 30 per cent of the rural population claimed nearly 82 per cent of the total assets, and within this group the first 10 per cent monopolised as much as 51 per cent of the total assets. On the other hand, the lowest 10 per cent possessed a mere 0.1 per cent of the assets and the lower 30 per cent had to be content with 2 per cent share. Similarly, in regard to distribution of agricultural holdings, the small and marginal farmers, who constituted over 70 per cent of the land holders, operated barely 24 per cent of the agricultural land. The average size of operational holding in the country shrank to 2 hectares in 1976-77 as compared to 2.28 hectares in 1970-71, which is indicative of the continuous pressure being exerted on limited land resources by a steadily growing population. The average size of operational holding is less than 2 hectares in a number of States, e.g., Assam, Bihar, West Bengal, Orissa, Uttar Pradesh, Tamil Nadu and Kerala. Besides the agricultural holdings are also badly subdivided and fragmented in many of the States. Further consideration of holdings has not yet been undertaken in most of the States except Haryana, Punjab and Uttar Pradesh. According to the National Commission on Agriculture, the extent of area under tenancy is significantly higher in wet areas (including irrigated areas) than in dry areas. The mal-distribution of physical and financial assets and the incidence of tenancy exert an inhibiting influence on production efforts in the affected areas.

Irrigation

5.16 Water is one of the primary inputs for successful agriculture. However, even to this day, about 73 per cent of the country's cropped area is entirely dependent on the various vagaries of rainfall, most of which is concentrated in a few months of the year. The rainfall in many parts of the country is very low and uncertain in its distribution and it does not induce the farmer to provide the necessary inputs in time and in adequate quantities. Even where the overall annual precipitation is sufficiently high, the available moisture in the winter and summer months is not adequate to support multiple cropping. The broad strategy is, therefore, to develop irrigation rapidly, extending it to as large an area as possible, particularly in drought prone and backward areas. The most efficient and expeditious use of the existing facilities is another important element in this strategy.

5.17 The land area that can be ultimately irrigated on full development of irrigation potential has been estimated at 113.5 million hectares as against the possible gross cropped area of 200 million hectares.

Thus, on present assessment, it may not be possible to provide irrigation facilities to the entire cultivated area in the country.

5.18 Prior to 1951, the total irrigated area in the country was 22.6 million hectares (9.7 million hectares from major and medium irrigation prijects and 12.9 million hectares from minor irrigation schemes). The extent of the area irrigated more than doubled during the following three decades and increased to 52.32 million hectares by 1979-80, out of which 22.32 million hectares were from major and medium and 30.00 million hectares from minor schemes.

5.19 The Sixth Plan has set a target of additional irrigation of 5.6 million hectares from major and medium and 8 million hectares from minor schemes, i.e. a total of 13.6 million hectares by 1984-85. Under the 20-Point Programme, the target was raised to 14 million hectares. The anticipated achievement in the first three years of the Sixth Plan is 6.22 million hectares. The likely achievement during the Sixth Plan, according to the present assessment would be of the order of 11.5 million to 12 million hectares against a target of 14 million hectares. The main reasons for shortfall in the achievement of targets have been discussed in the chapter on 'Irrigation and Flood Control'.

Dryland Farming

5.20 Rainfed|dryland agriculture is practised over nearly 105 million hectares out of the net cultivated area of about 143 million hectares in the country. Dryland areas account for about 73 per cent of the cultivated area and contribute about 42 per cent of the foodgrains produced in the country. The bulk of the pulses, oilseeds, millets, coarse grains and cash crops like cotton and groundnuts are produced under rainfed conditions. Performance of crops in the vast drylands is closely linked with weather conditions. Any significant shortfall in rainfall affects production and any shortfall in production on drylands is immediately reflected in the overall availability of foodgrains in the country.

5.21 Agricultural development efforts in the initial stages of the post-Independence period were largely concentrated in irrigated areas, capable of yielding quick and assured results. In view of the vital role of dryland farming in narrowing down the regional imbalances between the irrigated and rainfed regions and in creating rural employment, the development of dryland agriculture is now assuming increasing inportance. The programme of dryland farming has been included in the New 20—point Programme. The two-pronged strategy evolved for dryland agriculture is as follows :—

(i) *Intensive Approach* : Under this, in selected blocks, one micro-watershed of about 1000 ha. each will be taken up for intensive development of dryland agriculture through a multi-disciplinary approach including crop production, horticulture, social forestry, pasture development, water harvesting, pest control, use of modern implements like seed-cum-fertilizer drills, application of improved seeds, fertilizer, etc. Multi-disciplinary teams are to be constituted for each watershed.

(ii) *Extensive Approach* : Covers all dryland areas where all the on-going programmes and resources will be utilised optimally and the available technologies disseminated for increasing production of dryland agriculture by extension, introduction of new cropping pattern, use of fertilizers, new agricultural implements, etc.

5.22 A total number of 3824 micro-watersheds covering 3.8 million hectares were to be identified by various States during 1982-83 for development of Dryland Farming. For the first time, a comprehensive Field Manual on Dryland Farming, giving location-specific strategies and technologies, has been prepared in close collaboration with the Indian Council of Agricultural Research and copies were distributed to the State Governments and others concerned for the guidance of field workers and farmers.

5.23 Development of dryland agriculture has been receiving special attention in all the States after its inclusion in the 20 Point Programme. Organisational arrangements at various levels from the State Headquarters to field level have been made for monitoring and overseeing development activities in rainfed areas. Inter-Departmental Coordination Committees have also been set up in the States.

5.24 The States, for the first time, are going ahead in a planned manner, with the identification of micro-watersheds and introduction of suitable dry farming techniques both in and outside the watersheds, According to the latest available reports upto March, 1983, the number of selected micro-watersheds has gone up to 4111 as against the national target of 3824 watersheds. The total area covered by various dry farming practices is estimated at 20.17 million hectares (2.72 million hectares in the selected watersheds and 17.45 million hectares outside the watersheds).

5.25 Development of micro-watersheds is a long-term programme and needs to be viewed in a three year time frame. During the first year, the watershed is identified and benchmark surveys are conducted. In the second year, various land and water development measures are planned and executed. In the third year, the production technology is superimposed on the reinforced land and water resources. State Governments are being urged to continue the process of identification and development of watersheds in dryland areas so that the targets set under it during the Sixth Plan are fully achieved. More than 2760 villages have been adopted for intensive agricultural development work in the dryland areas. These villages are intended to serve as examples or models for popularisation of dryland farming technologies in the neighbouring areas.

Chemical Fertilizers

5.26 Chemical fertilizer has a prominent role to play in modern agriculture. In 1951-52 i.e. at the beginning of the first Five Year Plan consumption of fertilisers was a bare 65.6 thousand tonnes, nearly 90 per cent of it in the form of nitrogenous fertilizers. There has been significant increase in fertilizer consumption since then, thanks to the concerted efforts made by the Centre and the States. To populari e the use of fertilisers among farmers, field trials, composite demonstrations and education through the mass media were introduced. Increased use of fertilizer was an important element of the strategic programmes such as the National Extension Service, Intensive Agricultural Development Programme (IADP) and Intensive Agricultural Area Programme (IAAP) launched in the fifties and the early sixties. However, a real break-through in the use of fertiliser came only in the late 1960s with the introduction of dwarf,—high yielding varieties of wheat and rice which required large doses of fertilizer, compared with traditional varieties to give better results. As a result, there was achieved a nearly four-fold increase in fertilizer use since 1965-66.

5.27 The Sixth Plan had set a target of 96.5 lakh tonnes of NPK Table 5.7 below indicates the progress of fertiliser use in terms of NPK during the period 1970-71 to 1982-83:

TABLE 5.7

Level of Fertiliser Consumption in India

Year	Consumption of Fertiliser				Percent growth over the previous year
	N	P (in lakh tonnes)	K	Total	
1	2	3	4	5	6
					13.8
1970-71	14.8	5.4	2.4	22.6	17.7
1971-72	18.0	5.6	3.0	26.6	4.1
1972-73	18.4	5.8	3.5	27.7	2.5
1973-74	18.3	6.5	3.6	28.4	4.2
1974-75	17.7	4.7	3.4	25.8	(—)9.2
1975-76	21.5	4.7	2.8	29.0	12.4
1976-77	24.6	6.3	3.2	34.1	17.6
1977-78	29.1	8.7	5.1	42.9	25.8
1978-79	34.2	11.1	5.9	51.2	19.4
1979-80	34.9	11.5	6.1	52.6	2.7
1980-81	36.8	12.1	6.2	55.2	4.9
1981-82	40.7	13.2	6.7	60.6	9.8
1982-83 (Anticipated)	42.6	14.2	7.4	64.2	5.8

5.28 There is signficant variation in fertilizer consumption from region to region and from State to State. Table 5.8 gives State-wise consumption of plant nutrients per unit of gross cropped area for 1980-81 and 1981-82:

TABLE 5.8

Fertilizer consumption per hectare of cropped area—State-wise

(Total NPK nutrients in Kgs/hectare)

1	2	3
Zone/State	1980-81	1981-82
Central :	**24.1**	**26.0**
Madhya Pradesh	9.2	10.9
Rajasthan	8.0	7.9
Uttar Pradesh	49.4	52.2
East :	18.1	17.6
Assam	2.8	3.3
Bihar	17.8	18.0
Orissa	9.6	9.9
West Bengal	35.9	32.8
North :	74.6	79.0
Haryana	**42.5**	**45.5**
Punjab	117.9	123.7
South :	**44.3**	**47.6**
Andhra Pradesh	45.9	50.9
Karnataka	31.1	34.4
Kerala	33.4	32.9
Tamil Nadu	63.2	**66.7**
West :	**25.7**	**30.8**
Gujarat	34.4	38.6
Maharashtra	21.2	26.6
All-India	**31.9**	**34.6**

5.29 With a view to minimising the regional imbalance in the fertilizer use, an intensive promotional campaign by mobilising the efforts of State Governments and fertilizer manufacturers has been launched in 100 selected districts. The campaign covers those districts which have good irrigation potential but are low in fertilizer consumption.

In this campaign, preference has been given to districts having assured rainfall for developing agricultural production based on available technological package. For each district, a lead manufacturer has been designated, and State Governments have been advised to ensure a higher rate of growth in collaboration with the manufacturers. Besides, the Hindustan Fertilizer Corporation Limited with the assistance of the UK Government has initiated a special fertilizer promotion programme in 25 selected districts in the States of Orissa, West Bengal, Assam, Bihar Madhya Pradesh and Uttar Pradesh which were found to have a low growth rate in rice production. This programme aims at increasig fertilizer consumption, promoting its balanced and scientific use, and establishing fertilizer storage network in the interior to ensure timely and adequate availability.

High Yielding Varieties Programme

5.30 Appearance of the high yielding varieties on the agricultural scene since the mid 1960's represents a technological break-through in agriculture. By 1981-82 an area of 46.5 million hectares was brought under high yielding varieties. The new varieties have made a significant impact on crop production, particularly in areas with assured irrigation, as for example, wheat and rice in the States of Punjab, Haryana and Western part of Uttar Prdesh. Some of the problems pertaining to seeds which require attention are :

(a) A number of plant diseases like blast and bacterial leaf blight and pests like brown plant hopper have become common phenomena retarding progress. Suitable disease resistant varieties need be evolved.

(b) The replacement of seeds of high yielding varieties is necessary after every three to four years in order to maintain high levels of productivity. To achieve this objective, it is necessary to step up the production of certified seeds and make systematic arrangements for their distribution.

(c) In the case of coarse cereals, the coverage under high yielding varieties is very small. Presumably, varieties suited to different agro-climatic and soil complexes are not yet available to farmers for replacing the traditional varieties.

Minikits and other Programmes

5.31 To supplement the efforts of the State Governments for raising agricultural production, work on various Centrally sponsored and Central sector schemes has been intensified in the Sixth Plan. These programmes mainly, include distribution of minikits for paddy, wheat, millets, pulses and oilseeds establishment of community nurseries for rice, assistance for promotion of breeded seed of pulses and oilseeds, intensive development programmes for oilseeds, pulses, cotton and jute, and development of red oil palm. Besides, special projects for groundnut in Gujarat and for soyabean in Madhya Pradesh have been taken up in further support of the oilseeds development programme. The Central outlay for thes programmes has been increased.

5.32 For introducing new varieties, two Central schemes are in operation, viz., establishment of community nurseries of rice and the programme of distribution of minikits of various crops. Under the Minikit Programme, newly released pre-released varieties are being given to farmers in larger numbers. In view of the various measures taken as part of the Action Plan for the Productivity Year 1982, the Central sector scheme of community nurseries of rice and minikit distribution of rice, wheat, jowar, bajra, maize and ragi, etc. were intensified in order to create a visible impact on production of cereal crops. The physical target of coverage of area under the community nurseries of rice was raised from about 15,000 hectares in 1981-82 to 25,000 hectares in 1982-83; the actual achievement in respect of which is expected to be higher. Similarly, the programme of distribution of minikits was considerable expanded as per details given in Table 5.9:

TABLE 5.9

Distribution of Minikits

(in lakhs)

Crop	1981-82	1982-83	
		Target	Ant. ach.
1	2	3	4
Rice	2.77	12.00	12.00
Wheat	0.14	0.26	1.42
Millets	0.23	2.00	2.00
TOTAL	3.14	14.26	15.42

5.33 Wheat is the main crop which is grown during the rabi season. It may be observed that against the distribution of 14,000 minikits during 1981-82, about 1.42 lakh minikits were distributed during 1982-83. The varieties distributed in the programme this year are : HD-2285, WH-291, HUW-55, WH-147, DWI-5023, HD-2177, Rai-148, WL-1562, HUW-37 and HD-2185. These are the varieties which are recommended for different agro-climatic and soil fertility conditions. The objective is to replace the most prevalent varieties like Sonalika and Kalyan Sona.

Agricultural Research & Education

5.34 One of the important projects being implemented is the National Agricultural Research Project (NARP). The regional imbalance in the research efforts in different States is being remedied under this project. Several sub-projects received by the ICAR from Agricultural Universities are sanctioned from time to time by a committee constituted for the purpose. A review of the working of this project has shown that some of the States like Rajasthan Maharashtra, Orissa, Uttar Pradesh and West Bengal are behind schedule. Follow up action has been initiated.

5.35 ICAR is the main executing and coordinating agency for research and education activities under the Central sector and those activities in the State sector which are financed through the Central Plan, i.e. All India Coordinated Research Projects, National Agricultural Research Project (NARP), Agricultural Universities' Development etc. There is need for bringing about better coordination in these activities under the Central and State Sectors. The ICAR should undertake effective steps to ensure proper coordination of research and education activities in the State sector and also for linking research activities with the development plans.

Agricultural Marketing and Rural Godowns

5.36 Agricultural marketing and storage are important components of post-harvest operations. In the case of agricultural marketing, Central assistance is given for development of infrastructural facilities in selected regulated markets and in agricultural markets in rural and backward areas. In 1982-83, 40 selected regulated markets and 2 terminal markets were provided assistance, besides 350 primary rural markets and 20 wholesale markets in backward areas. For 1983-84, a target of assisting 20 regulated markets, 1 terminal market, 140 primary rural markets and 10 wholesale markets in backward areas has been fixed.

5.37 In order to create a network of godowns in rural areas for taking care of storage requirements of producers at the farm level, a Centrally sponsored scheme of National Grid of Rural Godowns was taken up in 1979-80. Since then, 2371 godowns having a storage capacity of 10.65 lakh tonnes were sanctioned upto 1981-82. In 1982-83, the target of additional 4 lakh tonnes capacity was expected to have been achieved. During 1983-84, a provision of Rs. 5 crores has been made for this scheme to build a further storage capacity of 4 lakh tonnes.

Crop Insurance

5.38 A pilot scheme of Crop Insurance was taken up from 1979 onwards in the States of West Bengal, Gujarat and Tamil Nadu. A provision of Rs. 20 crores has been made under the Central sector in the Sixth Plan, with the intention to extend the coverage of the Crop Insurance Scheme to some more States during the Plan period. Though a large number of States have since introduced it, the progress has been unsatisfactory. The main reason for the slow progress is reported to be that the General Insurance Corporation, which is implementing this scheme, is not adequately equipped in terms of staff and other organisational matters. In consequence, there is likely to be a big shortfall in the Plan allocation of Rs. 20 crores for this purpose. Steps are proposed to be taken to put the scheme on a firm basis by making alternative organisational arrangements, and strengthening of data base for adopting a more homogeneous unit of the insurance.

Agricultural Credit

5.39 Since the inception of planning, continuous efforts have been made by Government for expanding the supply of institutional credit for agriculture. The principal institutional agency is the network of cooperatives, but in recent years commercial banks and regional rural banks have also started playing an increasing role. As on 30th June, 1981, there were 27 State Cooperative Banks, 337 Central Cooperative Banks and 94,019 Primary Agricultural Credit Societies functioning in the country.

5.40 Cooperative Land Development Banks are playing an important part in providing long-term credit. At the end of June, 1981, there were 19 State Land Development Banks with 1731 Primary Land Development Banks|Branches functioning in the country. The Commercial Banks had 17,658 rural branches and 8370 semi-urban branches on the same date.

5.41 Table 5.10 below gives the progress of short, medium and long term credit advanced by cooperatives and commercial banks :

TABLE 5.10

Credit Advanced to Agriculturists

(Rs. in crores)

	1960-61	1971-72	1980-81 (Provisional)	1981-82 (Provisional)
1	2	3	4	5
Short-term :				
(i) Cooperatives	183	541	1385	1525
(ii) Commercial Banks .	N.A.	N.A.	575	N.A.
Medium/Long Term :				
(i) Cooperatives	31	204	643	729
(ii) Commercial Banks .	N.A.	15*	700	N.A.

*Loans routed through schemes financed by ARDC and AFC.

On the 12th July, 1982, the National Bank for Agriculture and Rural Development (NABARD) was set up. It would help to bring short-term credit and investment credit under one umbrella.

5.42 An important aspect of credit policy is to remove regional imbalances in the provision of institutional credit. Another important problem that needs immediate attention is to improve the recovery of loans and rehabilitation of Land Development Banks carrying a heavy burden of overdues.

Prospects of achieving Foodgrains Production Targets

5.43 The rice production target of 63 million tonnes is considered a little too ambitious in the light of past trends. The upsurge in rice production in recent years has been mainly confined to the wheat production heartland, namely, Punjab, Haryana and Western Uttar Pradesh. The new crop varieties are making some headway in the traditional rice growing areas. The State Governments are also assisting rice production programmes through various supporting schemes. Despite these efforts, the Plan target of rice production is likely to register a short-

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fall of 3-4 million tonnes. Production drives in the traditional rice growing States have been reinforced to reduce the estimated shortfall.

5.44 In the case of wheat, production has been increasing at the enviable rate of 6 per cent per annum during the Plan decades, which is more than adequate to realise the Sixth Plan target if the present tempo is maintained.

5.45 The target for other cereals like jowar, bajra and maize, set for the Sixth Plan are moderate and even lower compared to the Fourth Plan targets. Persistent efforts are being made to evolve and disseminate a suitable technology for dry land farming which will benefit these crops more than others.

5.46 Considering the fact that production of pulses has been increasing on an average by a mere 0.8 per cent per annum during the last three decades, an increase of 2.9 per cent per annum over the 1978-79 level appears to be rather unrealistic. There could be a shortfall of about 1-2 million tonnes.

5.47 Thus, as against the 1984-85 foodgrain production target of 149—154 million tonnes projected in the Plan, the achievement may be nearer the lower end of the range i.e. 146—148 million tonnes.

Animal Husbandry and Dairying

5.48 Plan targets of eggs and wool may not be achieved in full by the end of 1984-85. The revised target of eggs is placed at 14,000 million against 16,300 million and that of wool at 36.8 million Kg. against 39.0 million kg. This is largely due to the prevailing high prices of poultry feed. On the other hand, the Plan target of milk production i.e. 38 million tonnes is likely to be achieved with a marginal shortfall by the end of 1984-85.

5.49 Based on the advice of the international organisations like WHO and FAO as well as the recommendations of the National Commission on Agriculture and also in the light of a Lok Sabha discussion about the sub-standard supply of veterinary biologicals by certain institution, the Department of Agriculture and Cooperation have proposed a new Central scheme for setting up a National Centre for Quality Control of Veterinary Biologicals. This proposal has already been cleared by the Planning Commission and is presently being processed by the Ministry of Finance. This scheme would help in augmenting animal production besides increasing the credibility of our vaccines and diagnostic agents in the international markets.

5.50 While increasing emphasis has been laid in the past on improving the milk production potential of our cattle through selective breeding and cross-breeding programmes, very little attention has been given to the development of draught animal power and improvement of indigenous recognised breeds of cattle and buffaloes. It goes without saying that small and marginal farmers will continue to depend heavily on bullock power for agricultural operations and rural transport. The Department of Agriculture and Cooperation have suggested a new centrally sponsored scheme with an outlay of Rs. 2 crores for giving assistance to the states for improving and developing infrastructural facilities etc., at about 15 cattle and buffalo breeding farms having important indigenous breeds. This would help to augment the production of merited bulls for use in the cattle and buffalo development programmes in the field. The details of the scheme are being worked out by the Department of Agriculture and Cooperation. This proposal on its approval this year (1983-84), could be implemented in the last year of the Sixth Plan period, with spill over to the Seventh Plan, and would go a long way in helping the small and marginal farmers to have the benefit of this development.

5.51 Experience has shown that most of the States do not provide adequate outlays for feed and fodder development in the State Plans. Even the animals having the best germ plasm are unable to express themselves in terms of production without the supply of adequate and quality balanced feed. Having regard to this, the proposal is to strengthen the existing 12—15 State Fodder Seed Production Farms to ensure supply of certified and quality seeds of high yielding varieties of fodder crops as is being done in the case of oilseeds and pulses. Details of this proposal are being formulated by the Department of Agriculture and Cooperation. This should receive priority attention.

5.52 Three sheep farms in Uttar Pradesh, Bihar and Madhya Pradesh started earlier, as part of a Centrally sponsored scheme were transferred to the State sector in 1979-80. In consequence, adequate outlays were not provided by the concerned States, and hence these farms have not been fully developed to become operational. This also calls for urgent remedial steps.

5.53 The Central Sheep Breeding Farm, Hissar established with Australian assistance has been in operation for the last 12-13 years and is distributing Corriedale rams (dual purpose breed) to various States for cross-breeding. Recently, it has been decided to change the breeding policy at this Farm as the Corriedales have not fared well. Now the introduction of Rambouillet—a fine wool breed from the USA is envisaged. For this purpose, the Department of Agriculture and Co-operation have proposed to import 2000 Rambouillet sheep for this Farm

5.54 Lastly, in regard to the Operation Flood II Project, it has been observed that progress relating to artificial insemination, frozen semen technology and the rearing of cross-bred calves is not satisfactory. Further, progress of the work done by Punjab, Gujarat and Tamil Nadu States under this project is satisfactory while in 18 other States and in 4 Union Territories, achievements are much below the targets. This will, in turn, lead to short-falls in the target laid down for indigenous milk production under this project. The Indian Dairy Corporation (IDC) has to take necessary and urgent steps to accelerate the progress of this project in different States through continuous monitoring at various levels.

Fisheries

5.55 Under Fisheries a Plan provision of Rs. 173.72 crores was made for Central and Centrally Sponsored Schemes. During the first three years 1980—83 the expenditure is likely to be of the order of Rs. 53.78 crores. An outlay of Rs. 20 crores has been provided for 1983-84.

5.56 Exploratory Fisheries Project has a Plan allocation of Rs. 48 crores. The shortfall in this project is expected to be Rs. 13 crores due to the delay in the acquisition of deep sea fishing vessels for surveying the Exclusive Economic Zone (EEZ) and also due to slow construction activities. Of this saving an amount of Rs. 3.4 crores will be utilised for the Integrated Fisheries Project, which will cover diversified fishing activities and modernisation of fish processing and marketing.

5.57 The Central scheme for assistance from the Shipping Development Fund Committee for trawler development has a Plan outlay of Rs. 50 crores. A saving of Rs. 6.33 crores is anticipated under this project. The project has since gathered momentum with the liberalisation of the policy under Shipping Development Fund Committee rules. 118 DSF (Deep Sea Fishing) Vessels have been introduced by the end of 1982-83 against the Plan target of 350. Looking to this performance, this programme has to be further intensified.

5.58 Under the fish seed development programme with an outlay of Rs. 8 crores, there may be a saving of Rs. 2.8 crores since the scheme was sanctioned in the third year of the Plan only. Similarly there is likely to be a saving of Rs. 50 lakhs in the scheme of development of Inland Fisheries statistics with an original outlay of Rs. 100 lakhs due to late start of the scheme.

5.59 The Central scheme of "Landing and Berthing facilities at major ports" was commenced in the fourth Plan and work executed by the Major Port Trust Authorities under the Ministry of Shipping and Transport. Major fishing harbours have been sanctioned at Cochin, Visakhapatnam, Roychowk, Bombay and Madras. Of these, the harbours at Visakhapatnam, Roychowk and Cochin have already been completed. The harbour at Madras is nearing completion and has become partly operational. The work at Sassoon Dock (Bombay) is progressing. Studies for locating an alternative site for the construction of fishing harbour at Paradeep are in progress. The programme for construction of fishing harbours has thus been behind schedule. Steps for proper monitoring of this project are needed.

5.60 Under the Centrally Sponsored Schemes there is a shortfall of Rs. 100 lakhs each under Fish Farmers Development Agency (FFDAS) and Prawn hatcheries and farming. The saving under FFDAS are due to the change in the pattern of Central assistance from 1982-83. Till 1982-83 the total cost of the Centrally sponsored FFDAS was shared by the Centre and the State Governments on 50 : 50 basis. Now the State Governments are bearing in full the expenditure on the base staff and contingencies. The expenditure on the incremental staff, training of farmers, subsidy on first year inputs and reclamation of target and capital investment on the fish seed farms are shared on 50 : 50 basis between Government of India and the State Governments. Under the Prawn hatcheries and farming project, the shortfall is due to the start of the scheme only in 1982-83.

5.61 The Inland Fisheries Project with World Bank assistance was taken up in the five States of Bihar, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal. Under the project, 58 Fish Farmers Development Agencies (FFDAS) and five Fish Seed Development Corporations have been set up in the five project States. As against the Plan target for construction of 27 commercial fish seed hatcheries covering an area of 435 hectares of nursery space, the number of hatcheries has been raised to 35, retaining the same nursery area. Out of these, by December 1982, work had been started on six hatcheries (75 hectares) and detailed plans approved for 13 hatcheries (173.4 hectares). Expeditious steps are to be taken for completing all the 35 hatcheries during the current Plan period.

5.62 Nine new schemes have been proposed by the Department of Agriculture & Cooperation. One is for the enforcement of Maritime Zones of India Act, 1981 aiming at protecting the interests of coastal fishermen operating small boats and crafts. The second scheme is for assessment of marine resources and associated requirements of training. Other new schemes proposed by the Department of Agriculture and Cooperation are project preparations for IDA assistance on inland and brackish water fisheries, introduction of beach landing crafts, construction of dry docks for fishing vessels, Group Insurance scheme for active fishermen, development of botanical garden near Sassoon Dock, building of wooden hull trawlers with World Bank assistance and techno-economic survey of fishermen. Details of all these schemes except Group Insurance Scheme for active fishermen are being worked out by the Department of Agriculture and Cooperation.

Forestry

5.63 An important objective of forestry programmes under the Sixth Plan is development without destruction. In conformity with this objective, attention is being focused on ecological balance, energy conservation, generation of employment and economic stability of people whose living is linked with forests. Physical progress of selected programmes of forestry over the plan period is given in the following table :

TABLE 5.11

Physical Progress of selected forestry programmes

Programmes	Sixth Plan (1980--85) Target	1980-81 Achievement	1981-82 Achievement	1982-83 (Ach. Anti)	1983-84 Target
1	2	3	4	5	6
1. Afforestation--No. of seedlings to be planted (in lakhs)	--	8467	13188	18979	22500
2. Social Forestry Plantations to be raised . (in hectares)	1523870	152811	254030	304867	400000
3. Farm Forestry---No. of seedlings to be supplied to public . . . . (in lakhs)			4410	8479	10000

5.64 Social forestry including rural fuelwood plantation is a Centrally Sponsored Scheme, being implemented in 157 districts spread all over the country. Besides, in the States of Uttar Pradesh, Gujarat, Karnataka, Maharashtra and Madhya Pradesh, social forestry projects are being implemented with external assistance. Some other States are also planning to undertake this project with assistance from various international agencies. Survival of seedlings and adequate protection measures are being emphasised and reviewed in the State Annu Plan working group discussions to ensure successfi implementation of social forestry programme.

5.65 A number of schemes forming part of th Central Plan of the Department of Agriculture an Co-operation are being implemented during the cu rent plan period. Progress of some of the schem has been behind schedule, as will be evident fro the progress of expenditure given in the table 5.1

TABLE 5.12

Financial progress of selected schemes of forestry development

(Rs. Lakhs

Sl. No.	Scheme	1980--85 Plan Outlay	1980-81 Actual	1981-82 Actual	1982-83 Revised Estimate	1983-84 Budget Estimate	1980--8 Total
1	2	3	4	5	6	7	8
1.	Forest Research Institute & Colleges	1200.00	110.43	148.94	205.00	200.00	664.3
2.	Indian Instt. of Forest Management	175.00	2.32	2.00	11.10	30.00	45.4
3.	Logging Training Centres Project	200.00	28.28	20.33	29.00	30.00	107.6
4.	Oil Palm Project in A&N Islands	300.00	24.99	35.00	---	50.00	109.9
5.	Introduction of Modern Fire Control in India	250.00	---	---	5.00	37.30	42.3

Work on these schemes will have to be intensified during the remaining period of Sixth Plan.

5.66 There is another important Central sector scheme relating to Forest Survey of India, with a plan outlay of Rs. 3 crores. Progress of expenditure under this scheme has shown an upward trend, raising from Rs. 53 lakhs in 1980.81 to Rs. 75 lakhs in 1982-83. This programme is being assisted by the SIDA. It has a great role to play in the activities of forest mapping, forest inventory and reinventory, data processing, training, consultancy and special studies, etc. It will also assist the planning cell of the Department of Agriculture (Forestry Division), State Forest Departments and Forest Development Corporations by way of data analysis, presentation of data monitoring and evaluation of the effects of developmental planning and also in formulation and implementation of social forestry projects to meet the requirements of the local population. Department Agriculture & Co-operation has to direct, co-ordina and expedite the activities of the scheme, keeping view the strategic importance of forest survey.

5.67 One Centrally sponsored scheme relating soil, water and tree conservation in the Himalay has been in operation with a plan outlay of Rs. crores. An expenditure of Rs. 9 crores is report to have been incurred in the first three years of th Sixth Plan, and for 1983-84 an outlay of Rs. crores has been provided. Thus, the plan provisi for this scheme is likely to be exhausted by the e of the current year. Additional outlay will be r quired and the Department of Agriculture and C operation has asked for Rs. 8.6 crores.

ANNEXURE-5.1

Plan Targets and Achievements—Foodgrains

(Million tonnes)

	Rice	Wheat	Jowar	Bajra	Maize	Other Cereals	Total Cereals	Pulses	Total Food-grains
1	2	3	4	5	6	7	8	9	10
Base Year Production (1949-50)	23.5	6.4	5.9	2.8	2.0	—	46.8	8.1	54.9
First Plan									
Targets for 1955-56	27.6	8.4	—	—	—	17.4	53.4	9.1	62.5
Actual Production 1955-56	[illegible]	8.6	6.7	3.4	[illegible]	6.7	[illegible]	11.0	66.8
Second Plan									
Targets for 1960-61*	29.50	11.2	—	—	—	23.9	—	12.0	76.2
Actual Production 1960-61	34.5	11.0	9.8	3.3	4.1	6.6	69.3	12.7	82.0
Third Plan									
Target for 1965-66	45.7	15.2	—	—	—	23.4	—	17.3	101.61
Actual Production 1965-66	30.6	10.4	7.6	3.8	4.8	5.3	62.4	9.9	72.3
Annual Plans									
Target for 1968-69	45.7	15.2	—	—	—	23.4	—	17.3	102.0
Actual Production 1968-69	39.8	18.6	9.8	3.8	5.7	5.9	83.6	10.4	94.0
Fourth Plan									
Target for 1973-74	52.0	24.0	15.0	7.0	8.0	8.0	114.0	15.0	129.00
Actual Production 1973-74	44.1	21.8	9.1	7.5	5.8	6.4	94.7	10.0	104.7
Fifth Plan									
Target for 1978-79	—	—	—	—	—	—	—	—	125.0
Actual Production 1978-79	62.8	35.5	11.4	5.6	6.2	7.2	119.7	12.2	131.9
Sixth Plan									
Target for 1984-85	63.0	44.0	12.0	5.8	6.8	7.5	139.1	14.5	154.00
Annual Plans 1980-81									
Target	55.0	36.0				30.0	121.00	14.0	135.0
Achievement	53.63	36.31				29.02	118.96	10.63	129.59
Annual Plan 1981-82									
Target	58.00	38.00				30.0	126.0	12.5	138.50
Achievement	53.59	37.83				20.29	121.0	11.35	133.06
Annual Plan 1982-83									
Target	58.00	39.00				31.0	128.0	13.50	141.50
Anticipated	45.80	41.60				27.90	115.30	11.50	126.80
Target 1983-84	57.00	41.00				31.00	129.00	13.00	142.00

*Second Plan targets were set in ranges. Hence crop-wise figures do not tally with the total.

CHAPTER 6

IRRIATION COMMAND AREA DEVELOPMENT AND FLOOD CONTROL

Irrigation

The broad heads of development of irrigation are as follows :

(a) Major & Medium Irrigation.

(b) Minor Irrigation.

(c) Command area development and water management, and

(d) Flood Control.

6.2 The Sixth Plan envisages the following outlays on each of these :

(Rs. in crores)

(a) Major & Medium Irrigation	8391.36
(b) Minor Irrigation	1811.30
(c) Command area development & water management	855.77
(d) Flood Control	1045.10

6.3 The actual expenditure in the first two years of the Plan, the likely expenditure in 1982-83 and the approved outlay for 1983-84 are as given in Table 6.1.

TABLE 6.1*

(Rs. in cro[illegible]

	1980-81 Actuals	1981-82 Actuals	1982-83 Revised Approved outlay	198[illegible] Approv[illegible] outlay
1	2	3	4	5
(a) Major & Medium Irrigation	1210.62	1364.93	1515.58	1742[illegible]
(b) Minor Irrigation	291.21	291.29	326.82	370[illegible]
(c) Command area development & water management	110.67	116.07	144.90	186[illegible]
(d) Flood Control	155.35	163.89	154.21	164[illegible]

6.4 At the beginning of the Sixth Plan, the ar[illegible] brought under major and medium irrigation was 22.[illegible] M.Ha. and under minor irrigation 30 M.Ha. T[illegible] physical targets for the creation of irrigation potenti[illegible] for the Sixth Plan and the benefits achieved duri[illegible] the first three years as also the plan target for [illegible] current year are as given in table 6.2.

* Figures under Table 6.1 are on the basis [illegible] scheme-wise information furnished by the Sta[illegible] Governments and are different from those in Par[illegible] of the document.

TABLE 6.2

(M. Ha.)

	Target for the Sixth Plan	1980-81	1981-82	1982-83 (Ant.)	1983-8[illegible] (Targ[illegible])
1	2	3	4	5	6
(a) Major & Medium Irrigation	5.74	0.83	0.87	0.90	[illegible]
(b) Minor Irrigation	8.00	1.40	1.37	1.44	[illegible]
(c) Command Area Development & Water Management :					
(i) Field Channels	4.00	0.66	0.98	1.00	[illegible]
(ii) Land levelling	1.00	0.00	0.08	0.10	[illegible]

Major & Medium Irrigation Programmes

6.5 All irrigation schemes are investigated, planned, constructed and maintained by the State Governments and all funds for these schemes are provided from the State Plans. The Centre's role is limited to moniroring of 66 selected major irrigation and multipurpose projects, preparation of long-term perspective plans in water resources, technical examination of major and medium irrigation schemes, project preparation and moniторing of externally-aided schem[illegible] some inter-state control boards, consultancy a[illegible] design, research etc.

6.6 When the Sixth Plan commenced, 172 maj[illegible] projects and over 450 medium projects were und[illegible] construction. Some provision was made in the Six[illegible] Plan for a few new starts. It was envisaged that [illegible] major projects which had been in progress as [illegible] 1-4-1976 and were incomplete at the beginning [illegible] the Sixth Plan would be completed by the end of the Sixth Plan. Statements showing the outlays for major and medium irrigation schemes in the first three years of the Plan and the approved outlay for the fourth year are given in Statement 6.I. Statement 6.II gives the targets of additional potential for the Sixth Plan and the likely achievement. If the outlay during the Sixth Plan is to be maintained at about the same level as envisaged in the Sixth Plan document, the step up has to be substantial in some States like Bihar, Haryana, Madhya Pradesh, Rajasthan and West Bengal. It is a moot point whether in these States a step up of this order can really be sustained either from the resource point of view or from the point of view of administrative arrangements like providing necessary staff, material etc.

6.7 If additional funds cannot be provided, the result would be that the available funds for the irrigation programme during the plan period would, in real terms, be much less than the plan provision. Therefore, the target of 5.7 M.Ha. additional irrigation potential during the Sixth Plan is unlikely to be achieved, and the shortfall is likely to be about 1.3 M.Ha. Only 38 out of 65 major irrigation projects which were ongoing as on 1-4-1976 and remained incomplete at the beginning of the Sixth Plan may be completed by the end of the Sixth Plan and the other 27 will spill over into the Seventh Plan. Efforts are therefore necessary to increase the tempo of completion of projects and to provide the minimum funds necessary for this purpose. The bulk of the outlay on major and medium irrigation projects in the Sixth Plan, nearly 6,000 crores of rupees, is on ongoing schemes, Rs. 1278 crores are for modernisation, investigation and water development and only Rs. 1056 crores for new schemes. Most of the new schemes are in backward and drought prone areas. During 1980-81, 1981-82 and 1982-83 only Rs. 54 crores, Rs. 78 crores and Rs. 150 crores respectively were spent on new schemes and the rest was spent on ongoing schemes. There is thus little scope for readjustment within the approved outlays for expediting ongoing schemes. The emphasis has to be on application of such additional funds as can be made available to the completion of as many of the ongoing projects as possible. Special effort is required to be directed to the long drawn out schemes like Nagarjunasagar, Rajasthan Canal Stage II, Gandak, Kosi, Malaprabha, Kallada, etc. The monitoring of ongoing projects at the Centre should be aimed at ensuring these objectives.

6.8 During the last few years, a number of major and medium irrigation schemes have been taken up under the externally-aided programmes especially under World Bank assistance. A sizable portion of the outlay under major and medium irrigation in Gujarat, Maharashtra, Madhya Pradesh, Orissa and Karnataka is for externally-aided projects. The performance of the different States on externally-aided projects has to be analysed to identify deficiencies in organisation, procedures likely to cause delays and other bottlenecks before a commitment is made to external agencies for more irrigation schemes. The reference for new projects for such external assistance should not be allowed to delay further any of the ongoing projects. Specific mention may be made in this context of the Malaprabha and Ghataprabha Projects in Karnataka, the Rajghat (Madhya Pradesh and Uttar Pradesh) and Bansagar (Uttar Pradesh, Madhya Pradesh and Bihar) Dams which are inter-State in nature and the Narmada Sagar Dam and the Sardar Sarovar Dam which are to be completed in 10 years according to the final award of the Narmada Tribunal.

6.9 The progress of some inter-State projects has not been satisfactory for want of provision of funds on a matching basis by the State concerned. Mention has already been made of the Rajghat project, the Narmada Projects (Sardar Sarovar and Narmadasagar) and the Bansagar project. In the light of these facts, it is necessary to exercise caution in taking up new projects and they should generally wait for the ongoing projects to be substantially completed. This principle is not always followed. The number of new projects should generally be limited to those in drought prone, tribal and backward areas as envisaged in the Plan.

6.10 There has been some progress in advance planning for acquiring scarce materials of construction and supplying them to the project authorities. The position with regard to steel, cement, coal and diesel has improved during the past three years. Special efforts have to be made to ensure supply of scarce materials if the progress on the projects is not to be hampered on this account.

6.11 In many of the projects that have been in progress for more than 15—20 years, the construction of the last few kilometers of the channels or a few distributaries, has been delayed for a number of reasons. In some cases, the dam, the main canal and one or two branches are completed but there is delay in completion of the other branches. In all such cases, particularly in major projects, it would be preferable to take up the work in phases and complete each phase according to a time-bound schedule. What happens is that estimates framed earlier for a branch or a main canal taken up after 10 or 12 years are totally out of date and considerable escalation has to be provided for. The construction estimates could be closed after a particular period and the balance of works taken up as a separate phase under a new estimate. Similarly, there should be a time-bound schedule for completion of medium projects also.

6.12 In some of the projects, the progress has been hampered due to delay in land acquisition particularly in forest areas. The procedure for clearance from the forest angle has to be streamlined in order that the progress on the projects is not delayed on this account.

New Twenty-Point Programme and Irrigation Targets

6.13 Increase in irrigation potential is point no. 1 under the new 20-Point Programme. The aim was that the additional benefit would be 9 M.Ha. irrigation in the last three years of the Sixth Plan at an average of 3 M.Ha. per year. The actual achievement was

2.23 M.Ha. in 1980-81, 2.24 M.Ha. in 1981-82 and 2.34 M.Ha. in 1982-83. As has already been mentioned, the ques'ion of the outlays being stepped up to achieve the targets has to be considered.

Utilisation of Irrigation potential created

6.14 The Six'h Plan target for utilisation of irrigation potential is 13.6 M.Ha. The progress during the first three years is as follows :

	M. Ha.
1980-81	1.92
1981-82	1.93
1982-83	2.37

With the outlay as now anticipated, it is unlikely that the balance of 7.78 M.Ha. would be achieved by March 1985. As already stated, there is likely to be a shortfall of 2.3 M.Ha. even in the creation of the potential. It is likely that there will be a shortfall of the order of 1.60 to 2.1 M.Ha. in the utilisation of irrigation potential also.

6.15 The potential created so far and its utilisation are as given in table 6.3.

TABLE 6.3

(Ma Ha.)

Sl. No.	Item	Major & Medium	Minor	Total
1	2	3	4	5
1.	Cumulative achievement to end of 1979-80 :			
	(i) *Potential*	26.50	30.00	56.50
	(ii) Utilisation	22.32	30.00	52.32
2.	Cumulative achievement to end of 1980-81 :			
	(i) Potential	27.3	31.4	58.70
	(ii) Utilisation	22.8	31.4	54.20
3.	Achievement to end of 1981-82 :			
	(i) Potential	28.2	32.8	61.0
	(ii) Utilisation	23.4	32.8	56.2
4.	Anticipated achievement to the end of 1982-83 :			
	(i) Potential	29.1	34.2	63.3
	(ii) Utilisation	24.3	34.2	58.5
5.	Cumulative target for 1983-84 :			
	(i) Potential	30.0	35.6	65.6
	(ii) Utilisation	25.4	35.6	61.0

6.16 In major and medium irrigation projects, the potential created in any year is usually compared with its utilisation a year later as the storages etc. need to be filled up in the monsoons and the farmers require time to build field channels. In minor irrigation, the potential created is generally deemed to be fully utilised on completion except in the case of a few State works. But problems in regard to availability of electric power and diesel affect the working of tubewells and lift irrigation schemes.

6.17 The bulk of the gap between potential and utilisation is in Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. The command area development programme has been taken up during the Sixth Plan Year [illegible] in sixteen States and one Union Territory. This programme envisages on-farm development works comprising construc'ion of field channels, land levelling, land shaping etc. This has helped in improving utilisation but the progress could be more satisfactory. The farmers were originally expected to take up construction of field channels below the 40 Ha. [illegible] With a view to improving utilisation this has been reduced to 5|8 Ha. blocks. Below this the farmers have to construct the field channels. The Sixth Plan envisages construction of field channels for 4 M.Ha. under the CAD Programme. The progress in 1980-81 was 0.66 M.Ha., in 1981-82 0.98 M.Ha. and [illegible] 1982-83 1.0 M.Ha.

6.18 A factor which will help in improving the utilisation of created irrigation potential is the introduction of warabandi or rotational water supply. [illegible] this also, a beginning has been made and assistance is given under the CAD programme. However, a great deal of work still remains to be done and the States have to expedite this activity in all their major projects.

6.19 As for Minor Irrigation, the correctness of the assumption that the created potential is automatically utilised needs to be looked into. Special attention has to be paid to ensuring availability of electric power or diesel for tubewells and pumpsets.

Minor Irrigation

6.20 The Minor irrigation programme consists mostly of exploitation of ground water potential. The target for the Six'h Plan is 8 M.Ha. additional potential, 7 million Ha. from the use of ground water and 1 million Ha. from surface irrigation. These figures allow for depreciation on existing works including derelict tubewells, tanks, etc. The outlay approved for minor irrigation programme for the Sixth Five Year Plan is Rs. 1811.30 crores including the Central Sector Programme. Here also, as in the major and medium irrigation programme, the State Governments are implementing the programme fully with their own resources supplemented by institutional finance and some private investments by the farmers themselves. The minor irrigation programme is also supplemented to some extent by other sources like Tribal Sub-Plan, IRDP, Scheduled Castes and Scheduled Tribes programme, Western Ghat Programme etc.

6.21 Statement 6.III shows the year-wise expenditure on the minor irrigation programme during the first three years of the Sixth Plan and the approved outlays for the Fourth year. Statement 6.[illegible] gives the position regarding irrigation potential created in the first three years of the Sixth Plan and the target for 1983-84. In real terms, the outlay available for minor irrigation programme during the Sixth Plan would be less than the funds provided in the beginning of the Sixth Plan. This would result in a shortfall in achievement of the Sixth Plan target of 8 million Ha. additional potential which may be reduced to about 7 million Ha. principally due to three reasons : (1) price escalation ; (2) shortfall in credit flow and (3) shortfall in the achievement of targets in the energisation of irrigation pumpsets (Statement 6.V).

6.22 Special additional outlay has been provided in the Central Sector Plan in 1983-84 to be given to the States as a matching grant for minor irrigation schemes for small and marginal farmers. This has to be backed by adequate institutional credit. In this context, the recovery position of the Land Development Banks and other commercial banks will have to be improved by special recovery drives. Allocation of more funds for stepping up energisation of pumpsets is also extremely essential through higher provision of outlays for Special Agriculture Programme, REC (normal funds) and also for providing exclusive feeders for private irrigation pumpsets and State tubewells. Command area approach should be adopted for higher utilisation of public tubewells and surface minor irrigation schemes, specially tanks.

6.23 As in the case of major and medium irrigation schemes, it is essential that the States concentrate on completion of on-going minor irrigation schemes. An immediate review should be carried out of the total requirement of funds for completing the on-going schemes and a phased programme worked out for their early completion.

6.24 Another important feature that requires immediate attention is the scientific survey and assessment of the minor irrigation potential. At present, the benefits in this sector are largely calculated on a thumb rule basis. It is necessary that a systematic survey is carried out at least once in three years to find out the actual area irrigated from minor irrigation works. The position is particularly important in respect of dug-wells and private tubewells as a part or the whole of the area covered by many of them may overlap areas irrigated by Government canal systems. In fact, this is probably one of the reasons why there is a discrepancy between the areas as reported by the project authorities on the one hand and the land utilisation statistics on the other.

Command Area Development Programme

6.25 44 CAD Authorities have been set up to cover 71 projects in 16 States and the Union Territory of Goa for carrying out the programme under 76 approved irrigation commands. The approved Sixth Plan outlay for the programme in the State & Central Sector is Rs. 856 crores. The expenditure during 1980-81 was 111 crores, Rs. 116 crores in 1981-82 and Rs. 145 crores in 1982-83. The available funds for the programme during the Sixth Plan might fall short of the approved Sixth Plan outlay, partly, due to the constraint of resources, particularly in the State Sector and partly, due to the difficulties in the implementation of the programme such as inadequate implementation capacity and complexity of the programme in view of its multi-disciplinary character.

6.26 It will be seen from the table in para 6.4 that the target for field channels might be achieved by 1984-85, while the achievement in respect of land levelling might fall short of the target. One of the main reasons for this shortfall is the slow disbursement of institutional credit in most of the States. Another deficiency in the implementation of the programme is the lack of adequate organisation in many States. Shortage of trained staff has been a major handicap. Another difficulty experienced in the speedy implementation of the command area development programme is the frequent transfer of officers at the top level and the absence of staff at the lower level. The State should ensure that adequate staff is posted in the command area authorities and they stay there for at least a period of 3 or 4 years.

6.27 There is need for increasing the outlay under the command area development programme so that the potential already created can be usefully utilised. This is particularly necessary for expediting construction of field channels and land levelling. Recently the Centre has agreed to provide an additional allocation of Rs. 50 crores from the Central Sector of which Rs. 25 crores will be provided on a matching basis for expediting the construction of field channels by the States. The balance outlay of Rs. 25 crores will be disbursed from the Central Sector for expediting the Command Area Development Programme.

Flood Control

6.28 The approved Sixth Plan outlay for the flood control programme is Rs. 1045 crores. The expenditure was Rs. 155 crores in 1980-81, Rs. 164 crores in 1981-82 and Rs. 154 crores in 1982-83. The focus here is on completion of ongoing schemes particularly embankment and drainage schemes. The States have been advised to complete the on-going schemes in a phased manner at the earliest.

6.29 The Government of India have also set up the Brahmaputra Board under an Act of Parliament for preparing a comprehensive master plan for the control of floods in Brahmaputra Valley and development of its water resources. The Central Water Commission has taken up systematic monitoring of the flood control schemes and this is expected to help in identifying the problem areas and take remedial action promptly. The achievement during the first two years has been very low compared to the Sixth Plan target of 4 M.Ha. This aspect, therefore, needs immediate review. It is likely that only 2 M.Ha. will be provided with flood control benefits in the Sixth Plan as per present assessment. A detailed analysis has to be carried out to find out how the benefits could be extended to larger areas to achieve the targets laid down in the Sixth Plan. The anti-Sea-erosion works in Kerala have been continued. The State has been told to take steps to improve this programme by analysing the work done so far. The Centre has also taken up the work of flood plain zoning and regulation so as to enable effective management of areas liable to floods. Assistance has been given to some of the States, although in a limited way, for expediting some of the on-going flood control schemes.

6.30 The Centre is giving 100 per cent loan assistance for meeting the cost of flood control works in Assam (excluding land acquisition and establishment charges), the share cost of flood control for the Rengali Dam in Orissa and two-third of the cost of anti-sea erosion works in Kerala. However, the reporting of the progress on these Centrally aided schemes and their monitoring needs further improvement.

Conclusions

6.31 The outlays in the first three years of the plan have been less than what had been envisaged at the time of formulating the Sixth Plan, due to constraints on resources. Special efforts have, therefore, to be made during the last two years even to reach the nominal financial targets envisaged in the Sixth Plan. This is particularly so in Bihar, Haryana, Karnataka, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh.

6.32 Outlays on onging medium schemes have to be increased over what has been envisaged in the Sixth Plan. This would naturally mean a reduction in the outlays on new schemes and some of the modernisation schemes envisaged in the Sixth Plan document.

6.33 The total outlay during the Sixth Plan will fall short of the total envisaged in the Sixth Plan document.

6.34 Because of escalations in costs and the limited oultays in the first three years of the Plan, there would be a shortfall in the potential to be created at the end of the Sixth Plan. This is estimated to be of the order of 2.3 M.Ha. A similar shortfall is also expected in the utilisation figures.

6.35 The Sixth Plan had envisaged completion of 65 out of the on-going major projects started before 1976. The present review indicates that only 38 of these are likely to be completed and the others will spill over into the Seventh Plan. If special efforts are made, it is likely that some of these schemes could be completed even during the Sixth Plan period itself.

6.36 Most of the on-going medium schemes are likely to be completed. However, States have to ensure that outlays for these schemes are provided in full.

6.37 The States should also give special attention to completion of on-going minor surface irrigation schemes. In some of the States, there are a large number of on-going schemes, particularly on Madhya Pradesh. Adequate outlays are not being provided in the present context of constraint of resources.

6.38 Ground water development particularly construction of dugwells and energisation of pumpsets has to be accelerated. This will require special efforts on the part of the State Minor Irrigation Departments and credit agencies.

6.39 The command on development programme is not making as much progress as it should. It is still suffering from the same disadvantages as before, like frequent transfer of officers, lack of trained personnel, inadequate outlays and absence of proper coordination. The idea of taking up some more commands under this programme has not yet materialised.

6.40 The progress in the flood control sector is also not very satisfactory. States need to give attention to the early completion of on-going schemes to derive full advantage. Only essential new schemes should be taken up.

6.41 It is estimated that in the two years 1983-84 and 1984-85 an additional potential of 1 M. Ha. could be created if substantial additional funds could be provided for completion of on-going schemes. This will come to about Rs. 400 crores each year.

STATEMENT 6.1

Mid-term Review of Sixth Plan

Major & Medium Irrigation Programme—Outlays

(Rs. in lakhs)

Sl. No.	States	Sixth Plan Outlay	1980-81 (Actual) Expdr.)	1981-82 (Acutal Expdr.)	1982-83 (Revised approved outlays)	1983-84 (Approved outlays)
1	2	3	4	5	6	7
1.	Andhra Pradesh	79129	12921	12997	13650	12700
2.	Assam	6250	993	1128	1030	1230
3.	Bihar	85000	9924	12505	13651	16500
4.	Gujarat	98000	13171	14535	18198	21300
5.	Haryana	36225	4405	4739	5910	8259
6.	Himachal Pradesh	1045	211	143	52	150
7.	Jammu & Kashmir	6094	826	1018	1143	1107
8.	Karnataka	44050	7270	8192	8007	8690
9.	Kerala	25605	4133	4344	4500	5970
10.	Madhya Pradesh	78000	9860	1159?	14048	16407
11.	Maharashtra	113866	[illegible]	10940	[illegible]	[illegible]
	Manipur	4000	[illegible]	[illegible]	[illegible]	[illegible]

1	2	3	4	5	6	7
13.	Meghalaya	[illegible]	—	—	-	[illegible]
14.	Nagaland	—	—	—	-	—
15.	Orissa	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
16.	Punjab	[illegible]	[illegible]	4713	4337	4330
17.	Rajasthan	[illegible]	[illegible]	[illegible]	[illegible]	7670
18.	Sikkim	—	—	—	—	—
19.	Tamil Nadu	[illegible]	[illegible]	[illegible]	3791	5383
20.	Tripura	1900	219	317	350	400
21.	Uttar Pradesh	1 04974	[illegible]	18294	[illegible]	19070
22.	West Bengal	[illegible]	[illegible]	3877	[illegible]	3813
Sub-Total States		[illegible]	[illegible]	[illegible]	[illegible]	171594
II.	Union Territories	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
III.	Central Sector	[illegible]	[illegible]	[illegible]	[illegible]	1170
GRAND TOTAL		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

STATEMENT [illegible]

Mid-term Review of Sixth Plan

Major & Medium Irrigation Programme Benefits

([illegible] hectares)

Sl. No.	States	Ultimate Potential	Pre-Plan benefits	Potential from Plan Schemes [illegible]				
				79-78	80-81	81-82	82-83	83-84
1	2	3	4	5	6	7	8	9
1.	Andhra Pradesh	5000	1676	1104	[illegible]	[illegible]	[illegible]	[illegible]
2.	Assam	970	—	[illegible]	[illegible]	[illegible]	[illegible]	150
3.	Bihar	6500	404	2048	[illegible]	[illegible]	[illegible]	[illegible]
4.	Gujarat	3000	33	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5.	Harayna	3000	436	1333	[illegible]	[illegible]	[illegible]	[illegible]
6.	Himacha Pradesh	50	—	—	[illegible]	[illegible]	[illegible]	[illegible]
7.	Jammu & Kashmir	250	43	63	75	83	[illegible]	[illegible]
8.	Karnataka	2500	308	765	[illegible]	[illegible]	[illegible]	913
9.	Kerala	1000	158	300	315	[illegible]	[illegible]	[illegible]
10.	Madhya Pradesh	6000	513	927	1022	[illegible]	[illegible]	[illegible]
11.	Maharashtra	4100	255	979	1053	1157	[illegible]	[illegible]
12.	Manipur	135	—	8	11	13	[illegible]	[illegible]
13.	Meghalaya	20	—	—	—	—	—	—
14.	Nagaland	10	—	—	—	—	—	—
15.	Orissa	3600	455	972	[illegible]	[illegible]	[illegible]	[illegible]
16.	Punjab	3000	1220	1039	[illegible]	[illegible]	[illegible]	1279
17.	Rajasthan	2750	320	1215	1228	1254	1331	1438
18.	Sikkim	20	—	—	—	—	—	—
19.	Tamil Nadu	1500	891	288	300	303	[illegible]	[illegible]
20.	Tripura	100	—	—	—	—	—	—
21.	Uttar Pradesh	12500	2553	3476	3728	4007	4142	4197
22.	West Bengal	2310	440	1027	[illegible]	[illegible]	[illegible]	[illegible]
SUB TOTAL : State		58315	9705	16776	17611	18484	19336	20325
Union Territories		160	—	19	19	19	19	19
Plan benefits		58475	9705	16795	17630	18503	19405	20344
Pre-Plan benefits				9705	9705	9705	9705	9705
Total including Pre-Plan benefits				26500	[illegible]	[illegible]	[illegible]	[illegible]
Additional Potential					835	873	902	939

STATEMENT—6. III

Mid-term Plan Review of Sixth Plan—Minor Irrigation-Outlays

(Rs. in lakhs)

Sl. No.	States/UTs	Sixth Plan Outlay	1980-81 (actual expdr.)	1981-82 (actual expdr.)	1982-83 (revised apprd. outlay)	1983-84 (approved outlays)
1	2	3	4	5	6	7
1.	Andhra Pradesh	7930	1055	906	1000	[illegible]
2.	Assam	7450	1196	1394	1415	1600
3.	Bihar..	16870	2498	5510	4755	4400
4.	Gujarat	8800	1712	1581	2010	[illegible]
5.	Haryana	2311	528	495	377	[illegible]
6.	Himachal Pradesh	2100	504	668	[illegible]	[illegible]
7.	Jammu & Kashmir	4450	768	796	749	[illegible]
8.	Karnataka	10000	1585	1562	1851	[illegible]
9.	Kerala	4000	537	559	600	[illegible]
10.	Madhya Pradesh	26775	5807	5397	5121	[illegible]
11.	Maharashtra	16465	2120	2504	2868	[illegible]
12.	Manipur	850	150	150	125	[illegible]
13.	Meghalaya	600	84	102	139	[illegible]
14.	Nagaland	1000	209	207	186	200
15.	Orissa	8500	1714	1680	1665	[illegible]
16.	Punjab	943	182	170	36	250
17.	Rajasthan	3400	582	569	622	675
18.	Sikkim	400	53	88	90	[illegible]
19.	Tamil Nadu	3940	323	362	503	[illegible]
20.	Tripura	1310	238	229	250	[illegible]
21.	Uttar Pradesh	27996	5148	5271	4790	[illegible]
22.	West Bengal	15050	1208	895	1090	[illegible]
	TOTAL STATES	171170	28301	28095	30926	[illegible]
	Union Territories					
1.	A&N Islands	120	7	6	14	20
1.	Arunachal Pradesh	1300	201	255	300	400
J.	Chandigarh	64	3	8	15	[illegible]
1.	Dadra & Nagar Haveli	55	6	5	9	[illegible]
1.	Delhi..	200	41	36	44	49
1.	Goa, Daman & Diu	600	81	39	96	120
1.	Lakshadweep	—	—	—		

STATEMENT III-Contd.

(Rs. in lakhs)

1	2	3	4	5	6	7
8.	Mizoram	300	23	23	36	70
9.	Pondicherry	321	67	95	88	[illegible]
	TOTAL UTs	2960	429	517	604	774
	Central Sector	7000	391	517	1152	1650
	TOTAL CENTRE, STATES & UTs	181130	29121	29129	32682	37040

STATEMENT 6 .IV

Mid-term Review of the Sixth Plan—Minor Irrigation

(Irrigation potential)

('000 hectares)

S. No.	States/UTs.	Ultimate potential	Cummulative benefits to end of				
			'79-80 (Actuals)	'80-81 (Actuals)	'81-82 Actuals	81-82 (Anti)	'83-84 (Targets)
1	2	3	4	5	6	7	8
1.	Andhra Pradesh	4200	1985	2037	2083 5	2138.5	2203.5
2.	Assam	1700	288	299	310.0	333	358
3.	Bihar	5900	2335	2464	2613	2818	3068
4.	Gujarat	1750	1431	1454	1485	1523	1563
5.	Haryana	1550	1257	1292	1333	1362	1390
6.	Himachal Pradesh	285	96.5	102	107	112.2	117.2
7.	Jammu & Kashmir	550	313	317.8	321.6	325.78	329.78
8.	Karnataka	2100	1015	1045	1073.4	1103.4	1125.4
9.	Kerala	1100	310	323	337	354.4	371.4
10.	Madhya Pradesh	4200	1550	1622	1708	1767	1852
11.	Maharashtra	3200	1632	1676	1743	1786	1858
12.	Manipur	105	26.3	29.2	32.3	34.2	36.2
13.	Meghalaya	100	23.7	26	28.4	31.3	33.3
14.	Nagaland	80	42	44	46.87	49.69	51.69
15.	Orissa	2300	665	708	754	856	920
16.	Punjab	3550	2914	2956	2988.4	3021.4	3054.4
17.	Rajasthan	2400	1812	1848	1880.15	1919.15	1953.1
18.	Sikkim	22	9	10	1075	11.75	12.75
19.	Tamil Nadu	2400	1887	1915.5	1945.69	1975.22	2005.2
20.	Tripura	115	38.4	39.4	40.60	41.8	42.8
21.	Uttar Pradesh	13200	8840	9595	10312	10971	11577
22.	West Bengal	3800	1430	1495	1514.07	1567.32	1602.32
	TOTAL STATES	54607	29899.9	31297.9	32667.73	34102.11	35525.11
	Total Union Territories	320	100	102	105	112.11	120.21
	Total States & U. Ts.	54927	29999.9	31391.9	32772.73	34214.32	35645.32
	Additional Potential			1400	1373	1441	1,1431

STATEMENT 6.V.

Mid-term Review of Sixth Plan—Minor Irrigation

Likely Physical Achievements during Sixth Plan

	Sixth Plan Target	1980-81	1981-82	1982-83	1983-84	1980-84
1	2	3	4	5	6	7
Dugwells (Lakhs Nos.)	12.00	1.87	1.38	2.34	2.41	1.00
Private Tubewells (Nos. Lakhs)	12.00	2.44	2.10	2.14	2.32	9.00
Public Tubewells (Nos.)	15000	2906	2147	3069	3070	21192
Energisation of puanpsets (Lakhs Nos.)	25.00	3.81	3.29	3.02	3.68	13.80

CHAPTER 7

RURAL DEVELOPMENT AND COOPERATION

Alleviation of rural poverty is one of the prime objectives of the Sixth Plan. The hard core of poverty is to be found in rural areas. The poorest sections belong to the families of landless labourers, small and marginal farmers, rural artisans, Scheduled Castes, Scheduled Tribes and socially and economically backward classes. The strategy and methodology for accelerated rural development in the Sixth Plan is as follows :

(a) increasing production and productivity in agriculture and allied sectors ;

(b) resources and income development of vulnerable sections of rural population through development of the primary, secondary and tertiary sectors ;

(c) skill formation and skill upgrading programmes to promote self and wage employment amongst the rural poor ;

(d) facilitating adequate availability of credit ;

(e) promoting marketing support to ensure the viability of production programmes ;

(f) provision of additional employment opportunities to the rural poor for gainful employment during the lean agricultural season ; and

(g) provision of essential minimum needs.

7.2 With a view to achieving these aims a number of programmes have been taken up during the Sixth Plan for the development of the target group of the rural poor. These programmes can be classified into the following three broad categories :

(I) Resources and income development programme.

(II) Special area development programme.

(III) Works programme for creation of supplementary employment opportunities.

I. Resources and Income Development Programmes Integrated Rural Development Programme (IRDP)

7.3 The integrated Rural Development Programme was taken up on October 2, 1980 in all the 5011 development blocks in the country. The main objective of the IRDP is to evolve an operationally integrated strategy for the purpose, on the one hand, of increasing production and productivity in agriculture and allied sectors, based on better use of land, water and sun-light and, on the other, of the development of resources and income of vulnerable sections of the population with a view to lifting the poorest of the poor above the poverty line. This programme has completed three years and its progress on a national basis has been as under :—

TABLE

Year	Beneficiaries Assisted (Millions) Target	Achievement
1980-81	3.00	2 [illegible]
1981-82	3.00	[illegible]
1982-83	3.00	3.[illegible]

7.4 Under this programme, assistance is available for every viable economic activity which aims at raising the income of the target group. The emphasis is on selecting one or more schemes in which the beneficiary has genuine interest. This programme is being implemented through the District Rural Development Agencies with the help of the block machinery. The figures given in the previous paragraph would show that the programme has gathered momentum. But there is significant variation in performance among the different States. While Tamil Nadu, Andhra Pradesh, Haryana, Punjab and Rajasthan have done well, achievement in some other States like Bihar, Orissa, West Bengal and Maharashtra has been below target.

7.5 The programme envisages grant of subsidies which amount to 25 per cent of the capital cost for small farmers, 33-1/3 per cent for marginal farmers, agricultural labourers and rural artisans and 50 per cent for tribal beneficiaries. Community works are eligible for 50 per cent subsidy. Nearly 20 per cent of the outlay on this programme is being utilised for strengthening administrative and infrastructural support and the balance of 80 per cent is meant for subsidies to the beneficiaries for acquisition of assets. The utilisation of subsidy for IRDP was Rs. 156 crores in 1980-81, Rs. 260 crores in 1981-82 and Rs. 320.6 crores in 1982-83. The term credit utilisation was Rs. 237 crores in 1980-81, Rs. 485 crores in 1981-82 and Rs. 660 crores in 1982-83. The per capita investment was Rs. 1411 in 1980-81, Rs. 2641 in 1981-82 and Rs. 3164 in 1982-83. The annual average credit should have been of the order of Rs. 600 crores for achieving the Plan targets. Credit agencies have to step up their performance to catch up with the backlog in the remaining years of the Plan. It should also be ensured that credit flows to every potentially viable scheme which would benefit the poorest sections of the community.

7.6 As regards the quality of the programme, sample studies have been carried out by a few States. A significant point that emerges is that although IRDP requires that the beneficiaries should be selected from the poorest groups below the poverty line, it has so happened that in quite a few States a sizeable number of the beneficiaries selected belong to the category of small and marginal farmers. The percentage of such beneficiaries varies from State to State and is some times as high as 30 per cent. This has resulted because of the relatively better viability of small and marginal farmers from the credit angle and the preference of block officials and credit agencies for extending assistance to them. While marginal farmers below the poverty line will rank with the poorest of the poor, it should be made clear that small farmers should not be selected as beneficiaries at the expense of the poorest groups below the poverty line. To ensure proper identification of beneficiaries, continuous monitoring of the programme with close involvement of field level officials and Panchayatiraj agencies is essential. Another weakness of the programme is the deficiency in administrative infrastructure. There are still large numbers of vacancies in the implementation set-up in the District and Block levels. Special efforts are needed to get the involvement of the people's representatives at the Block and village level for proper implementation of the programmes. Activities supportive of the beneficiaries under the IRDP should be organised in an integrated manner under the general development programme. A detailed evaluation study is being taken up by the Programme Evaluation Organisation of the Planning Commission.

II. Special Area Development Programmes

Drought Prone Area Programme

7.7 DPAP is an integrated area development programme in the agricultural sector for optimum utilisation of land, water and livestock resources, restoration of ecological balance and stabilising the income of the people, particularly the weaker sections of society. The programme is continuing in the Sixth Plan period with the strategy for the development of these areas being reoriented towards insulating the economy of those areas from the effects of recurring droughts through diversification of agriculture and promoting afforestation, pasture development and soil and water conservation.

7.8 This programme has been in operation since the Fourth Five Year Plan. Upto the year 1981-82, the programme covered 557 blocks in 74 districts of 13 States. From 1982-83 onwards it is being implemented in 510 blocks in 69 districts of 13 States. The coverage of the programme has been changed on the basis of the recommendations of a Task Force which was set up by the Government of India in June, 1980.

7.9 No plan targets were fixed for this programme. The actual achievements during 1980—83 under DPAP are given in Table 7.1.

TABLE 7.1

Item No.	(Key indicators)	1980-81	1981-82	1982-83 (Upto Dec. '82)
1	2	3	4	5
1.	Soil & Moisture Conservation (Hectares)	159600	82071	34750
2.	Creation of irrigation potential Minor Irrigation (Hectares)	45228	80894	68559
3.	Afforestation & Pasture Development (Hectares)	86966	75455	92690
4.	Milk Societies Established (Nos.)	405	387	279
5.	Sheep Societies Established (Nos.)	387	40	53
6.	Number of Families assisted (Thousands)			
	(a) Total	907	1519	410
	(b) Scheduled Castes	275	355	85
	(c) Scheduled Tribes	119	173	94
7.	Employment Generated ('000 mandays)	57170	33421	13957

7.10 This is a Centrally sponsored programme with 50 per cent Central Assistance. The allocation per block is Rs. 15 lakh per year. The progress of expenditure on this programme during the Sixth Plan period is as follows :

(Rs. crores)

Allocation of funds both Centre and State			Expenditure incurred		
1980-81	1981-82	1982-83	1980-81	1981-82	1982-83
85.05	84.60	81.35	73.14	73.10	39.33

Desert Development Programme (DDP)

7.11 The Desert Development Programme was started in 1977-78 with the objective of controlling desertification and promotion of opportunities for raising the level of production, income and employment in the areas covered. The present coverage of the programme is 126 blocks against 132 blocks till the end of 1981-82. These 126 blocks cover 21 districts in 5 States.

7.12 No Plan targets were fixed. The physical achievements of this programme are as indicated below :—

TABLE 7.2

Sl. No.	Section	1980-81	1981-82	1982-83 (Upto Dec.,'82)
1	2	3	4	5
1.	**Afforestation**			
	(i) Plantation including roadside plantation, pasture development, fuel & foder plantation (Hects.)	9598	8412	8282
	(ii) Shelter belts (kms.)	7034	4516	7139
	(iii) Sand dune stabilisation (hectares)	2182	1954	2693
2.	Irrigation potential created (hects.)	620	2961	559
3.	**Rural Electrification**			
	Tubewells/pump sets energised (Nos.)	425	511	10
4.	**Agriculture**			
	(i) Soil Survey (Hectares)	30620	14089	1162
	(ii) Area treated under soil conservation scheme (hects.)	1425	2137	..
5.	**Animal Husbandary**			
	(i) New Veterinary dispensaries/Centres (Nos.)	37	15	41
	(ii) New Wool Extension centres (Nos.)	—	4	8
	(iii) New Milk collection centres(Nos.)	311	40	14
6.	Employment generated ('000 mandays)	1745	2425	1537

7.13 This another Centrally Sponsored Programme with 50 per cent assistance from the Centre. The progress of expenditure on this programme has been as under :—

(Rs. crores)

Allocation of funds Central & States Share			Expenditure-incurred		
1980-11	1981-82	1982-83	1980-81	1981-82	1982-83 (upto Dec., '82)
16.00	16.00	21.18	13.49	15.47	8.00

7.14 The National Committee on Development of Backward Areas has made several recommendations for improving the impact and coverage of the DPAP and DDP which are under detailed examination. Meanwhile on the basis of the recommendations of a Task Force on the DPAP and DDP, the coverage of the two programmes has been revised and the criteria for allocation of funds under the DDP has been linked to the area and extent of desertification as against the earlier criterion of fixed per block allocations. Both these Committees have stressed the need for adopting a scientific watershed management approach within a clearl conceived perspective of land and medium term development. Geared to this end, there also appears to be an immediate need for evolving adequate indicators of performance to enable more effective monitoring and evaluation.

III: Works Programme for Creation of Supplementary Employment Opportunities

National Rural Employment Programme

7.15 The Food for Work Programme was reviewed during 1980-81 and it was decided to restructure the programme as the 'National Rural Employment Programme (NREP) from October, 1980. The NREP, therefore, became a regular part of the Sixth Five Year Plan from 1st April, 1981 since when it is being implemented as a Centrally Sponsored Programme with 50 per cent Central Assistance. Under this programme generation of additional gainful employment to the extent of 300—400 million mandays per year for the unemployed and under-employed in the rural areas is envisaged. The employment generated was 420.81 million mandays in 1980-81, 354.52 million mandays in 1981-82 and 337.83 million mandays in 1982-83. It is expected that the Sixth Plan targets would be fully achieved under this programme.

7.16 Another important objective of the programme is the creation of durable community assets for strengthening the rural infrastructure. The progress achieved in this respect during the past two years is indicated in Table 7.3.

TABLE—7.3

Sl. No.	Nature of Assets	Unit	1981-82	1982-83
1	2	3	4	5
1.	Area covered under Afforestation and social forestry works on Govt. lands	Hect.	1,03,319	63,492
2.	Drinking water wells, community irrigation wells, Group Housing & land development for SCs/STs	Nos.	90,423	1,55,635
3.	Construction of village tanks	Nos.	13,709	12,777
4.	Minor irrigation works including those relating to flood protection drainage and anti-water logging works, construction of intermediate and main drains, fields channels and land levelling in the common area of irrigation projects	Hect.	1,05,640	1,06,244
5.	Soil & Water conservation & Land reclamation	Hect.	1,36,964	36,190
6.	Rural Road Constructed/improved	Kms.	73,010	93,335
7.	School & Balwadi buildings, Panchayat ghars, community Centres, drinking water wells, drinking water sources for wild animals, cattle ponds, pinjrapoles, gaushalas, community poultry and piggery houses, bathing and washing platforms, etc.	Nos.	21,302	62,267
8.	Other works	Nos.	7,276	20,171

7.17 A number of problems have been encountered in the implementation of this programme; particular mention may be made of (a) supply and distribution of foodgrains, (b) time taken in preparation of shelf of projects in different States; (c) non-availability of technical manuals/guide books in local languages for facilitating the task of Block staff; (d) difficulties in local resource mobilisation; and (e) durability of assets and their maintenance.

7.18 Another aspect of the programme which required critical assessment is the content of the projects undertaken. Works implemented through NREP are, often, not coordinated or integrated with the requirements of families identified for assistance under IRDP. Potentiality of NREP works to assist newly liberated bonded labourers or to support the attempts of agricultural workers to secure minimum wages fixed under the law is also not always appreciated. Stereo typed earth excavation works mainly relating to kachcha village roads, reminiscent of the old famine relief works, are undertaken ignoring the fact that this programme has a crucially supportive role to play for the beneficiary oriented development programme of IRDP and other area development programmes. Further, adequate matching funds are not always provided for this programme in a number of States. Normal funds of departments like PWD, Irrigation, etc., are sometimes shown as the matching contribution from the States. That NREP is an additional programme for generating additional employment over and above what could be achieved through normal departmental activities is often overlooked. Works to be selected or undertaken under NREP in the villages should be decided through popular participation and in consultation with village panchayats/gram sabhas. The current tendency to go in for building construction with high material component runs counter to the basic objective of the programme and requires to be modified. The Ministry of Rural Development is making efforts to ensure that the programme is implemented in the proper manner so as to achieve its basic projectives.

IV. Trysem

7.19 The National Scheme of Training of Rural Youth for self-employment (TRYSEM) has been in operation since the 15th August, 1979. The major thrust of this scheme is on equipping rural Youth with necessary skills and technology to enable them to take up vocations on a self-employment basis. The Sixth Plan target for training rural youth is 2 lakhs per annum, i.e. 40 youth per block every year. The figures of people trained and people self-employed during the past three years are as follows :—

Year	Youth trained	Youth self-employed
1	2	3
1980-81	1,22,596	43,494
1981-82	2,02,417	98,189
1982-83	1,84,990	95,091

7.20 A provision of Rs. 5 crores has been made in the Sixth Plan for strengthening infrastructure for TRYSEM, out of which about Rs. 1.4 crores were utilised in the first two years. For 1982-83 an outlay of Rs. 1.5 crores was provided. Subsidy and credit for enabling the trainees to set up ventures are met out of IRDP funds. Evaluation studies conducted in some States have highlighted certain problems like lack of finance and lack of confidence among the trainees in the implementation of this programme. There is need to have an integrated system of supply of raw materials and marketing of products through cooperatives or government-sponsored agencies like Rural Marketing Congress, Credit Institutions, Banks etc. Greater attention would also have to be given to the diversification of activities for self-employment of the trainees, since whatever units have come up so far, are largely only in the fields of poultry, dairying and allied activities.

7.21 It appears to be a little too optimistic to expect rural youth from the poor families to set up industry business or services ventures on their own. A more practical and modest objective of the programme would be to enable trainees to get wage employment in small and village industries and under artisans after giving them the necessary training.

7.22 Another way of improving the effectiveness of the programme would be to enable selected ITIs to set up a TRYSEM Wing where rural youths without formal education could be given practical training in simple skills.

Co-operation

7.23 The strategy for development of cooperation during the Sixth Five Year Plan is as under :—

(i) Drawing up a clearly conceived action programme for strengthening of primary villag societies so that they are able to act effectivel as multi-purpose units catering to the divers needs of their members;

(ii) Re-examination of the existing co-operativ policies and procedures with a view to en suring that the efforts of the co-operative are more systematically directed towar ameliorating the economic conditions of th rural poor;

(iii) Re-orientation and consolidation of the ro of the co-operative federal organisations s that they are able, through their constitue organisations, to effectively support a rapid diversifying and expanding agricultural secto including horticulture, food processing, pou try, dairying, fishery, animal husband sericulture, etc. with credit, input supp marketing and other services; and

(iv) Development of professional manpower a appropriate professional cadres to m managerial positions.

7.24 The Sixth Plan targets for the co-operative pro grammes and the progress recorded is given below table 7.4.

TABLE -7.4

(Rs. in crores)

Programme	Base level ant. ach. 1979-80	Level for the terminal year 1984-85	1980-81 Ant. Ach.	1981-82 Ant. Ach.	1982-83 Ant. Ach.	198[illegible] Targ[illegible]
1. Short term loans	1300	2500	1385	1525	1900	[illegible]
2. Medium term loans . . .	125	240	279	321	200	[illegible]
3. Long-term loans	275	555	364	408	440	[illegible]
4. Value of Agricultural produce marketed	1750	2500	1950	2100	2300	[illegible]
5. Value of retail sale of fertilisers	900	1600	1114	1248	1200	[illegible]
6. Value of consumer goods distributed by Urban consumer co-operatives .	800	1600	920	1000	1100	[illegible]
7. Value of consumer goods distributed in rural areas . . .	800	2000	[illegible]	[illegible]	1050	[illegible]

7.25 It will be noted that the progress in the disbursement of cooperative short-term credit during 1980-81 and 1981-82 was below the Plan expectations. The main bottleneck in the expansion of credit has been drought conditions in some parts of the country and continued existence of high level of overdues in some States particularly Assam, Bihar, Gujarat, J&K, Maharashtra and West Bengal. The disbursement of term loans has, however, recorded satisfactory progress. Significant expansion of co-operative credit would be necessary in the remaining period of the Sixth Plan. With a view to meeting adequately the short-term, medium-term and long-term credit requirements of agriculture, rural development and small scale industries in rural areas, a National Bank for Agriculture and Rural Development has been established with effect from July 12, 1982. With the coming into operation of this bank, a significant increase in the flow of co-operative credit is expected to take place in the coming years. It would also be necessary to take concerted steps to improve the recovery position of the credit institutions and reduce their overdues. Steps would also have to be taken to ensure substantial increase in the flow of institutional credit to small farmers, marginal farmers, tenants, share cropers, agricultural labourers, rural artisans and self-employed.

7.26 In the field of marketing of agricultural produce, the co-operatives recorded good progress during 1980-81 and 1981-82. The slow progress in retailing of fertilizers through cooperatives has been partly due to stagnation in the credit flow and partly due to increase in their prices. The progress of consumer cooperatives have also lagged behind the Sixth Plan expectations, mainly because of the share of co-operatives in the consumer business has come down with the setting up of Civil Supplies Corporations in Some States. As regards consumer business in rural areas, the slow progress was due to lack of adequate supplies of essential goods like kerosene oil and controlled cloth, and the absence of necessary staff and storage facilities.

Financial Outlays

7.27 An outlay of Rs. 2314.87 crores has been provided in the Central Plan for programmes covered under Rural Development including Co-operation. The progress of expenditure so far is given in Table 7.5.

TABLE—7.5

(Rs. in crores)

Head of development	Sixth Plan Outlay (Original)	1980-81 Actuals	1981-82 Actuals	1982-83 R.E.	1983-84 Outlay	1980-84 Total (3+4+5+6)	Balance left over for 1984-85
1	2	3	4	5	6	7	8
1. Integrated Rural Dev. & related programmes	997.55	142.69	182.38	228.70	269.30	823.07	174.48
2. National Rural Employment Programme	980.00	345.85	188.42	180.00	200.00	914.27	65.73
3. Community Development & Panchayat Institutions	7.17	1.21	1.64	Included under Item No. 1	1.70	4.55	2.62
4. Co-operation	330.15	43.72	65.12	75.69	77.89	262.42	67.73
Total	2314.87	533.47	437.56	484.39	548.89	2004.31	310.56

Land Reforms

7.28 Development efforts will tend to by-pass the majority of the rural poor if their lack of absorptive capacity arising out of productive assetlessness is not rectified. Land reform which envisages distribution of surplus land among the landless and security of tenancy for the unprotected tenants/share croppers provides the critical element for triggering off the process of development among the rural destitute. Land asset endowment to the landless is one of the basic pre-requisites for initiating a programme of economic uplift of the landless.

7.29 Upto July, 1983, 43.31 lakh acres of land had been declared surplus under the revised land ceiling laws enacted in the light of the National Guidelines. 29.45 lakh acres have been taken over by the States and, out of this, 20.05 lakh acres have been distributed among 14.82 lakh eligible families of landless agricultural workers and other sections of the rural poor. 6.15 lakh families belong to the Scheduled Castes and 1.88 lakh to the Scheduled Tribes, together accounting for 54.15 per cent of the total number of beneficiary families and 52 per cent of the total area distributed. Since the inception of the New 20 Point Programme 3.99 lakh acres have been declared surplus, 3.13 lakh areas have been taken possession of and 1.47 lakh acres have been distributed to 1.11 lakh eligible families.

7.30 12.18 lakh acres of land declared surplus by Revenue Officers and Revenue Tribunals is held up in litigation. The pendency in Civil Courts is particularly high in the States of Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra and West Bengal. Within the given legal constraints, State Governments are trying to get these cases disposed of either by having Special Benches or by having Special Cells of lawyers in the concerned courts. More than 6.44 lakh acres of area already taken possession of is not distributed because of its unsuitability for agriculture. This is expected to be reserved for public purposes like social forestry, etc.

7.31 With a view to assisting allottees of ceiling surplus lands to take to productive cultivation, a central sector scheme was taken up for implementation in 1975-76. Under the scheme financial assistance of Rs. 1,000 per hectare is given as an outright grant. The cost of the scheme is shared between the Centre and the States equally. A provision of Rs. 30 crores was made for the scheme in the Sixth Five Year Plan 1980—85 in the Central Sector. The expenditure under this scheme was Rs. 0.54 crore in 1981-82, Rs. 1.13 crores in 1981-82, Rs. 0.98 crore in 1982-83.

Land Records

7.32 The Sixth Five Year Plan recommended that a systematic programme should be taken up for compilation|updating of land records and completed within a period of 5 years. Under the new 20-Point Programme, it has been emphasized that compilation and updating of land records should be completed with the utmost urgency. Correct and up-to-date land records are not only necessary for effective implementation of land reform measures but also to enable flow of credit to small landholders.

7.33 In the ex-intermediary areas, the records were not regularly maintained and were largely out of date. In addition, large tracts in hilly areas, where the concept of community ownership is in vogue, remained un-surveyed. Resurvey operations are being carried out in the State of Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Kerala, Madhya Pradesh, Manipur, Meghalaya, Orissa, Sikkim, Tripura and West Bengal under the State Plans. As reported by some of the State Governments, financial constraint is the main factor for the slow execution of this programme.

7.34 In Andhra Pradesh, Bihar, Haryana, Karnataka, Madhya Pradesh, Punjab, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh, pass books are being issued to landowners on the basis of entries in the record of rights.

Tenancy Reforms

7.35 The National Policy on Tenancy aims at security of tenure for tenants, regulation and fixation of rents at one-fourth to one-fifth of the gross produce and progressive transfer of ownership to tenants. Almost all the States have enacted legislation providing for security of tenure to tenants and their laws prohibit ejectment of such tenants except under certain conditions. As a result, about 7 million tenants share cropper have acquired ownership right. In West Bengal share-croppers are being registered in the record of rights under a special programme to enable them to get the benefit of security of tenancy. So far over 1.1 million share-croppers have benefited from this programme. The State-wise figures of the tenants and share-croppers registered is indicated below:

Sl. No.	States	No. of Tenants/ Share-croppers registered
(1)	(2)	(3)
1.	Assam	2,51,159
2.	Gujarat	10,50,000
3.	Kerala	24,40,000
4.	Karnataka	4,76,000
5.	Maharashtra	12,83,000
6.	Tamil Nadu	4,12,280
7.	West Bengal	11,03,000
	TOTAL	70,15,439

7.36 Rents have been reduced from 1|4th to 1|5th of the gross produce in all States excepting Andhra Pradesh, Haryana and Punjab. Efforts are being made to bring down the level of rent in these States also.

7.37 Unless the beneficiaries of land reform, most of whom belong to the poorest segments of the community, are supported by other ongoing rural development schemes like IRDP, DPAP, NREP, etc., it would be difficult for them to make productive use of the land or to reap the benefit of security of tenancy. Hence a conscious policy has to be followed for convergence of benefit from other schemes to the beneficiaries of land reforms to make them economically viable. The immediate credit needs of the beneficiaries require to be satisfied through institutional sources as the old links would be snapped in the post-reform stage. The mechnism evolved in this regard in West Bengal for the recorded share-croppers and assigness of ceiling surplus land may be adopted with suitable changes in other areas also.

CHAPTER 8

VILLAGE AND SMALL INDUSTRIES

The programmes of the Village & Small Industries Sector as outlined in the Sixth Plan 1980—85 were to sub-serve the objectives of improvement in the levels of production and earnings through measures like upgradation of skills and technologies, creation of additional employment opportunities on a dispersed and decentralised basis, fuller utilisation of existing installed capacities, establishment of a wider entrepreneurial base through appropriate training and package of incentives and expanded efforts in export promotion.

8.2 The policy support for implementation of development programmes for Village & Small Industries has been in the direction of :

(i) Intergration of promotional programmes with other area development programmes particularly in the Integrated Rural Development (IRD) areas.

(iii) Restructuring of the organisational base at the district level to make it more effective and result-oriented,

(iii) Development of appropriate technologies and skills,

(iv) Arrangements for increased availabilities of raw materials,

(v) Accelerated flow of institutional credit,

(vi) Selective reservation of items for exclusive production and purchase from the cottage and small industries as well as effective promotion of ancillaries.

(vii) Strengthening and expansion of the cooperative form of organisation, and

(viii) Building up of a sound data base to facilitate proper policy formulation and evaluation.

8.3 Some policy measures haev already beer taken with respect to integration of the promotional programmes in the cottage & village industries sector with the IRD programme. Necessary guidelines have been issued for identifying the beneficiaries for improvement in cottage and village industries alongwith the package of assistance to be given to them. The Khadi & Village Industries Commission (KVIC) was made responsible to cover beneficiaries at the rate of 50 families per block per year under the IRD. A decision to restructure the organisational set up of District Industries Centres (DIC) with a view to strengthening their technological competence has been taken. In the field of industrial cooperatives, the scheme of cooperativisation of the coir industry recommended by the High Level Study Team has been taken up for implementation. A scheme for setting up of industrial cooperatives in the handicrafts sector has also been approved.

8.4 In order to provide the necessary technical input to the rural industries a Council for Advancement of Rural Technology (CART) has been registered in Oct. 1982 and the Council and Executive Committee formed in April,. 1983. Technical & technological improvements have been effected in the spinning sector and in the weaving sector and also through addition of powerised|improved processes. Mention may be made of pot charkha which incorporates semi open-end spinning technology, 4—spindle wool spinning charkha incorporating ring spinning technology and 10—spindle coarse count spinning charkha with higher revolutions per minute. On the processing side, improvements have been effected through the introduction of small mercerising equipment capable of handling 25 kgs of yarn per shift and thermostating resin treatment for anti-crease properties. A power-driven portable ghani has also been introduced. Improvements have also been effected in bio-gas plants, power operated potter's wheel, toilet and liquid soap manufacture.

8.5 To upgrade the technology of small scale sector a scheme for setting up of Product-cum-Process Development Centres (PPDC) is being taken up. Existing Field Testing Stations have been strengthened and new ones created to assist in improving the quality standards of small industry products. Tool room facilities are being strengthened.

8.6 In the field of sericulture, a Central Silk Technological Research Institute (CSTRI) is being established by the Central Silk Board (CSB) essentially for improvements in post-cocoon technology and finishing of silk fabrics.

8.7 In the case of handlooms, a National Handloom Development and Financing Corporation has been set up to attend, inter-alia, to the problem of yarn supply to handloom weavers at reasonable prices. The Rural Marketing Centres (RMC) were set up on a pilot basis at the block level for the supply of raw materials required by the artisans and tiny units and provide the necessary marketing support.

8.8 With a view to ensuring adequate flow of bank finance, the Village & Small Industries Sector has been recognised as a priority sector and the commercial banks have been advised to give special attention to the needs of the priority sector borrowers particularly the weaker sections. Steps are being taken to achieve the lending target of 40 per cent for the priority sector. The National Bank for Agriculture and Rural Development (NABARD) has been set up to provide refinancing facilities against loans and advances to artisans, small scale industries including village & cottage industries and industrial units in the tiny|decentralised sector. In the interest of the growth of small scale industries, the policies of reservation of industries for exclusive development in the sector and government purchase have been continued and Standing Committees set up for the purpose to review the policies on a continuing basis.

8.9 Reviewing the industrial development strategy followed over successive plans, the Government has announced an interim measure (pending a decision on the report on Industrial Dispersal submitted by the National Committee on Development of Backward Areas) by which the concessions being extended to units being set up in the backward areas have been enlarged and streamlined. Overriding priorities will be given to the "No-Industry Districts" and the "Special Regions". The scheme of Nucleus Plants visualised as a major plan plank for industrial development of backward areas forms an integral part of this strategy. Differential concessions would be extende to nucleus plants coming up under the different cate gories of backward districts identified for the purpo of graded incentives. 60 districts have been identifie for the development of nucleus plants. Central Tas Forces set up for this purpose have already submit ted reports covering 35 districts. There is need to private sector units to adopt BPE guidelines for an cillarisation at least for new units.

8.10 A working group was set up to study an advise on various measures required for improvin the data base of various sub-sectors of village an small industries. The report of the working grou was considered by the Standing Committee for Direc ting and Reviewing improvement of data base for plan ning and policy making and also by the committe for the Decentralised Sector. Most of the recommen dations made by the working group have been accep ted. For the organised small-scale sector it has bee decided to increase the size of sample from 2 pe cent to 20 per cent.

8.11 The target for incremental output for th terminal year of the Sixth Plan 1984|85 wa Rs. 15,725 crores and the exports were to rise b about Rs. 1460 crores at 1979|80 prices. The achie vement made during the first two years, expected i 1982|83, targets for 1983|84 and the present assess ment for various sub-sectors are given below in tabl 8.1.

TABLE 8.1

Sixth Plan Targets and Achievements

Sector	Sixth Plan 1984-85 terminal year target	1980-81 Actuals	1981-82 Actuals	1982-83 Targets	1982-83 Anticipated	1983-84 Estimated	1984-85 Estimated
I. Production (value in Rs. crores at 1979-80 prices)							
1. Khadi—Mill. Sq. mtre	165	91	96.42	1.25	110.00	130.00	155
Value	200	106.85	123.40	137	145.28	160.00	190
2. Village Inds.— Value.	1000	451.25	543.37	617.30	619.45	720.00	850
3. Sericulture : Lakh Kg silk	90	50.41	52.49	75.55	57.00	62.00	70
—Value	245	143.17	168.75	207.00	182.70	198.25	221
4. Handloom : M. mtrs.	4100	3100	3113	3550	3300	3650	3830
—Value	2460	1860	1868	2130	1980	2190	229[illegible]
5. Handicrafts—Value*	3200	2300	2800	2710	2880	3090	320[illegible]
6. Coir : Lakhs Tonnes	2.63	1.59	1.07	1.96	1.86	2.02	2.1[illegible]
fibre—Value	122	73.83	79.05	90.92	85.82	93.93	97.6[illegible]
7. Small Scale Indus. —Value	32873	23566	52920	27500	27700	30000	3287[illegible]
8. Powerlooms—M. mtrs.	4300	3369	3603	3650	3872	4070	430[illegible]
—Value	4100	3176	3394	3438	3647	3834	410[illegible]
II. Exports							
1. Sericulture - Value*	100	53.12	69.73	90	85	90	11[illegible]
2. Handloom ,, *	370	293.36	322.42	324	414	445	49[illegible]
3. Handicrafts ,, *	1315	966.37	1177.09	1160	1210	1300	132[illegible]
4. Coir ,, *	50	25.55	26.93	32.00	23.60	30.32	35.0[illegible]
5. Small Scale ,, * Industries	1850	1549	2026	1430	2390	1625	185[illegible]

* At current prices except for the Sixth Plan target which is at 1979-80 prices

8.12 It would be seen from the above table that it is only in the case of small scale industries, powerlooms and handicrafts that the output is expected to be in keeping with the targets of the Sixth Five Year Plan. In traditional industries, there may be substantial shortfalls. As regards exports, in the case of coir, there will be shortfall even at current prices. For other sub-sectors, the exports at current prices are likely to exceed the targets.

Khadi and Village Industries

8.13 During the Sixth Plan, the khadi and village industries programme has been assigned an important role in the generation of employment opportunities. Of about 2 million additional employment targetted for the Plan period, about 10 lakhs was to be generated through appropriate linkage and coordination of the KVI programme with the IRD programme under which beneficiaries at the rate of 50 families per block were to be identified. However, progress on this front has been somewhat slow because of certain operational difficulties as to the identification of the appropriate field agency to implement the cottage and village industries programme as a component of the IRD Programme. It has since been decided that, in whichever block the KVIC has its own agency ,the implementation as well as monitoring of the cottage and village industries programme would be done by that agency. Accordingly, the KVIC had taken up 200 blocks in 1982-83 and proposes to take up 300 blocks each in 1983-84 and 1984-85 for implementation of the IRD programme. In the context of this, the target of generation of employment opportunities as a component of the IRD programme would be only partially achieved.

8.14 On the organisational plane it was, inter-alia, envisaged that the State KVI Boards would be revitalised. A 'model' bill for amending the constitution of the State KVI boards to establish better linkages with KVIC and incorporate other items such as official membership, accountability to State legislature etc. has been circulated to the States. The progress in this regard has not been very encouraging.

8.15 During the course of the first 3 years of the Sixth Plan, the KVIC have taken some measures for development of the khadi and village industries. The Reserve Bank of India have since included the KVI activities and the KVI institutions in the 'priority' sector for bank finance with the benefit of lower margins and lower rate of interest (of 13.5 per cent). A liberalised pattern of assistance has been extended to the physically handicapped so as to provide increasing avenues of employment to them in the KVI sector. Activities benefiting the scheduled castes and tribes like leather, fibre, forest-based product, bee-keeping, cane and bamboo and silk have been identified for intensive development. The employment of SC/ST in the overall context is expected to increase from 25 per cent to 36 per cent by the terminal year of the Sixth Plan. Participation of women is likely to go up from 45 per cent to 48 per cent during the Plan period.

8.16 Subsequent to the introduction of New Model Charkha (NMC) and semi-automatic looms, the productivity of spinners and weavers have gone up and the level of fuller employment also has moved from 7-8 per cent about 10 years ago to about 30 per cent obtainable at present. The NMC yarn constituted about 45 per cent of the total khadi yarn production in 1981-82 as against 33 per cent in 1979-80. The quality of yarn has also improved substantially which can be utilised by handlooms during shortage of mill hank yarn. This has enhanced the quality of khadi fabrics in general and that of many end-use products like ready-made garments and others. In the case of polyvastra, certain post-loom processing problems have surfaced. Against the Sixth Plan target of production of Rs. 54 crores, the actual production in 1981-82 was of the value of about 1.0 crore only. The question of assisting individual artisans, besides the registered institutions and the cooperative societies is proposed to be examined to facilitate extension of the coverage of the KVIC programme.

8.17 At the time of the formulation of Sixth Plan, it was envisaged that there would be adequate credit flow from commercial banks for this sector. Although adquate efforts have been made by KVIC to obtain credit facilities from the institutions these have not become available to the extent anticipated. Additional budgetary outlay might be required for this sector.

Small Scale Industry

8.18 Small scale industry exceeded the targetted growth rate envisaged during the first three years and according to the available indications, the target set for Sixth Five Year Plan is likely to be achieved. This has been mainly possible due to a number of policy measures taken during the first three years. The availability of raw materials has been substantially enhanced. The quantity of iron and steel supplied through State Industries Development Corporations was significantly stepped up. Orders have also been issued for the supply of levy cement for small and tiny units using cement as a raw meterial. The import policy has been liberalised and supply of imported pig iron was arranged at the stock yard. The value of import licences issued to small scale units went up substantially and a large number of items were brought under OGL category for actual users.

8.19 Another notable feature has been the availability of credit on easy terms to the small scale sector. The loans outstanding from small scale industry went up from Rs. 3106 crores in January, 1981 to Rs. 3893 crores by January, 1982. Next to agriculture, small scale industries were the major beneficiaries of the allocation of credit to priority sectors. Under the Credit Guarantee Scheme, claims amounting to Rs. 104.18 crores have been invoked by June, 1981 against a total default of Rs. 203 crores as on March, 1981. It has been estimated that a total amount of Rs. 80 crores will be needed against the provision of Rs. 42.50 crores during the Sixth Plan period. Four Proto-type Development and Training Centres (PDTCS) are functioning under the aegis of the National Small Industries Corporation (NSIC). they are engaged in proto-type development, transfer of technology including training to the small scale units in such areas as machine tools, diesel engines, plastic processing units, leather and footwear machinery. In view of the fact that the 3 PDTCs at Rajkot, Okhla and Howrah have been in existence for over two decades, there is need to modernise these centres with a view to updating their technology so as to enable them to take up new proto-types of relevance. A committee has been set up for this purpose. NSIC has also stepped up its hire-purchase activity, particularly in the backward areas, which accounted for nearly one-third of total lending. To improve the quality of products, four testing centres have already been set up and it has been decided to set up a field testing centre in each of the States. To upgrade the technology of the small scale sector, a scheme for setting up of Process-cum-Product Development Centres has been taken up. These centres will encompass design development process development and credit development based on market judgement and quality assurance. One Process-cum Product Development Centre (PPDC) has already been set up and six more are under consideration. It has been made obligatory for the producers of domoestic electric appliances to get their products quality marked to ensure that the products are free from hazards and testing facilities for the purpose have accordingly been provided.

8.20 In the interest of growth of small scale industries, policy for reservation of industries for exclusive development in the sector and Government purchase have been continued and Standing Committee set up to review the policies on a continuing basis. After change of nomenclature of certain items and additions and deletions, the number of reserved items stood at 837. The protective policy of reservation for Government purchases was further strengthened and 401 items have been exclusively reserved for the small scale units under the Government Store Purchase programmes. In respect of twelve items, it has been decided to make purchases upto 75 per cent of the requirements from the small scale sector. Purchase upto 50 per cent of the requirements in respect of another group of 25 items have also been reserved from the small scale sector. In addition, Small scale units are accorded price preference to a maximum of 15 per cent in the case of items which are purchased both from large and small scale units.

8.21 In order to avoid industrial sickness in the small scale sector, a scheme of margin money assistance for the rehabilitation of sick units has been introduced from 1981-82. Of the Sixth Plan provision of Rs. 20 crores, no expenditure has been incurred during 1981-82 and the likely expenditure during 1982-83 is around Rs. 1.0 crore. There appears to be a need to look into the operational problems in implementing this programme so that the scheme could make a better impact.

8.22 A scheme has been taken up to promote establishment of consortia of small scale units for export marketing. Under this scheme, assistance is rendered to such consortia at the initial stages so that ultimately, on expansion, they become eligible for registration under the export house scheme of the Ministry of Commerce. The scheme has, however, made little progress so far.

8.23 For internal marketing, National Small Industries Corporation has been assigned a larger role, particularly for domestic applicances and light engineering goods through the network of Indian Sewing Machine Company. Further, to facilitate the sale by the small scale units of their products to the Government through DGS&D, they are exempted from paying registeration fee and security deposit if they are registered with the NSIC for Government purchases.

8.24 As of date, 395 DICs have been set up covering 408 districts out of the 418 districts in the country. The revised guidelines for restructuring DIC set up issued in August, 1981. Out of the 29 States/Union Territories where the DIC programme has been taken up, 18 States have interacted with the office of the DC (SSI). Only the proposals received from the State Governments of Kerala and Maharashtra have been approved. However, none of the State Governments have restructured the DICs set up and no project managers had been appointed for the purpose till December, 1982. Out of the 395 DICs sanctioned as of April, 1983, buildings to house the DIC office have been completed in the case of only 197.

8.25 During 1981-82, based on 333 DICs that reported progress, about 1.9 lakh new registrations were made against a target of 2.18 lakhs and 3.08 lakhs units established as against a target of 3.57 lakhs for all the DICs taken together. According to the reports by the DICs, additional employment was generated to the tune of 9.58 lakhs against an estimated target of 11.07 lakhs.

8.26 However, the DIC programme is still to become the focal point for industrial promotion and development at the district level. It may be necessary to adopt uniform definitions for purposes of collection of statistics and also monitor and cross check the data being collected by the DICs at the district/State level. The experience over the last five years indicates that there is still no effective coordination machnism existing between the DICs and the other developmental agencies like the DRDA and the various wings of the office of the Development Commissioners/Boards dealing with the decentralised sector. An evaluation of the performance of the DICs as a promotional agency is necessary.

8.27 An additional outlay of Rs. 6 crores is likely to be needed for modernisation of the workshops of SISIs and for setting up of PPDCs.

Coir

8.28 The development of the coir industry has not been satisfactory so far. Production in the first two years of the Sixth Five Year Plan was lower than the production achieved in the base year 1979-80 and according to the available information the production in 1982-83 is likely to be around the 1979-80 level of production. Judging from the production achievement of the first three years, the target envisaged for Sixth Five Year Plan may not be achieved. The exports of coir products have also declined during the first three years due to recession in European countries, severe competition from synthetic substitutes and non-competitiveness in terms of cost. There might be substantial shortfall in the export targets of coir and coir products.

8.29 The problems of the coir industry have been examined by a High Level Study Team. As recommended by this Study Team, the scheme of co-operativisation of coir has already been approved and action plan has been initiated. There is need to expedite a decision on other recommendations of the High Level Team.

8.30 There has been some improvement in the industry in responding to the needs for adopting programmes of quality improvement, product betterment|diversification of uses, design development and better marketing techniques. There is urgent need for intensification of research activities for product diversification as well as alternative uses of coir. Coir matting is being promoted as barricading medium in coal mines and the sea erosion measures. National Institute of Design is also engaged in the improvements in design of coir products. There seem to be need for further intensive efforts to promote coir products in industrial use. Revamping the functions of the Coir Board is also necessary. As the developmental programmes have not gained sufficient momentum, the level of utilisation of funds would be less and a saving of Rs. 4 crores would accrue.

Handlooms

8.31 The main thrust of the handloom development programme has been to provide assistance in terms of inputs to the industry including raw materials, credit and marketing of the products as well as progressive cooperativisation of handloom weavers so as to eliminate exploitation at the hands of the middlemen. The NHFDC's functions would include procurement and distribution of hank yarn and other raw materials to handloom sector, opening of retail outlets and financing of spinning|reeling units in the non-cooperative sector. Other programmes include expansion of technical facilities through supply of improved tools and equipments, strengthening of the Institutes of Handloom Technology, modernisation|renovation of looms to increase productivity and reduce fatigue and drudgery, provision of pre-loom and post loom processing facilities of dyeing, bleaching, mercerising, stentering, printing, sizing, calendering etc. so that the value-added content could be increased, resulting in higher earnings to the handloom weavers. In order to enable the handloom sector to register faster growth in blended fabrics, full excise duty exemption has been given for polyster blended fabrics woven on handlooms from process stage duties by units set up by the State Handloom Development Corporations and Apex Cooperative Societies.

8.32 The total number of handlooms (excluding domestic looms in some States) in the country has been estimated at about three million in the beginning of the Sixth Plan. So far, about 16.8 lakh weavers have been brought within the co-operative fold and the number is expected to increase to 19.75 lakh weavers under the programme of co-operativisation.

8.33 About 15000 looms were estimated to have been modernised|renovated during each of the years 1981-82 and 1982-83. Composite processing facilities for over 70 million metres of cloth per year have been created in the handloom sector so far. A new institute of Handloom Technology at Gauhati to serve the North Eastern Region has started functioning.

8.34 The handloom industry has recorded a growth rate of 7.3 per cent during the first two years of the Plan. Based on the production of 3300 million metres in 1982-83, it is estimated that the handloom sector will fall short of the target of 4100 million metres and the likely achievement would be around 3830 million metres in 1984-85.

8.35 For providing increased supply of hank yarn to handloom weavers, a scheme of setting up|expansion of weavers' Cooperative Spinning Mills has been included in the Sixth Plan, with a provision of Rs. 32 crores. 13 new mills are proposed to be set up and 6 existing mills strengthened. However, the progress of setting up of mills under the scheme is tardy and there is a considerable time lag in sanctions and actual releases|utilisation of funds. In the first two years of the Sixth Plan, release of funds has been about Rs. 6.9 crores against a sanction of Rs. 29.33 crores during the period and no new mill has yet gone on stream in the handloom weavers' cooperative sector. Implementation of the scheme would require to be monitored periodically to prevent time and cost over-runs. The Sixth Plan provides that new spinning mills should be set up in yarn deficit areas having concentration of handlooms such as the North Eastern Region. An additional Rs. 10 crores would be needed on account of longer gestation period escalation in cost and for initiating action in yarn deficit areas.

8.37 As envisaged in the Textile policy, the proartment of Textiles to determine the cost handicaps suffered by the handloom sector vis-a-vis powerlooms. The Report of this Study Group is expected to be submitted shortly.

8.37 As envisaged in the Textile policy, the production of Janata cloth in the handloom sector has been progressively increasing from 206 million metres in 1979-80 to 340 million metres in 1982-83. In order to enable the North-Eastern region to participate in the Janata cloth scheme, local variety of "Mekhala Chaddar" of Assam has been included. An evaluation of the scheme is a necessary to know whether the Janata cloth being distributed is reaching the target groups.

Powerlooms

8.38 The number of authorised powerlooms has gone up by 90,000 from 4.83 lakhs in Dec. 1979 to 5.73 lakhs by the end of 1982. Over 49,000 looms are in the process of registration. Apart from this, it is estimated that a large number of unauthorised powerlooms are in existence which continue to encroach on the handloom sector. The reservation of certain items in the handloom sector has not been effective and the relevant provision made under the Essential Commodities Act has been challenged in the Courts. A separate legislation for this purpose is under contemplation and would need to be expedited. Although a Powerloom Board was established in 1981 to check expansion of unauthorised Powerlooms and their encroachment on the handloom sector, no tangible measures have been drawn up till may, 1983.

8.39 Production of cloth by powerlooms is likely to exceed the target of 4300 million metres by the end of the Sixth Plan. The entire Textile Policy needs to be reviewed for assigning specific roles for the handloom, powerloom and the mill sectors.

Handicrafts

8.40 In the handicrafts sector, there has been shortfall in the utilisation of funds in the first three years of the Sixth Plan. This is on account of delay in the setting up of Craft Institutes, namely National Institutes of Carpet Technology and Hand Printed Textiles and lack of desired progress in the implementation of training programmes. The pace of implementation of Plan programmes is required to be improved. The employment coverage in the handicraft sector is estimated to have increased from 20.3 lakh persons in 1979-80 to 23.90 lakh persons in 1981-82 and likely achievement for 1982-83 is 25.05 lakh persons against a target of 24 lakh persons.

8.41 Substantial production in handicrafts is export oriented. Training for imparting improved skills to artisans is of the utmost importance to preserve and continuously upgrade the quality to meet the export marketing requirements. Therefore, around 60 per cent of the public sector outlay is earmarked for training covering crafts like, (1) carpet weaving, (2) printing of textiles, (3) cane and bamboo crafts, (4) metal artware etc. A programme of upgrading carpet weaving has been initiated through establishment of centres which would impart training in 400 knots and above. The impact of the training programmes of production of handicrafts and the position regarding absorption of trainees in the industry require to be studied. Further, there is an urgent need for marketing of carpets produced by the weaver trainees and to evolve a suitable methodology for expeditious implementation. To provide adequate technological inputs, 4 Regional Design and Technical Development Centres have been established in 4 metropolitan cities. They have developed about 900 new designs out of which 575 designs are stated to have been commercially accepted during 1981-82. During April-June 1982, 581 new designs were developed and 324 designs were commercially accepted. A comprehensive review has been made by the sub-committee on Design and Technical Development Centres set up by All India Handicrafts Board regarding their functioning. The Committee has made a series of recommendations relating to their structure, objectives, monitoring and funding of the Centres. These recommendations are under consideration.

8.42 An Institute of Carpet Technology is being established at Bhadohi, U.P. for product development including standardisation of raw materials, applied research in the techniques of weaving, dyeing and finishing. For promotion of exports, an Export Development Council has been set up. An evaluation of the working of the Central and State Handicrafts Corporations is needed to know whether the objectives of increasing the earnings of the artisans and enhancing the sale of handicrafts has been achieved. A scheme for cooperativisation of handicraft artisans has recently been instituted. The scheme of RMCs set up with the objectives of providing a total package in the nature of raw materials and marketing and act as multi-product outlets for rural industries has not been successful.

8.43 The Major provision for the handicrafts sector is for training programmes. Considering the progress of expenditure in the handicrafts sector, there is a likelihood of saving of about Rs. 15 crores.

Sericulture

8.44 As against the target of 90 lakh kgs. set for the terminal year of the Sixth Plan (1984-85) from a level of 48 lakh kgs. in 1979-80, it appears from the trend of raw silk production for the first three years of the Plan period, there will be a significant shortfall in achieving the targets. Estimated production would be around 70 lakh kgs. Drought conditions in the major mulberry silk producing State of Karnataka, Uzi fly infestation in the States of Karnataka, Andhra Pradesh, Tamil Nadu and W. Bengal, poor quality and inadequate production of silk seeds have been among the major factors resulting in slow progress. Stabilisation in the production of non-mulberry silk is to be still achieved. The basic seed for mulberry silk production in J&K continues to be imported from Japan and the silk production in the State is also showing a declining trend. Due to monopoly procurement, high overheads etc. the silk cocoons do not fetch remunerative prices. A Committee has been set up to go into these issues and concrete measures would be drawn up by the State Government after the recommendations become available.

8.45 Against the target of 1500 tonnes of bivoltine silk, only about 115 tonnes was produced during 1981-82. The cost of production of bivoltine cocoon is higher than multivoltine breed and they do not fetch remunerative prices in spite of the fact that the filament produced is superior. The outputhectare of mulberry silk obtainable in India is still around 26.6 Kgs|hectare against the level of 133.8 Kgs|hectare achieved in Japan in 1975. Although the Central Sericulture Research and Training Institutes in the country are able to obtain an output of over 100 Kgs|hectare, the output achieved at field conditions is very low. The management and delivery of technology needs to be improved. There is need for improvement in the existing system of seed maintenance and seed multiplication. Considerable attention is required to be given to extension and training work as well as rearing of young age silkworms in chawki rearing centres.

8.46 Presently, seed production is being carried out by a number of Training Institutes, State Departments of Sericulture and private seed producers. The role of each agency needs to be clearly defined. The possibility of compulsory certification of seeds needs to be explored. It is essential that the Central Silk Board should concentrate efforts for (i) research, (ii) testing, (iii) production of basic seeds (P^4 and P^3 levels), (iv) training of personnel at advanced 'level' etc. The activity of the States may include expansion of area under food plants for silk worms, extension and demonstration, setting up of chawki rearing centres for rearing of young age silkworms, production of seeds at P^2 and P^1 levels and industrial seeds, training of personnel at artisan and middle level etc.

8.47 The oak tassar industry in Manipur suffered a steep decline over the years. The Central Silk Board (CSB) has set up a Task Force to go into the question of fall in oak tassar cocoon production and to suggest remedial measures regarding increasing production in the entire North Eastern Region. The Report is under the consideration of the CSB. Production of muga and eri silk in the N.E. Region and mulberry in J and K is stagnant or declining over the years. Steps to be taken to improve silk production in these areas and programme of bringing new areas under mulberry cultivation in potential States like U.P., W. Bengal, Orissa etc. are required to be identified and schemes for these purposes in different States should be dovetailed with those of the CSB.

8.48 A National Silkworm Seed project has been organised to strengthen the seed production programme including basic seed by establishing seed cocoon farms. A project for development of moriculture has also been initiated under which it is proposed to supply new varieties of Kanva 2, S30, S36, S41, and S54, to prospective sericulturists in new areas on a tapering subsidy basis.

8.49 To develop the sericulture industry and ensure fair remuneration to rearers as well as reelers, prices of cocoons and raw silk need to be stablilised. In this connection, the Department of Textiles and set up a Price Stabilisation Committee for Raw Silk in 1981 to study the procurement operations of raw silk|cocoons with a view to stabilising the prices of raw cocoons including the import of silk and upgradation of raw silk through the provision of testing and grading facilities. The Report of the Committee is still awaited. It is necessary to maintain a buffer stock of silk to regulate the market.

8.50 With a view to exploiting the tassar potential and improving the life of the tribals an Inter-State tassar project with a five year perspective has been taken up by the CSB in 1981 in the States of Bihar, M.P., Orissa, U.P., A.P., Rajasthan, Maharashtra and W. Bengal at an estimated cost of Rs. 10.50 crores for which Sixth Plan allocations are to the tune of Rs. 8.00 crores. Under the project, 6000 hectares of land would be planted with arjun trees in the above States. Seedlings will be prepared in 60 nurseries. The infrastructure envisaged under the project include setting up of 7 units each of cold storages, project centres, marketing complexes and reeling units (one in each State) 12 grainages and 12 extension centres. Training would also be imparted. The beneficiaries of the project would be given the right to utilise one hectare each of the plantation. The project is estimated to benefit 30,000 persons and produce an additional quantity of one lakh Kg. of tassar raw silk. Under this project, Arjun plantation is expected to be completed in 2917 hectares of the target of 6000 hectares by 31-3-1983. Of the implementing States, Bihar has not made any headway at all; however, in the case of U.P., the coverage has been modified on the lower side when compared to the original target. Despite marginal variations in the implementing States, the project has made good progress and the overall target would be exceeded.

8.51 The CSTRI being established by CSB will engage itself with post-cocoon technology from reeling to the finished fabric and would draw on the available infrastructural facilities and expertise from the existing Research Institutes|Institutions. A muga project for the North Eastern Region for ensuring increase in the production of quality muga seed and better remuneration to rearers is being taken up by the CSB.

8.52 Regular monitoring of production targets and production programmes are crucial for assessing the temporal progress of this industry. The present data base is inadequate and efforts would need to be made to evolve a proper system for collection of statistics and reliable estimation procedure|data flow mechanism.

8.53 Taking into account certain new projects which are under consideration for maintaining the tempo of developmental schemes|programmes, an additional outlay of Rs. 10 crores may be needed.

CHAPTER 9

LABOUR, MANPOWER AND EMPLOYMENT

Labour and Employment

A total outlay of about Rs. 167 crores was approved for programmes relating to Craftsmen and allied training and Labour Welfare comprising about Rs. 82 crores in the Central Sector and about Rs. 85 crores in the plans of the States and Union Territories. The break-up of the Five Year Plan outlay according to major programme categories was—Craftsmen and allied training about Rs. 89 crores, Employment Service about Rs. 19 crores, Labour Welfare about Rs. 27 crores and Rehabilitation of Bonded Labour (Centrally Sponsored) about Rs. 32 crores. The likely expenditure during the first three years of the Sixth Plan i.e. 1980-81 to 1982-83 would amount to about Rs. 88 crores constituting roughly about 53 per cent of the total five year outlay. However, the progress of implementation has lagged behind relatively in the Central Sector Plan in which the expenditure during the first three years would be about 30 per cent only. The general reasons for shortfall in the Central Sector have been delays in the finalisation and formal clearance of the projects, problems in the sanction and placement of staff completion of the civil works component etc. In the case of many States, the expenditure level has been in excess of the approved outlays in successive Annual Plans. The progress of implementation in the Central Sector has started picking up and revision of priorities and readjustments in the outlays has been suggested to ensure effective utilisation of the provisions for essential schemes. In the 1983-84 Annual Plan, a total outlay of the order of Rs. 48 crores has been approved comprising Rs. 15 crores in the Central Sector and about Rs. 33 crores in the plans of the States and Union Territories.

9.2 With this level of outlays and taking into account the requirement of funds for the last year of the Sixth Plan i.e. 1984-85, the revised five year outlay in the Central Sector would be about Rs. 62.00 crores resulting in a saving of about Rs. 20 crores. However, in the case of the States/UTs the original five year provision is likely to be exceeded even in the fourth year of the Plan and additional provision will be required to meet the last year's requirements.

9.3 Highlights of some major programmes are indicated below.

Rehabilitation of Bonded Labour

9.4 This is one point of the 20-point Programme and is being implemented as a Centrally Sponsored Scheme under which matching grant assistance is provided by the Centre to the State Government to the extent of 50 per cent of the cost of approved schemes. From the beginning of the programme in 1975-76 to the end of March, 1983 about 1.52 lakh bonded labourers had been identified and freed, and out of these about 1.13 lakh bonded labourers had been rehabilitated. The number identified and freed and the number rehabilitated in each year of the Sixth Plan are as follows:—

Year	No. of bonded labourers	
	Identified and freed	Rehabilitated
1	2	3
1980-81	679	19,300
1981-82	12,579	17,658
1982-83	21,803	36,019

Efforts at identification are being continued by the State Governments. Certain procedures regarding the release and the utilisation of the Central assistance which were slowing down the pace of the implementation have now been simplified.

An integrated approach with other ongoing schemes in sectors like Rural Development (IRDP, NREP, etc.), Social Services, etc., has been suggested for more effective rehabilitation. Against the tentative outlay of Rs. 31.68 crores, the requirement of funds for completing the task of rehabilitation during the Sixth Plan period is now estimated at Rs. 46.50 crores. The addition will be called for entirely in the States Sector.

Revision of Minimum Wages in Agriculture

9.5 Since 1980, most of the State Governments and Union Territories have effected revision of the minimum wages in agriculture. Measures for strengthening the enforcement machinery for implementation of minimum wages in agriculture have also been undertaken in a number of States.

Other Programmes

9.6 Schemes are being implemented for the modernisation and upgradation of the vocational training system with a view to improvement of quality by providing the necessary facilities in Advanced Training Institutes and Central Training Institutes under the Centre and Industrial Training Institutes administered by the State Governments/Union Territories. Efforts have also been made to locate and utilise more training places for apprenticeship training. The training needs of women job seekers and of rural areas have also been kept in view in undertaking programmes in this area. In the case of States/Union Territories particularly vocational training programmes have been implemented at an accelerated pace resulting in expenditure exceeding the approved outlays.

9.7 Under Employment Service, schemes are implemented for the vocational rehabilitation of physically handicapped, coaching-cum-guidance of Scheduled Caste|Scheduled Tribe job seekers, strengthening of vocational guidance in the employment exchanges etc. including for self-employment. The Workers' education programme has been expanding to cover more categories and rural areas. Some other programmes in this sector relate to strengthening of Industrial and Mine Safety, Industrial Relations Machinery, Research and Survey, etc.

9.8 Given below in Table 9.1 is a summary statement indicating the provision made in the Sixth Five Year Plan, the progress of expenditure, the likely outlays in the Craftsmen Training and Labour Welfare Sector :

TABLE 9.1

(Rs. in crores)

Year	Centre	States	Union Territories	Total
1	2	3	4	5
1980—85 Plan outlay (original)	81.97	75.42	9.22	166.61
1980-83 total likely outlay	24.48	58.35	5.19	88.02
1983-84 approved outlay	15.00	30.79	2.69	48.48
1980—85 (Probable)	62.00	124.00	11.00	197.00

Manpower

9.9 On the basis of the results of the 32nd Round Survey (1977-78) of the NSSO and taking into account the official population projections, the Sixth Plan estimated a need to generate employment opportunities of the order of 46.3 million during the Sixth Plan period and as against this, placed the employment generation likely during the Sixth Plan period at 34.3 million standard person years.

9.10 To provide additional employment opportunities to unskilled rural labour and to increase the income level of the rural poor, the National Rural Employment Programme (NREP) and the Integrated Rural Development Programme (IRDP) are under implementation throughout the country. Conscious efforts are being made to strengthen and expand the scope of these programmes keeping in view the local needs for additional employment generation.

9.11 Adequate attention is being paid to the development of small and village industries in view of their high employment potential. A number of other programmes for upgrading skills and technology and providing inputs and marketing supports are also under implementation. The scheme of Training of Rural Youth for Self-employment aims at equipping rural youth belonging to the poorest families to take up self-employment by way of providing training|work experience and other assistance.

9.12 As part of the efforts for easing unemployment, some State Governments (Maharashtra, Gujarat, Andhra Pradesh Jammu and Kashmir, Karnataka West Bengal, etc.) are implementing Special Employment Programmes. These programmes concentrate on providing training facilities either for self-employment or to make the trainees more employable. In deserving cases, seed money|margin money is also provided for setting up self-employment ventures.

9.13 In pusuance of the Sixth Plan strategy most of the State Governments have set up District Manpower Planning and Employment Generation Councils. These Councils are expected to look into the employment needs of the districts and prepare integrated manpower plans. However, not much headway has been made in this direction so far. It is necessary that the planning machinery at the district level is suitably restructured or strengthened to focus attention on local problems of the area under development, including unemployment problems.

9.14 There is no regular annual series of data to indicate employment generation in the entire economy. It is, however, possible to estimate the likely employment generation during the first two years of the Plan period following the methodology adopted in the Sixth Plan. Based on the provisional results of sectoral growth rates and other relevant variables, employment has been roughly estimated at 157.75 million standard person years in 1980-81 and 162.96 million standard person years in 1981-82. This indicates that the rate of growth of employment was of the order of 4.4 per cent in 1980-81 and 3.3 per cent in 1981-82. The Sixth Plan envisaged an annual rate of growth of employment of 4.2 per cent. Thus, the rate of growth of employment was marginally higher than the target in 1980-81 but lower in 1981-82. This underscores the need for greater efforts to create employment opportunities. An important item of the 20-Point Programme is strengthening and expanding the Rural Employment Programmes. In addition, conscious efforts to promote self-employment particularly for the educated unemployed would be required. These efforts and proper effective implementation of all Plan programmes are likely to enhance the rate of growth of employment in the following years.

CHAPTER 10

MINIMUM NEEDS PROGRAMME

The Minimum Needs Programme began in the Fifth Plan (1974-79) as an investment in human resources development. Through public sector expenditure and investment, consumption levels of free or subsidised social services are to be improved, particularly for those whose consumption levels are below the poverty line. Integration of social consumption programmes with economic development programmes is sought to be established for providing a basis for accelerated growth, as also for reducing disparities in consumption levels. National objectives are laid down for each of its nine components as follows :—

Programme Outlays (Rs. crores)	*Objective*	*Targets by 1985*
1. Elementary Education States/UTs Centre 851 54	100% enrolment in the age group in 6—14 by 1990, to be supplemented by non-formal education.	95% enrolment in the age-group 6—11, and 50% in the age-group 11—14. It would be supplemented with non-formal education.
2. Adult Education 68 60	100% coverage of adults in age group 15—35 by 1990,through non-for mal education.	Target not fixed.
3. Rural Health 408 169	1. One Community Health Volunteer for every 1000 population or village by 1990.	To increase the Community Health Volunteers from 1.40 lakhs in April, 1980 to 3.60 lakhs in 1984-85.
	2. Establishment of one primary health Sub-centre for a population of 5000 in plaints and 3000 in tribal and hilly areas by 2000 AD.	To increase the number of sub-centres by 40,000.
	3. One Primar y Health Centre for a population of 30,000 in plaints and 20,000 in tribal and hilly areas by 2000 AD.	To add 600 additional primary health centres and 1000 Subsidiary Health Centres during 1980-85, over 5400 PHCs/1000 SHCs existing.
	4. One Community Health Centre for a population of one lakh or one CD Block by 2000 AD.	To add 174 Community Health Centres in addition to converting existing 340 upgraded PHCs into CHCs.
4. Rural Water Supply 1407 600	—	To cover 2,30,784 "Problem" Villages, except some in desert/hilly areas.
5. Rural Roads 1165 —	Linking up of all villages with a population of 1500 and above and 50% of the villages with population of 1000—1500 by 1990.	To connect about 20,000 additional villages with rural roads.
6. Rural Electrification 301 —	At least 60% of the villages in each State and Union Territory to be electrified by 1990.	About 46,464 additional villages to be electrified.
7. Housing Assistanc to Rural landless labourers. 354 —	Provision of House sites and construction assistance to all the landless abour households by 1990.	To provide house-sites to 68 lakh house holds, and construction assistance to 36 lakh house holds.
8. Environ mental Improvement of Urban Slums. — 151	100% coverage of urban slums population by 1990.	10 million slum dwellers to be covered by 1985.
9. Nutrition 219	—	SNP* : 5 million children in 600 ICDS blocks and 5 lakh women to be covered with integrated services. MDM** : The existing level of beneficiaries i.e. about 17.4 million children to be continued and the programme to be integrated with other essential services.
Total Outlay State UTs. Centre 4924 883 — Rs. 5807 crores.		

*Supplementary Nutrition Programme.

**Mid-day Meal Scheme for school children.

10.2 In the State Sector, the trend of expenditure incurred so far shows that except for the Programmes on 'Housing for the rural landless' and 'Nutrition' the other programmes would by and large hit their targets within the funds provided in the Plan. The funds requirement under 'Nutrition' has to be increased because of the decision to increase the number of ICDS blocks by 400.

10.3 In the Central Sector, the balances of Plan provisions left would be adequate to meet the requirements in respect of Elementary Education, but outlays will need to be increased under Adult Education, Rural Health and Rural Water Supply.

10.4 Some comments on the attainment of physical targets are offered below :—

Elementary Education

10.5 While the overall target of enrolment is 180 lakhs, 105 lakh children were enrolled during 1980-83. While the target for additional children enrolled in classes II—VIII is likely to be achieved, there would be shortfall in the enrolment of girls. The enrolment of girls is required to be stepped up to achieve the Plan target. Thus, the thrust of the programme has to be on increasing enrolment of girls and on retaining the children in school at least till Class VIII. A concerted effort is required in the low literacy pockets, especially in the educationally backward States, i.e. Assam, Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal.

Adult Education

10.6 Data regarding targets and achievements are available annually. The programme needs to be considerably accelerated and reoriented. Due to socio-economic factors, poor motivation of learners and to some extent of functionaries, there are problems of implementation that have to be overcome. Retention ratio also needs improvement.

Rural Health

10.7 The Plan targets of training 3.60 lakh Voluntary Health Guides, establishment of 600 PHCs and 15 CHCs are expected to be achieved. The target of establishment of 40,000 sub-centres is likely to be achieved to the extent of 90 per cent. Some States especially in the North-East, have felt a critical shortage of doctors and para-medical staff. Trained ANMs are not available in sub-centres in some areas.

Rural Water Supply

10.8 Under the Minimum Needs Programme, 30784 problem villages were targetted to be covered during the Sixth Plan period, with an outlay of Rs. 2007.11 crores (Rs. 1407.11 crores in the State sector Rs. 600 crores in Central Sector). During the first three years 1980—83, 99965 problem villages had been covered under this programme. Another 48846 villages are targetted to be covered during 1983-84. Considering the progress so far, there is likely to be a shortfall in the achievement of this target. During the first three years 1980—83 the likely expenditure on this programme is Rs. 1093.18 crores. A provision of Rs. 518.01 crores has been made for 1983-84.

5. Rural Roads

10.9 Against the target of covering 20,000 villages with a population of 1000 and above, 11270 villages are expected to be covered during the first three years. The States and Union territories would be in a position to cover another about 6000 villages during the rest of two years 1983—85 and thus there would be a shortfall of about 20 percent in the achievement during the Sixth Plan. Since population in most of the villages in hilly, tribal and desert areas is generally low, they may not qualify for the MNP. In view of this, relaxation in population norms for such areas is under consideration.

6. Rural Electrification

10.10 Of the Sixth Plan target of electrifying 46464 villages 21439 villages are expected to be electrified during the first three years 1980—83. The ahievements are likely to fall short of 20 per cent due to low performance in Bihar and U.P.

7. Housing for the Rural Landless

10.11 Against the modest level of assistance of Rs. 750 per house, the State Governments are providing assistance ranging from Rs. 1000 to Rs. 5000. Such a high rate of assistance results in a distortion of the Programme in that the physical achievements will fall short of the targets at the same level of expenditure.

8. Environment Improvement of Slums

10.12 Against the Sixth Plan targets of covering of about 10 million slum dwellers, about 3.77 million slum dwellers are likely to be covered during the period 1980—83, leaving a balance of 6.23 million for the remaining two years. There is likely to be a shortfall in the achievement of the targets. As far as outlays are concerned, as against the Sixth Plan outlay of Rs. 151.45 crores, the expenditure during the period 1980—83 is of the order of Rs. 74.68 crores.

Statement I

MINIMUM NEEDS PROGRAMME

Plan outlays Expenditure during Sixth Plan

(Rs. crores)

Programme	Sixth Plan Outlay approved	1980-81 Actuals	1981-82 Actuals	1982-83 Anticipated Expenditure	1980-83
(1)	(2)	(3)	(4)	(5)	(6)
1. Elementary Education	851 +54	101.15 +4.82	121.77 +7.44	178.15 +10.91	401.07 +23.17
2. Adult Education	68 +69	8.86 +6.08	10.80 +8.92	13.82 +16.29	33.48 +31.29
3. Rural Health	408 +169	47.12 +47.14	60.87 £	80.96 +48.75	188.95 +95.89
4. Rural Water Supply	1407 +600	209.16 +209.00	260.34 £	259.18 155.50	728.68 +364.50
5. Rural Electrification	301	52.74	60.41	65.83	178.98
6. Rural Roads	1165	196.46	232.43	204.95	633.84
7. Rural Housing for the landless	354	53.67	73.15	72.37	199.19
8. Improvements of Urban Slums	151	21.49	24.51	28.68	74.68
9. Nutrition	219	28.33	35.01	47.85	111.19
Total	4924 +883	718.98 267.04	879.29 +16.36	951.79 +231.45	2550.06 +514.85
Grand Total:—	5807	986.02	895.65	1183.24	3064.91

£ Included under Col. 3

+Figures indicate out lays for Central Sector Programmes.

Statement II

MINIMUM NEEDS PROGRAMME

Targets and Achievements of Selected Physical Programmes 1980—85

Programme	Unit	Base level achievement 1979-80*	Sixth Plan Targets	1980-81 Actuals	1981-82 Actual Achievements	1982-83 Anticipated Achievements
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. *Rural Health Programme*						
1. Sub-centres	Nos.	50,000	40,000 £	3,259	5,504	7,668
2. PHCs	Nos.	5,400	600 £	257	112	191
3. Subsidiary Health Centres	,,	1,000	1,000 £	240	244	723
4. Upgraded PHCs to be converted into CHCs	,,	340	174 £	101	38	53
II. *Rural Water Supply*						
No. of problem villages covered	No.		2,30,784	—	99,965	—
III. *Rural Roads*						
Linking of villages (with population of 1000 and above) with rural roads	No.		20,000 £	—	11,270	—
IV. *Rural Electrification*						
No. of villages to be electrified	Nos.		46,464	—	21,439	—
V. *Rural House sites-cum-House Construction*						
Provision of House sites to landless	No. in lakhs		68	—	23.74	—
Construction assistance	,,		36	—	15.53	—

£ Additional.

*As given in Sixth Five Year Plan (1980—85) document: page 367. Table No. 22.1

CHAPTER 11

ENERGY

POWER

Sixth Plan Profile

The total generating capacity in 'Utilities' (that is, excluding captive power plants) at the commencement of the Sixth Five Year Plan was 28490 MW. The Sixth Plan envisaged capacity addition of 19666 MW, bringing the total installed capacity to 48156 MW by end of the Sixth Plan. The break-up of this between the Centre and the States was as follows :—

TABLE 11.1

	Capacity as on 31-3-80	Traget of additional capacity	Cumulative capacity by end of 31-3-85
1	2	3	4
Centre	3399	4466	7864
States	25091	15051	40142
[illegible]		150	150
TOTAL	28490	19666	48156

(ii) Electricity Generation

11.2 The Sixth Five Year Plan envisaged a GDP growth rate of 5.2 per cent per annum. The sectoral profile of consumption, investment and the inter-sectoral linkages, on the basis of input-output model exercises, indicated a requirement of 191 billion units of electricity in the terminal year of the Plan as againt the actual generation of 112 billion units in the year 1979-80. These projections implied an average compound growth rate of 11.3 per cent per annum to be consistent with the 5.2 per cent GDP growth target.

Physical Performance

11.3 The physical performance in the first three years of the Plan is as follows :

I. Installed capacity (MW)	1980-81		1981-82		1982-83	
	Target	Achievement	Target	Achievement	Target	Achievement
1	2	3	4	5	6	7
Centre	665	220	925	690	525	630
States	2022	1603	2287	1485	2957	2430
TOTAL	2687	1823	3212	2175	3482	3060

11.4 The installed capacity additions in the first three years of the plan amount to 7058 MW against the target of 93.81 MW or 75 per cent. The details of the new capacity commissioned during the period 1980—83 in terms of types of plant, are as below :

Type of Plant	1980-81		1981-82		1982-83	
	Target	Achievement	Target	Achievement	Target	Achievement
1	2	3	4	5	6	7
Hydro	407	407	725	380	1045	870
Thermal, gas	1825	1196	2252	1795	2437	2190
Nuclear	455	220	235	—	—	—
TOTAL	2687	1823	3212	2175	3482	3060

The performance on electricity generation is as follows :

II.

Electricity Generation (bill-units)	1980-81		1981-82		1982-83	
	Target	Achievement	Target	Achievement	Target	Achievement
1	2	3	4	5	6	7
Hydro	47.0	46.5	46.5	49.6	48.0	48.2
Thermal nuclear	73.0	72.7	83.5	81.3	92.0	91.3
TOTAL	120.0	119.2	130.0	130.9	140.0	139.5

III. Plan outlay & Expenditure (Rs. crores)

The Sixth Five Year Plan provision for the Power Sector was Rs. 19,265/- crores comprising :

States	14,293
U. Ts.	247
Centre	4,725
	19,265*

*Exclusive of the outlay on special Project Agriculture, Rural Co-operatives & System Improvement Schemes financed through REC & also the NEC Power Programme.

The Annual Plan provision and expenditure incurred/likely to be incurred are as under :

	Plan Provision (Rs. crores)			Expenditure (Rs. crores)		
	1980-81	1981-82	1982-83	1980-81 (Actual)	1981-82 (Actual)	1982-83 (Provisional)
1	2	3	4	5	6	7
States	2188.21	2489.53	2879.88	2161.73	2446.49	2732.07
U. Ts.	38.25	41.98	53.15	36.05	47.04	53.57
Centre	520.42	721.00	929.26	459.06	688.80	1035.74
TOTAL	2746.88	3252.51	3862.29	2656.84	3182.24	3821.38

The Plan outlay for 1983-84 and the cumulative total upto 1984 is as given below :—

	1983-84 outlay	Cumulative Total upto 1983-84
1	2	3
States	3246.08	10,586.28
U.Ts.	63.64	200.30
Centre	1222.47	3,406.07
TOTAL	4532.19	14,192.65

Prospects for the Plan

(a) *Additions to installed capacity*

11.5 The actual achievement in the first three years and a realistic assessment of the possible performance in the remaining two years of the Plan indicate that the likely additions during the period 1980—85 would be around 14,000 to 14,500 MW.

(b) *Electricity Generation*

11.6 It is expected that the likely generation in 1984-85 will be around 170 billion units as against the original target of 191 billion units.

In the first three years of the Plan, additions to installed capacity were well below the target on account of a number of factors such as :—

(i) delay in the execution of civil and mechanical works by the State Electricity Boards' contractors,

(ii) delay in the supply of major plant and equipment by BHEL.

(iii) limited availability of agencies for doing specialised work like coal handling plant, cooling towers etc.

(iv) delay in the award of contracts for works and equipment.

(v) management deficiencies in the projects.

(vi) increasing operating cost and shortfalls in additional resource mobilisation, leading to a fall in the actual flow of funds as compared to the provision envisaged for the projects; and

(vii) delayed flow of funds from the state Govts. to the SEBs|project implementing agencies.

11.7 The producers of major equipment have now geared up their production programme and are in a position to supply main equipment well in time. Project management has however, not improved to the same extent but it is very much better now than it was at the begining of the Plan The principal problem now however, is the constraint on availability of resources. While, in nominal terms, the plan expenditure so far is only slightly more than proportional to the outlay, escalation in costs and the need to take up work on a number of projects expected to yield results in the next plan will mean that sizeable increase will be called for in the total Plan outlay. Should this addition not be forthcoming, the tempo of work on all projects will slow down. In particular, the work on a number of projects expected to yield results in the Seventh Plan would be severely affected as they will have to bear the brunt of the cuts. Here again, it will not be possible to concentrate the available funds on works likely to be completed in the earlier years of the Seventh Plan to the exclusion of those likely to be completed later in the Plan since contractual obligations would necessitate the incurring of expenditure to some extent on the later class of projects also. Defaults in payments to BHEL and other suppliers are likely to go up resulting in the re-scheduling of their production and utilisation of their facilities, not to mention the difficulties that this would cause in their resource position. Apart from these considerations, it is necessary that the tempo of creation of additional power capacity is not allowed to slacken in view of its importance in the infrastructural system and the likelihood of any slack here affecting programmes in almost every other sector in the Seventh Plan and beyond.

11.8 In the circumstances, the strategy would have to be, first, to accord higher priority to the increase of generation from the existing power stations. The measures already introduced which have improved the plant load factor of thermal stations from 44.6 per cent in 1980-81 to 49.8 per cent in 1982-83 would have to be intensified for further significant improvement in the next two years. Secondly, resources would need to be concentrated on the completion of schemes likely to yield benefits in the Sixth Plan period and then on those schemes expected to be commissioned in the early years of the Seventh Plan. The aim should be to complete the commissioning of the capacity of nearly 5000 MW spilling over into the Seventh Plan in the first two years of that Plan. Lastly, a reasonable amount of investment in projects that will fructify later will have to be made to maintain the overall tempo. The increase in the outlay on power will have to be adequate to sustain action on these lines.

11.9 It is also necessary to ensure that adequate provision is made at all times for transmission and distribution in order to ensure maximum utilisation of the capacity created. There should be no account be any diversion by the States of funds from this head for capital works.

Rural Electrification

11.10 The Sixth Plan envisaged a target of electrification of 1 lakh additional villages and energisation of 25 lakh pump sets. The actual progress in the first three years of the Plan has been as under :

1	Village Electrification Target 2	Village Electrification Achievement 3	Pump energisation Target 4	Pump energisation Achievement
1980-81	25,000	22,488	4,10,000	364625
1981-82	22,000	22,614	4,25,000	322763
1982-83	25,000	23,572*	4,30,000	301986*
	72,000	68,674	12,65,000	989374

*Provisional

11.11 The shortfalls in the targets have already been due to steep escalation in the cost of input materials, difficult financial position of the SEBs; inadequate power supply in some cases, inadequate sub-transmission systems particularly in the NE Region and organisational defficiencies in the SEBs.

11.12 On the basis of present indications, the target of village electrification is likely to be achieved; but shortfalls are expected in the target of pumps energisation programme. A number of steps like frequent review meetings with SEBs to step up tempo of work, close liaison with the field organisations and close monitoring of the on-going schemes have been introduced to improve performance.

Financial Performance of State Electricity Boards (SEBs)

11.13 At the time of the formulation of the Sixth Five Year Plan, the commercial losses of the Boards were estimated at Rs. 4400 crores at 1979-80 rates. The Plan had envisaged that, by way of improvement of their financial working, the Boards would aim at reducing these losses by 80 per cent i.e. by about Rs. 3500 crores. Thus the Boards were expected to bring down the losses to less than Rs. 1000 crores. However, this expectation has not materialised. On the basis of present assessment these losses are estimated at about Rs. 4300 crores. The Boards have no doubt taken measures to revise tariff rates in the first 3 years of the Sixth Plan which are expected to yield an amount of about Rs. 4300 crores over the Plan period. It is possible that there will be further revisions in the tariff in the remaining 2 years of the Plan which would increase this contribution. In spite of this substantial mobilisation effort, the Boards have not been able to show any significant reduction in commercial losses for a number of reasons. The Boards have suffered reduction in revenues on account of lower sale of energy consequent on shortfall in generation interm due to slippages in the commissioning of projects, lags in the utilisation of capacity and high T&D losses. Further, operational costs have gone up due to increase in the cost of material inputs, wages of staff and increase in interest payments. However, at the recent discussions in connection with the mid-term review of the financial performance of Boards, they have been requested to improve their financial working by improving their capacity utilisation, reducing the Transmission and Distribution losses and economising in inputs like coal|oil for thermal generation. Other areas for the attention of the Boards which were emphasised during the discussions were economy in staff costs, better inventory control and early and full realisation of assessed revenue to prevent accumulation of arrears. The Boards have been requested to consider appropriate revisions in tariff also in this context.

COAL

Physical Performance

11.14 The demand for coal in the Sixth Plan was placed at 168 million tonnes (excluding 5 million tonnes of washery middlings) and the overall production target at 165 million tonnes. It was assumed that the gap between the demand and availability would be bridged by imports of coking coal and timely adjustment of pithead stocks and consumption patterns. The production programme envisaged production of 143.8 million tonnes from the mines sanctioned upto the beginning of the Sixth Plan and production of 21.2 million tonnes from mines to be approved in the Sixth Plan.

11.15 The actual figures of demand, production and pit-head stocks during the first three years of the Plan are as follows :

(In million tonnes)

1	Demand assessed 2	Production target 3	Coal-Production 4	Pithead stocks at the end of year 5
1980-81	119.8	113.5	114.0	18.2
1981-82	127.0	121.0	124.9	21.0
1982-83	137.0	133.0	130.6	23.3

Demand

11.16 The overall offtake was 109.8 million tonnes in 1980-81 and 122.5 million tonnes in 1981-82 indicating a substantial gap between demand and actual offtake|consumption during these years. The same trend is noticeable in 1982-83 also when the offtake was 128 to 129 million tonnes. An analysis of the pattern of consumption indicates that, while a small proportion of the demand had not materialised due to slower growth in the important consuming sectors like Steel, Power, Cement and other industries, there was yet some unsatisfied demand despite encouraging production trends of coal and the large pit-head stocks. Stress has, therefore, to be laid on optimisation of the demand-supply management.

Production

11.17 For the first time in the Sixth Plan 1982-83 saw a shortfall in coal production as compared to the Plan target, mainly on account of constraints in power supply absenteeism, labour unrest and other miscellaneous factors such as delayed supplies of equipment etc. A review of the production so far indicates that production from mines which had been sanctioned at the beginning of the Sixth Plan has been below target. There has also been a shortfall in production from underground mines which, in most cases, has been made up by higher opencast mines production as follows :

Mining Methodwise production of coal

(In million tonnes)

	Underground Production		Opencast Production	
	Target	Achievement	Target	Achievement
1980-81 . .	79.34	73.55	34.19	40.45
1981-82 . .	79.07	77.40	41.93	47.50
1982-83 . .	84.12	75.29	48.38	55.36

11.18 This shift varies not only from the programmed production pattern, but presages a qualitative imbalance in overall production planning and investment planning. For example, the norm of consumption of coal in the power sector per KWh generation showed an abnormal increase on account of deterioration in the calorific content of opencast mine coal, which had repercussion on the entire demand-supply planning for the power sector. Higher incidence of ash affected the coke rate in some steel plants and other consumers also.

Stocks

11.19 The pithead stocks have risen over the three years and stood at 23.3 million tonnes by the end of 1982-83, reflecting essentially a mismatch between production, despatch and consumption. The main reasons for this increase are (i) an unplanned growth in production which was not dictated by a systems approach, (ii) slippages in the consuming sectors and (iii) inadequacy of rail transport to meet the spurt in production at several mines.

Outlay

11.20 The Sixth Plan envisaged an outlay of Rs. 2,870.00 crores (at 1979-80 prices) on coal and lignite against which the expenditure so far is as follows :

(Rs. crores)

	At current prices
1980-81	431.74
1982-83	663.92
1982-83 (RE)	872.16
1983-84 (Approved outlay) . .	946.17
TOTAL : (1980—84)	2913.99
% of total outlay	101.53

Thus, the estimated expenditure in the first four years is more than the Sixth Plan outlay in nominal terms, although in real terms investment in this vital sector is lagging.

Monitoring and implementation

11.21 At the end of December, 1982, 99 coal mining projects were under implementation (all these projects cost Rs. 5 crores and above) with a total sanctioned investment of Rs. 2,339 crores and ultimate capacity of about 150 million tonnes per annum of coal production. Large numbers of projects have slipped by one to five years, and the status of these projects is as follows :

Total	On Schedule	Completed	Delayed by				
			1 Yr.	2 Yrs.	3 Yrs.	4 Yrs.	5 Yrs. and above
1	2	3	4	5	6	7	8
99	46	1	14	10	10	5	13

The main reasons for these delays are :—

(i) land not being available and|or law and order problems.

(ii) difficult geomining conditions met during development of mines and|or difficulties in regard to technology.

(iii) feasibility reports having been prepared on insufficient geological data

(iv) non-availability in time of plant and machinery, and

(v) other reasons like non-availability of Railway siding, delays on the part of the contractors etc.

Lignite

11.22 The Neyveli Lignite complex consists of a lignite mine, a thermal power station, a fertiliser plant, briquetting and carbonisation plant and a clay washing unit. The mine and the power stations which comprise the important units of the complex achieved, during the first three years, performance marked by a high degree of efficiency. In 1982-83 the capacity utilisation of the mine and the power plant were 95 per cent and 99 per cent respectively.

Outlook for the rest of the Plan

11.23 The requirement of coal in 1983-84 is placed at 147 million tonnes (excluding 3 million tonnes of middlings). To meet this demand the production target has been pegged at 142 million tonnes (Coal India Ltd; 123 million tonnes; Singareni Collieries : 15 million tonnes; and TISCO|IISCO and Others : 4 million tonnes), providing for a draw down of around 4 million tonnes of pit-head stocks. Taking into account the urgent need for (a) regulating the production effort in tune with the growth in the pattern of demand, (b) depletion of pit-head stocks and (c) matching the physical programmes with the financial inputs, the production of coal in 1984-85 is envisaged at around 154 million tonnes (Coal

India : 133 million tonnes; Singareni Collieries : 17 million tonnes; TISCO/IISCO and others; 4 million tonnes). The requirements of coal in 1984-85 are expected to be adequately met from the above level of production and through timely adjustments from the pit-head stocks and imports of low ash coking coals.

11.1.224 In 1983-84, the target for lignite production is pegged at 6.3 million tonnes against the mine capacity of 6.5 million tonnes taking into account the requirements of the down-stream units. The power generation target is set at 99 per cent of the capacity. In 1984-85 the original targets fixed for these units are expected to be fulfilled.

11.1.225 In relation to the physical programmes approved in the first four years of the Plan, financial outlays made for this period have already exceeded the overall plan outlay of Rs. 2870 crores for the coal and lignite sectors. This increase was necessary for the following reasons :

(i) Cost escalation of roughly 33 per cent in most of the equipment, particularly heavy earth moving equipment, in 1980-81 and 1981-82.

(ii) New major coal projects taken up to meet requirements of linked thermal stations.

(iii) Additional investment on washeries, particularly coking coal washeries.

(iv) Action initiated on Jharia Coalfields reconstruction, railway diversion, Damodar river diversion programme etc.

The Plan outlay, has, therefore, to be stepped up considerably.

11.1.226 If additional funds are not available not only current production but also work on new coal projects is likely to be affected. It is essential to ensure adequate availability of coal to consuming industries and linked projects, both in this Plan as well as in the Seventh Plan.

11.1.227 The following issues require urgent attention to improve the present position :

(i) There has to be a careful demand-availability management by adopting a total systems approach to production, movement, consumption and stocks.

(ii) Modernisation of the exploratory effort ensuring speed and accuracy.

(iii) Production optimisation by laying emphasis on,—

(a) maximisation of production from existing as well as approved mines.

(b) quantitative and qualitative orientation to meet consumer needs.

(c) projects yielding benefits in the Sixth Plan itself.

(d) dedicated schemes with specific linkages.

(e) restructuring production in relation to infrastructural build up.

(iv) improvement in productivity.

(v) Setting up of coal handling plants to promote physical and qualitative control of coals and facilitate faster loading.

(vi) Speedier construction of mines, specially washeries.

(vii) Improvement in facilities at pit heads for enabling better accessibility, loading and despatch by Railways.

(viii) Improvement in measures for the safety of workers.

PETROLEUM

Physical Performance

A. *Crude Oil Production*

11.28 The Sixth Plan originally envisaged cumulative production of domestic crude during the Plan period of 93.4 million tonnes. This was made up of 79.0 million tonnes from the ONGC and 14.4 million tonnes from OIL. In the case of ONGC, it comprised 51.3 million tonnes from offshore areas and 27.7 million tonnes from onshore areas. Subsequent to the finalisation of Sixth Plan, the ONGC submitted an 'accelerated' programme of production from offshore areas, which envisaged speedier development of Bombay High and satellite fields in offshore during Sixth Plan to get an additional production of 12.04 million tonnes. This accelerated programme was approved in July 1982. As a result, the ONGC's target of crude production from offshore areas increased from 51.3 million tonnes to 63.34 million tonnes and domestic crude production target during the Plan period increased from 93.4 million tonnes to 105.44 million tonnes. The details of domestic crude targets originally fixed for the Sixth Plan and revised targets on account of implementation of the accelerated production programme from offshore, are given below :—

TARGETS OF DOMESTIC CRUDE PRODUCTION

(Million tonness)

	1980-81	1981-82	1982-83	1983-84	1984-85	Totall
Oil & Natural Gas Commission						
A. Onland						
I Western Region						
Ankleshwar	2.0	1.8	1.7	1.6	1.4	8.5
North Gujarat	1.4	1.4	1.4	1.4	1.4	7.0
Sub Total	3.4	3.2	3.1	3.0	2.8	15.5
II Eastern Region	1.7	2.1	2.6	2.8	3.0	12.2
Total Onland (I+II)	5.1	5.3	5.7	5.8	5.8	27.7
B. Offshore						
I Original Sixth Plan	5.2	8.4	11.8	12.7	13.2	51.330
II Revised	5.2	8.5	13.95	16.57	19.12	63.334
Total ONGC						
Original Sixth Plan	10.3	13.7	17.5	18.5	19.0	79.0
Revise	10.3	13.8	19.65	22.37	24.92	19.(04
Oil India Limited	2.8	3.2	3.0	2.8	2.6	14.4
Grand Total						
Original Sixth Plan	13.1	16.9	20.5	21.3	21.6	93.4
Revised	13.1	17.0	22.65	25.17	27.52	105.444

11.29 Prduction of crude oil during the three years was as follows :—

(In million tonnes)

1980–81	10.51
1981–82	16.19
1982–83 (P)	21.06
1983–84 (T)	26.25

P— Provisional

T— Target

The shortfall in 1980-81 occurred mostly because of loss of production in the oilfields of ONGC and OIL in Assam due to continued civil disturbances. The shortfall in 1981-82 was in the offshore area (of ONGC) mainly on account of shortfall in drilling of development wells due to non-availability of an adequate number of drilling vessels. The achievement in 1982-83 is higher than the original Plan target and is almost equal to the original target for crude oil production in the last year of the Sixth Plan. Production in 1984-85 is now expected to be around 30 million tonnes and the total production in the Plan period about 104 million tonnes.

Refining

11.30 The Plan envisaged a refining capacity (installed) of 45.5 million tonnes by 1984-85. The achievements with regard to the installed capacity, crude throughput and products so far are as follows :—

(Million tonnes)

	1980-81 Actuals	1981-82 Actuals	1982-83 Provisional
1	2	3	4
Installed capacity	31.80	37.80	37.80
Crude throughput	25.84	30.15	33.16
Products	24.12	28.13	31.07

11.31 The demand in 1984-85 for petroleum products was originally estimated at 45.55 million tonnes at the time of the Sixth Plan formulation. These demands were projected taking the year 1979-80 as the consumption base, with a 9 per cent annual growth. However, the growth during 1980—83 has been much lower than anticipated and the consumption estimates have been revised downward as follows :

(Million tonnes)

1980-81 (Actuals)	1981-82 (Actuals)	1982-83 (Provisional)	1983-84 (Estimated)	1984-85 (Projected)
30.9	32.5	34.2	37.02	39.7

11.32 Indigenous refining capacity is expected to reach 45.5 million tonnes by 1984-85, as targetted. There is expected to be a surplus of naphtha, and deficits in fuel oil, kerosene and HSD.

Outlook for the rest of the Plan

11.33 In the petroleum sector, costs have escalated very sharply due to the sharp increases in crude oil prices in 1979 and 1980. Increased outlays are thus necessary and the main reasons are :

(i) Increased equipment costs.

(ii) Need for additional investment to make up for short provision in the original Plan.

(iii) Need for provision for some items left out at the time of Sixth Plan formulation.

(iv) Need for items not envisaged then, but found essential now.

(v) Need for additional investment now considered essential from the reservoir management angle over and above that projected in the Accelerated Development Programme.

(vi) Need for additional investment necessary for reaching the long term production profile.

11.34 Increase in crude oil production has been attended by a number of difficulties. Firstly, more gas has been encountered than originally expected, thus raising the gas/oil ratio. This has certain implications by way of steps for proper reservoir management, apart from additional investment for utilisation of the associated gas, which would otherwise have to be flared.

11.35 Secondly, in order to handle the anticipated production from Bombay High, refinery expansions were sanctioned as also creation of secondary processing facilities at the time of formulation of the Sixth Plan. The costs of these expansions have gone up significantly. It is likely that these will be ready mostly in 1984-85. Till these facilites are completed. it would be necessary temporarily to sell a part of the crude in the international market, as matching refining capacity would not be available. In the prevailing international oil market there could be problems in matching production of crude, its refining and sale of products and crude.

Outlay

11.36 The Sixth Plan originally provided Rs. 4300 crores for the petroleum sector. The accelerated programme approved in July 1982 involved an additional outlay of Rs. 2241.72 crores together with associated investment in refineries, facilities etc. of Rs. 236 crores. The progress of expenditure in the first three years and the approved outlay for 1983-84 in the petroleum sector are given below :—

	(Rs. crores) At current prices
1980-81	735.17
1981-82	1204.79
1982-83(P)*	2023.66
1983-84 (Approved outlay)	2815.00
TOTAL : (1980—84)	6778.62

*Provisional.

11.37 Thus even the enhanced outay of Rs. 6771 crores will be exceeded and the Plan provision will have to be increased considerably in order to provide for the programme for 1984-85.

New sources of Energy

11.38 The Department of Non-Conventional Energy Sources was established on 6th September, 1982 as a Department in the Ministry of Energy. The activities of this Department arise from the programmes approved for this Sector under the Commission for Additional Sources of Energy which was set up in 1981 in the Deptt. of Science and Technology.

Solar Thermal Energy

11.39 As a result of Research and Development efforts during the past few years and measures taken by CASE, several solar thermal devices and systems have been brought to a stage of commercial production and are now poised for large scale application.

(a) Solar water heating systems have been installed at a number of establishments including textile mills, dairy units, a bakery, a brewary, schools etc. 13 water heating systems were completed by the end of 1981-82. During 1982-83 additional 12 units are likely to be completed. Solar timber kilns have proved to be economically viable ; it is proposed to instal 15 of these units in different States in the current year. A solar paddy dryer in Kerala and a cold storage plant at Padrauna, Uttar Pradesh are nearing completion.

(b) The second phase of the project for the development of a solar thermal pump to be executed jointly by BHEL and Dornier Systems of FRG has been approved.

(c) A programme for the manufacture and subsidised sale of solar cookers was launched by CASE in November, 1981. The programme is presently operational in 12 States and 1 Union Territory and over 10,000 cookers have been sold so far under the subsidy scheme.

(d) A Solar Thermal Energy Centre (STEC) has been set up to carry out prototype development, testing and demonstration activities and is expected to become the nucleus of national effort in the utilization of solar thermal energy.

(e) A National Solar Photovoltaic Energy Demonstration Programme (NASPED) is being implemented through the Central Electronics Limited (CEL). The programme involves the production of solar cells, modules and systems on a pilot scale, demonstration of various photovoltaic systems and developments of techniques for the production of low cost solar cells. During 1981-82, a total of 21.07 KW of cells and modules were produced against 10.35 KW in the previous year. During the first nine months of 1982-83, the production amounted to 31.75 KW. 60 solar pumps have been supplied so far, for purposes of irrigation and drinking water supply as well as demonstration and evaluation in several States. Photovoltaic power package has been delivered for installation on off-shore platforms of the ONGC. Power supply package was also supplied to the first Indian Antarctica Expedition where it performed satisfactorily.

Bio-Energy

National Project on Biogas Development

11.40 The Sixth Plan envisaged setting up of 4 lakh individual biogas units in the country. The number of units commissioned were 25,369 in 1981-82 and 57,498 in 1982-83, the highest achievement since the inception of the programme. The target for 1983-84 is 75,000 units. A survey of the operating units is in progress regarding the maintenance aspects, the results of which will enable the Department to strengthen the future programme.

Community and Institutional Biogas Plants

11.14 Under the demonstration programme launched by CASE, community biogas plants are being established at a number of locations throughout the country. These plants provide biogas for cooking to a large number of families (typically 60 to 100) in the communities they serve. The target for such plants during the Sixth Plan was originally fixed at 100; this figure has, however, been raised to 1000 under the 20-Point Programme. So far 97 plants have been sanctioned, of this 24 have been completed and the remaining are under various stages of construction. Having regard to the local management problems the achievements will fall short of the target under the 20-Point programme.

11.42 Under Energy plantation programme, several species of quick growing are being tried out in different agroclimatic conditions. Plantations have already been set up at Lucknow, Madurai, Bhavnagar and Yeotmal (Maharashtra).

11.43 Two Biomass Research Centres, one at Lucknow and another at Madurai, are being supported to carry out a variety of investigations on the produduction and availability of biomass. An Agro Energy Centre supported by the Department has also started functioning at the Tamil Nadu Agricultural University, Coimbatore. Research is also being supported on the conversion and utilisation of biomass including microbial production of methanol, bioconversion of lignocellulosic residues etc.

WIND ENERGY

11.44 A country-wide programme of demonstration of water pumping wind mills is being implemented mainly through the Institute of Engineering and Rural Technology (IERT), Allahabad, 57 such wind mills were installed till the end of 1981-82. This figure is expected to rise to 400 by the end of 1982-83. Infastructure facilities for the fabrication of wind mills are being set up at 4 additional establishments besides IERT Some technical problems have been encountered in the demonstration programme; these are being attended to and necessary corrective measures initiated.

11.45 Useful results have been achieved on the R&D projects relating to multi-blade wind mills and vertical axis wind generator. Further work is being supported on this and on the development of wind electric generator materials and aerodynamics studies.

Other Renewable Sources of Energy

11.46 Programme relating to various other renewable sources of energy such as ocean energy, geothermal energy, small hydro power, chemical sources of energy etc. have been initiated. Certain items like battery powered vehicles and small hydro systems are being designed in laboratories and tried out as prototypes and demonstration units.

MHD Power Plant

11.47 The project for the establishment of an experimental coal based MHD power plant was approved by Government in 1976 for execution jointly by Bharat Heavy Electricals Ltd. (BHEL) and the Bhabha Atomic Research Centre (BARC). The testing and experimental runs on the 5 MW Plant will be taken up during 1983-84. A proposal for the expansion of the plant to a level of 15 MW (Thermal) is under consideration.

Conclusion

11.48 The following table No. 11.1 gives the outlay for 1980-85, the actual expenditure in 1980-81 and 1981-82, the revised estimated of 1982-83 and the budget outlay of 83-84. Against the plan provision of Rs. 50 crores for the programmes of CASE, the expenditure in the first four years is likely to be Rs. 44.59 crores. Increase in the Plan provision to meet the requirements of the last year would be called for.

TABLE 11.1

(Rs. in crores)

Department	1980—85 (Provision)	1980-81 (Actual)	1981-82 (Actual)	1982-83 (RE)	1983-84 (BE)	1980—84 (Expected)
New Energy Sources	50.00	4.26	10.53	12.80	17.00	44.59
National Project on Biogas Development	50.00	.	3.33	7.00	13.00	23.33

CHAPTER 12

INDUSTRY & MINERALS

A. Physical Targets and Performance

As against the physical targets for major industries listed in the VI Plan document, the capacity and production level expected to be achieved in 1984-85 are presented in the statement at Appendix I. The statement also contains figures of actual/estimated achievements during the first three years of the Plan, targets for 1983-84 and the likely estimates for 1984-85. An estimate of the likely excess/shortfall of capacity and production in relation to the targets set for the terminal year of the Sixth Plan, i.e., 1984-85 is also given.

12.2 A review of performance reveals that while targets are likely to be achieved in some important industries, e.g. petroleum, paper and paper board, commercial vehicles, scooters, motor cycles and mopeds, machine tools, D.M.T., etc., shortfalls are likely in a number of other important industries such as steel, non-ferrous metals, textiles, fertilizers, locomotives, railway coaches, electric cables, transformers. Brief notes in respect of important industries are given below.

12.3 The Plan had emphasized the need for modernisation and technological advance in the industry sector. Satisfactory progress was maintained in this regard. These measures will yield results in the coming years. During 1983-84 a package of steps was announced for speeding up industrialisation of backward districts.

Steel

12.4 A shortfall of 1.15 million tonnes is expected in the production of steel ingots from integrated plants Similarly, there would be a shortfall in the production of saleable steel to the extent of about 0.8 million tonnes. The shortfall in steel production is primarily because of the slippages in the construction schedules of the Bhilai and the Bokaro expansion programmes. Bhilai expansion from 2.5 million tonnes to 4 million tonnes is now expected to be completed in March 1985 as against 1983-84 envisaged earlier. The Bokaro expansion to 4 million tonnes is now likely to be completed only by December 1984 instead of in 1982-83 as planned earlier. The progress on the new steel plant at Vizag is also behind schedule. A shortfall of about 150,000 tonnes is also likely in the production capacity for sponge iron because there has been a slippage in the commissioning schedule of the two sponge iron projects being set up in the joint sector in Orissa and Bihar. Suitable changes in the product-mix of the existing steel plants are being devised with a view to reducing imports. The emphasis will shift from total tonnage of saleable steel produced to production oriented to sale and the requirements of the market. Production of steel has been badly affected by constraints on power availability and deterioration in quality of coal. Steps for improving the infrastructure, especially power, have been taken and these are expected to yield results during the remaining period of the Sixth Plan. Captive power plants are being set up at Bhilai, Bokaro, Durgapur and Rourkela.

Iron Ore

12.5 The output of iron ore is now expected to be around 45 million tonnes as against 60 million tonnes envisaged in the Plan. The lower output is partly due to the shortfall in the estimated production of indigenous steel in 1984-85 and partly because of lower exports due to world-wide recession in the steel industry, which is undergoing a prolonged slump concurrently with the recession in the industrialised countries.

Non-ferrous Metals

12.6 Shortfalls in production to the extent of 40,000 tonnes in aluminium, 8000 tonnes in copper and 15,000 tonnes in zinc are likely in 1984-85. These are attributable primarily to the shortage of power in a number of States, particularly in Rajasthan. The expansion of the copper smelter at Khetri by 14,000 tonnes is also not likely to materialise by the end of the Plan period as envisaged earlier. In the case of aluminium, the shortfall is mainly due to non-availability of power to BALCO smelter at Korba from the Madhya Pradesh State Electricity Board. Long term solutions to meet the power needs have been approved and these will help in improving the output. These steps include firming up power supply from the Madhya Pradesh grid as also a captive power plant of 270 MW capacity at the Korba aluminium complex.

Fertilizers

12.7 Shortfalls in capacity creation and production are expected both in nitrogenous and phosphatic fertilizers in 1984-85 in relation to the targets in the Plan. There has been a slippage in the construction schedule of the fertilizer project being set up at Thal Vaishet, Hazira and Namrup-III. The Thal Vaishet project is now expected to be commissioned in December 1984 instead of August 1984 as envisaged earlier. There has been a slippage of about six months in the case of Namrup-III which is now expected to be completed in May, 1985. The first phase of the Hazira fertilizer project is now expected to be commissioned in January 1985 instead of September 1984 as envisaged earlier. It is doubtful if any of these projects would be able to make any contribution to the output of fertilizers during the Sixth Plan period. The shortfall in the production of phosphatic fertilizers is attributable to the poor performance of the fertilizers plants at Sindri and Khetri as also to the delay in the commissioning of single superphosphate plants.

12.8 There has been delay in commencing work on the additional gas-based fertilizer plants. Decisions on locations have been taken and work on these is likely to commence during the remaining years of the Plan. Speedy implementation is called for if all these plants are to start making a contribution to fertilizer production during the Seventh Plan.

Chemicals

12.9 Shortfalls in output are expected in the production of caustic soda, soda ash and calcium carbide. These are primarily because of the delay in the commissioning of plants, demand constraints and power scarcity. The liberal import of soda ash has also, to some extent, affected indigenous production.

Textiles

12.10 A shortfall of about 50 million kgs. of yarn (cotton, blended and mixed) and about 440 million metres of cloth in the mill sector is likely in 1984-85 as compared to the targets in the Sixth Plan. The shortfall is attributable to a number of factors such as inadequate domestic demand because of erosion in purchasing power, the strike in the textile mill industry and the consequent lack of promotional efforts towards sales or reducing costs of production and decline in exports.

Automobiles

12.11 In spite of the transitory phase of slack in demand, the targets for automobiles production, including commercial vehicles, are likely to be achieved. In the case of scooters, motor cycles and mopeds, there is, in fact, a great spurt in demand and the output in 1984-85 is expected to be substantially higher than the targets envisaged in the Sixth Plan.

12.12 Apart from the spurt in demand and output the industry has taken major steps for upgrading designs and technology of manufacture for the vehicles and their auxiliaries. The first public sector unit for passenger vehicles is expected to go into production during 1983-84.

Electrical Equipment

12.13 A shortfall in production of electrical transformers and cables is likely. This is primarily due to the lack of adequate orders from the State Electricity Boards and also to delay in payments by the SEBs due to paucity of funds. The output of power generating equipment like boilers. Steam turbines and turbo-generators has shown satisfactory growth.

Electronics

12.14 Shortfalls in production in a number of electronics industries are also expected. Although the reasons for shortfall vary from industry to industry, a major factor is the financial stringency being faced by the electronics sector as a whole. With the commissioning of the semi-conductor complex in 1983-84 the country would be taking an important step in the field of micro-electronics, an area of future growth.

Cement

12.15 This industry is likely to register satisfactory growth. The installed capacity at the beginning of the Sixth Plan was around 24 million tonnes which is expected to go upto 38 million tonnes by the end of 1983-84. The capacity by the end of the Plan would be around 43 million tonnes. The industry has launched a major modernisation programme. The ongoing programme of adding about 275 MW of captive power will help in raising the output in the remaining period of the Sixth Plan.

12.16 The expected shortfalls in physical production in a number of industries in 1984-85 are primarily due to delays in the execution of projects, shortages of power in a number of States and demand constraints.

B. Financial Outlay

12.17 A statement showing department-wise details of the Sixth Plan outlay, the actual expenditure in 1980-81 and 1981-82, the revised estimates for 1982-83 and the approved outlay for 1983-84 will be found at Appendix II. The indications are that additions to the Sixth Plan outlay of a varying order will be required by the Department of Steel, Mines, Industrial Development, Heavy Industry, Agriculture and Cooperation, the Banking Division of the Department of Economic Affairs and some others. There will be a shortfall, principally in petro-chemicals and Chemicals and Fertilizers. Overall, a net increase over the outlay provided in the Sixth Plan will be called for in the sector of Industry and Minerals.

12.18 During the rest of the Plan period, provision will have to be made for (i) ongoing schemes, taking into consideration escalations in cost and the progress that has been achieved so far; (ii) a start in 1984-85 on new schemes which are included in the Sixth Plan (and will yield benefits in the Seventh) but for which no provision could be made so far; (iii) new but critical projects like captive power facilities for BALCO's Aluminium plant, the National Fertilizer Corporation's fertilizer plants and the plants of Hindustan Zinc which were not included in the Sixth Plan but are essential.

12.19 The projects under the Department of Steel would require additional outlays primarily because of the escalations in cost of the ongoing projects. This is true of the Vishakhapatnam Steel Plant, Bokaro expansion, Bhilai expansion and the Kudremukh Iron Ore project. If the completion of these projects continues to be delayed, there is bound to be further escalation in cost with a consequent larger drain on financial resources. The entire question of the adequacy of investment in the steel sector with reference to the long-term requirements of steel in the country would need to be looked at carefully. It is necessary to ensure that the additional capacity programmed to be created in the Seventh Plan through Vizag and the expansion of the existing plants does become available without too much further delay so that the demand for steel does not out-grow likely internal production. In this context, the need to modernise the four old steel plants in a cost effective manner calls for immediate examination since this will have a crucial bearing on the production of steel in the Seventh Plan and beyond.

12.20 Considerable additional outlay will also be required for projects under the Department of Mines specifically for the Aluminium project of NALCO and for the captive power plants required by the smelters for non-ferrous metals like aluminium, zinc and copper. Another project which would require additional outlay is the gas-based fertilizer plant of KRIBHCO under the Department of Agriculture and Cooperation. Projects under the Department of Heavy Industry, particularly, Maruti Udyog Limited and some schemes of BHEL and HMT, where costs have gone up ,will require additional funds. A substantial increase in outlay will also be required by the Banking Division of the Department of Economic Affairs to meet the larger fund requirements of all India term lending institutions for augmenting their share capital.

12.21 In the field of petro-chemicals, the shortfall as compared to the original plan outlay is likely to occur primarily because the Maharashtra Gas Project is still to be taken up. In the sector of chemicals and fertilizers again, there is likely to be a shortfall. This is because work has not yet started on the new gas based fertilizer projects. As against this, however, the requirements of the gas based fertilizer plants at Thai Vaishet and Namrup and of the Paradeep Phosphate Fertilizer project will go up. But the net effect will be a substantial reduction.

12.22 The overall step-up of investment in the industry and minerals sector in 1984-85 will have to be fairly large to meet the requirements indicated in the paragraphs above. This is necessary in order to avoid delay in the execution of a number of projects in this critical sector of the economy, which would mean a consequent loss of production and possible increases in costs. In particular, investment on projects expected to yield results in the Seventh Plan, especially in steel, fertilizers and mines and metals needs to be provided to the maximum extent possible. In the context of the need for additional investment, the necessity of maximising generation of internal resources in the public undertakings cannot be over-emphasized. The recent improvements in the infrastructural areas should help in this.

12.23 The number of ongoing schemes in this sector is large, and many of these will spill over into the Seventh Plan. The spill over expenditure will be considerable in the sectors of steel, mines, petro-chemicals and chemicals and fertilizers. Thus, in this sector, the Seventh Plan will start with a proportionately larger spill over expenditure from the Sixth Plan than in other sectors.

Mid-term Appraisal of the Sixth Five Year Plan—Physical Targets

S. No.	Industry	Unit	1984-85 Targets Sixth Plan		1980-81 (Actuals)		1981-82 (Actuals Estimated)		1982-83 Anticipated		1983-84 Targets/ Estimates		1984-85 (Revised Targets)		Variation (+)	(—)
			Cap.	Prod.	Cap.	Prod.	Cap.	Prod.	Cap.	Prod.	Cap.	Prod.	Cap.	Prod.	Cap	Prod.
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Mining	Million Tonnes														
1.	Coal		..	165	..	113.96	..	124.9	..	130.6	..	142	..	154	..	(—)11
2.	Lignite	,,	..	8.0	..	5.1	..	6.31	..	6.93	..	6.92	..	8.0	..	..
3.	Crude Oil	,,	..	21.60	..	10.51	..	16.19	..	[illegible]	..	26.25	..	27.52	..	(+)5.92
4.	Iron Ore	,,	..	60	..	40.6	..	39.9	..	40.2	..	42	..	45	..	(—)15
	Basic Metals															
5.	Hot Metal (Integ. Plants)	,,	15.27	13.20	12.2	8.38	13.14	9.5	13.14	9.49	14.16	10.77	15.27	12.30	..	(—)0.90
6.	Pig Iron for sale	,,	..	1.52	..	1.44	..	1.27	..	1.30	..	1.47	..	1.47	..	(—)0.05
7.	Steel Ingots	,,	17.90	14.45	14.47	9.31	14.47	10.40	15.97	10.62	17.01	11.93	17.9	13.50	..	(—)0.95
8.	Steel Ingots (Integrated Plants)	,,	14.56	12.45	11.4	7.35	11.4	8.6	12.90	8.62	13.81	9.58	14.56	11.30	..	(—)1.15
9.	Saleable Steel	,,	14.30	11.51	11.18	7.81	11.18	8.66	11.72	9.09	12.83	9.59	14.30	10.90	..	(—)0.61
10.	Saleable Steel (Integrated Plants)	,,	11.30	9.71	8.7	6.28	8.7	7.26	9.24	7.29	10.13	7.59	11.30	8.90	..	(—)0.81
11.	Alloy and Special Steel	'000	1050	920	800	670	837	744	850	805	950	800	1050	920	..	..
12.	Sponge Iron	,,	330	160	..	..	30	27	180	75	130	73	180	150	(—)150	..
13.	Aluminium	,,	350	300	321	199	321	207	321	208	362	250	341	260	(—)9	(—)40
14.	Copper (Blister)	,,	60	50	47.5	25.3	47.5	27.44	47.5	35	47.5	40	47.5	42	(—)12.5	(—)8.0
15.	Zinc	,,	98	85	92	45.5	92	57.7	92	52	92	65	95	70	(—)3	(—)15
16.	Lead	,,	30	25	18	14.9	18	14.46	18	14.8	30	18	30	25	..	..
	Metal Products															
17.	Steel Casting	,,	200	135	178	71	174	80	182	86.1	185	90	190	100	(—)10	(—)35
18.	Steel Forgings	,,	240	180	240	145.4	260	162.6	260	150	270	175	280	195	(+)40	(+)15
	Non-Metallic Mineral Products															
19.	Cement	Million tonnes	43	34.5	26.99	18.6	29.25	21.07	34	23.5	38	28	43	34.5	..	..
20.	Refractories	'000 Tonnes	1800	1250	1620	900	1682	875	1790	1050	1790	1150	1800	1250	..	..
21.	Petroleum Products	Million. Tonnes		35.34	25.84	24.12	30.15	28.18	33.16	31.07	34.42	32.01		39.26	..	(+)3.92

22. Caustic Soda	1000T	1050	850	779	575	778.3	614	817.2	600	969	710	1050	775	..	(—)75
23. Soda Ash	,,	1000	850	633	563	680	632	746	600	761	630	1000	720	..	(—)130
24. Calcium Carbide	,,	250	200	167	82	167	74	170.4	70	176	90	240	150	(—)10	(—)50
25. Industrial Oxygen	MCM	200	150	124	95.1	135	115	150	115	165	125	200	140	..	(—)10
Agricultural Chemicals															
26. Nitrogenous Fertilizers	'000T	5938	4200	4575	2164	4719	3144	5144	2420	5295	3800	5760	4100	(—)178	(—)100
27. Phosphatic Fertilizers	,,	1825	1400	1282	842	1418	949	1418	976	1493	1150	1598	1300	(—)227	(—)100
28. B.H.C. (in terms of 13% Isomer)	,,	43.9	43	37.9	28.8	41.9	28.4	41.9	35	41.9	40	44.5	43	(+)0.6	..
29. D.D.T.	,,	9.10	10	4.1	4.0	4.1	3.2	9.1	5.0	9.1	8.0	9.1	9.0	..	(—)1
30. Other Pesticides	,,	37.60	26.4	27.5	9.3	29.3	14.4	31.7	16.4	31.7	21	37.6	26.4	..	..
31. Malathion	,,	9.2	7.5	5.3	1.3	6.3	3.0	12.8	5.6	12.8	8.0	12.8	10.0	(+)3.6	(+)2.5
Thermo Plastic and Synthetic Rubbers															
32. L.D. Polyethylene	'000T	112	100	112	87.2	112	85.53	112	100.4	112	105	112	105	..	(+)5
33. H.D. Polyethylene	,,	30	27	30	24.3	30	31.7	30	32.1	30	33	30	35	..	(—)8
34. Polyvinyl Chloride	,,	173	128	77.9	42.1	85.8	37.4	85.8	37	86.4	55	175	120	(+)2	(—)8
35. Polyprophylene	,,	30	27	30	16.7	30	19.3	30	22	30	25	30	27	..	..
36. Polystyrene	,,	23.5	20	23.5	10.2	23.5	7.9	23.5	10.5	26.1	12	23.5	15	..	(—)5
37. Styrene Butadiene Rubber	,,	30	27	30	19.0	30	17.4	30	14.6	30	20	30	24	..	(—)3
38. Polybutadiene Rubber	,,	20	18	20	6.5	20	11.5	20	16.1	20	14.5	20	18	..	..
39. Acrylonitrile	,,	24	20	24	10.4	24	14	24	16.7	24	18.3	24	20	..	..
40. D.M.T.	,,	66	56	24	23.1	24	27.3	30	22.8	30	30	135	65	(+)69	(+)9
41. Caprolactam	,,	20	18	20	13.1	20	9.9	20	14	20	15	20	18	..	..
42. Detergent Alkylate	,,	37.5	35	30	17.4	30	30.3	30	25.7	30	28.5	30	30	(—)7.5	(—)5
43. Methanol	,,	124	100	44.5	41	44.5	43.3	44.5	41.2	85.7	65	102.8	80	(—)21.2	(—)20
44. Phenol	,,	..	..	20.9	12.4	20.9	11.8	20.9	15.1	20.9	15	20.9	15	..	..
Man-Made Fibres															
45. Viscose Filament Yarn	,,	43	43	41	43	44.4	42	44.4	40	50	45	55	50	(+)12	(+)7
46. Viscose Staple Fibre	,,	150	120	89	80	106	80	125	50	125	90	138	110	(—)12	(—)10
47. Viscose Tyre Cord	,,	21	21	20	14	21	14	21	15	18	15	21	21	..	..
48. Nylon Filament Yarn	,,	31.4	28	22	20.8	24.5	23.4	28.2	26	28.2	26	31.4	28	..	..
49. Nylon Tyre Cord and Industrial Yarn.	,,	13.5	13.5	10.5	11.8	13.5	14.3	13.5	16	13.5	16	13.5	16	..	(+)2.5
50. Polyester Staple Fibre	,,	58.6	55	32.1	22.4	34.5	29.0	34.3	27.7	40.4	31	46.5	40	(—)12.1	(—)15
51. Polyester Filament Yarn	,,	18	18	8	10.7	8	15.4	22.5	20.8	37.9	28	37.9	35	(+)19.9	(—)17
52. Acrylic Fibre	,,	16	14	16	8	16	13.5	16	16	16	16	16	16	..	(+)2
Drugs and Pharmaceuticals															
53. Bulk Drug	Rs. Crores	..	665	..	240	..	289	..	325	..	360 375	..	500	..	(—)165
54. Formulations	,,	..	2450	..	1200	..	1430	..	1545	..	1625 1650	..	1950	..	(—)500
Food Products															
55. Sugar*	M. Tonnes	8	7.64	6.3	5.15	6.5	8.4	6.8	8.3	7.5	7.2	8.0	7.64	..	..
56. Vanaspati	'000 Tonnes	351	900	1385	753	1385	820	1415	875	1460	900–950	1415	950	(+)64	(+)50

* Figures for sugar season (October—September)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Textiles																
	57. All Yarn (Cotton Blended Mixed).	Cap. Mill. and Spindles Prod. Mill. Kgs.	22.76	1425	21.23	1298	21.73	1249	22.80	1200	23.3	1327	23.50	1375	(+)0.74	(—)50
	58. Cloth (Mill Sector). . .	Cap. Lakh looms Prod. Mill. Meters	2.17	4900	2.08	4368	2.10	4038	2.10	3100	2.15	4350	2.17	4460	..	(—)440
	59. Cloth (Decentralised Sector).	Mill Metres	..	8400	..	6923	..	7200	..	7258	..	7400	..	8130	..	(—)270
	60. Jute Manufacturers. . .	'000 T	..	1500	..	1393	..	1340	..	1250	..	1300	..	1500	..	..
Leather and Rubber Goods																
	61. Leather Footwear (Org. Sector)	Mill. pairs	30	25	21.5	13.5	21.52	14.4	20.12	12.97	22.6	15.5	25.36	19.50	(—)4.64	(—)5.50
	62. Rubber and Canvas Footwear (Org. Sector)	,,	57	55	54.88	43.83	54.88	35.79	56.23	38	56.23	40	56.23	47	(—)0.77	(—)8
	63. Bicycle Tyres (Org. Sector) .	Mill. Nos.	34	34	34	27	34	27	34	27.5	34	29	34	34	..	..
	64. Automobile Tyres . . .	,,	12.8	11.5	9.28	7.97	10.4	8.7	11.3	8.7	11.5	9.5	12.0	10.5	(—)0.8	(—)1
Paper and Paper Products																
	65. Paper and Paper Board .	'000 T	2050	1500	1657	1145	1844	1242	1950	1202	2100	1400	2200	1500	(+)150	..
	66. Newsprint	,,	230	180	75	51	150	64	230	121	230	180	230	200	..	(+)20
Soaps & Detergents																
	67. Soaps (Org. Sector) . . .	,,	..	370	..	337	..	340	..	334	..	355	..	370	..	..
	68. Synthetic Detergent (Org. Sector)	,,	375	300	240	175	240	176	277.2	200	287.2	230	320	225	(—)55	(—)75
Industrial Machinery																
	69. Machine Tools . . .	Rs. Crores	300	250	210	196.2	290	245	290	270	340	317	440	350	(+)140	(+)100
	70. Mining machinery . . .	,,	50	45	45	37.3	45	39.3	50	64.6	50	70	70	55	(+)20	(+)10
	71. Metallurgical machinery	,,		82		55.6		64.1		65.1		70		95	..	(+)13
	72. Cement Machinery . . .	,,	75	60	45	33.6	56	40.5	68.5	41	75	53	90	60	(+)15	..
	73. Chemicals and Pharmaceuticals machinery.	,,	150	130	112	106.6	135	115	150	141.3	150	150	200	150	(+)50	(—)20
	74. Sugar machinery . . .	,,	88	70	51.8	24.2	52	29.8	57.5	34.5	60	35	60	50	(—)28	(+)20
	75. Rubber Machinery . . .	,,	20	14	15	10.2	16	6.7	19.5	11	19.5	14	20	14	..	..
	76. Paper and Pulp . . .	,,	50	42	47	36.8	50	33.5	51.6	21.7	51.6	42	60	42	(+)10	..
	77. Printing Machinery . . .	,,	17	14	10	8.2	11	10.8	18	21.7	22	20	20	15	(+)3	(+)1
	78. Textile machinery . . .	,,	370	295	330	302.7	400	330	460	365	460	390	500	420	(+)130	(+)125
	79. Boilers	,,	430	346	324.4	308.4	400	388.6	500	430	470	420	550	480	(+)120	(+)134
Electrical Power Equipment																
	80. Steam Turbines	MKW	4	3.50	3	2.15	3.4	2.7	3.7	3	4	3.4	4	3.5	..	..
	81. Hydro Turbines	,,	1.50	1.20	1.03	0.33	1.2	1.2	1.5	1.1	1.5	1.1	1.5	1.2	..	..
	82. Transformers	MKVA	40	35	31.15	19.5	31.5	21.4	33	18.8	33	23	35	25	(—)5	(—)10

84. Earth Moving Equipment	Nos.	2700	2200	2060	996	2060	1740	2100	2195	2300	2200	2700	2300	..	(+)100
85. Road Rollers	,,	1800	1400	1800	948	1800	1065	1800	1146	1800	1300	1800	1400	..	..
Agricultural Machinery															
86. Tractors	'000 Nos.	110	100	77	71	100	84.2	90	62.8	90	70	110	100	..	..
Rail and Water Transport															
87. Diesel Locomotives . .	Nos.	225	210	210	213	210	170	210	150	210	100	210	170	(—)15	(—)14
88. Electric	,,	80	78	80	69	80	60	80	56	80	60	80	70	..	(—)8
89. Railway Coaches . .	,,	2100	1700	1650	1044	1650	1233	1650	1200	1650	1211	1650	1300	(—)450	(—)400
90. Railway Wagons . . .	'000 Nos.	30	25	25	13.7	28	13.8	28	15.35	28	12.5	25	20	(—)5	(—)5
91. Ship Building . . .	'000 GRT	186	140	140	90	140	95	156	102	176	120	186	140	..	..
Road Transport															
92. Commercial Vehicles .	'000 Nos.	140	105	95	71.8	103	91.1	103	86	109	95	150	120	(+)10	(+)15
93. Passenger Cars 1. . .	,,	60	48	53	31.3	53	42.5	53	43.6	73	45	78	56	(+)18	(+)8
94. Jeepsc	,,	25	20	18	17.9	20	20.2	25	21.8	25	25	30	27	(—)5	(—)7
95. Scooters, Motor Cycles & Mopeds	,,	675	500	590	447.2	672	525	750	633.5	800	730	900	780	(+)225	(+)280
96. Bicycles (Org. Sectors) .	Mill. Nos.	8	6	5.2	4.19	5.2	4.36	6.9	4.73	7.0	5.6	8.0	6.0	..	..
Mechanical Components and Consumer Durables															
97. Ball and Roller Bearings .	Mill. Nos.	80	64	45	34.3	45	38.3	50	35.84	60	42	63	53	(—)17	(—)11
98. Type writers . . .	'000 Nos.	170	143	138.4	96.4	140.4	89.4	146.4	116.7	156.4	120	156.4	120	(—)13.6	(—)23
99. Sewing Machines . .	,,	555	470	573	335.3	555	343	573	309	573	350	573	360	(+)18	(—)110
100. Mechanical Watches . .	Mill. Nos.	15	12.50	6.1	4.6	6.1	5.15	6.1	5	7	6	9	8	(—)6	(—)4.5
Electrical Components and Consumer Durable															
101. ACSR and AA Conductors .	'000 tonnes	137.30	120	139.6	86	154	66.1	1.54	52.4	154	60	154	85	(.)16.7	(—)35
102. PVC & VIR cables (Org. Sector)	MCM	1281	900	1281	506.9	1400	483.1	1400	480	1400	500	1400	550	(-)119	(—)350
103. Dry Cells	Mill. Nos.	1750	1400	1336	994.4	1504	1104	1504	1115	1504	1270	1700	1400	(—)50	..
104. Storage Batteries . . .	,,	2.77	2.31	2.27	1.74	2.68	1.97*	2.68	1.9	2.65*	2.4	2.77*	2.6	..	(+)0.29
105. GLS Lamps . . .	Mill. Nos.	360	290	240	198.1	278.5	266.6	278.5	273	344	320	400	350	(+)40	(+)60
106. Flourescent Tubes . .	,,	52.50	42	27.92	28.3	35.98	31.9	35.98	33.26	45	38.5	52	42	(—)0.5	..
107. HT Insulators . . .	'000 T	64	51	27.62	24	27.62	25	46	30	46	32	52	35	(—)12	(—)16
108. HT Circuit Breakers . .	,,	17	13	16.46	9.1	16.46	9.5	19.95	9.87	19.95	10	16.46	11	(—)0.54	(—)2
109. Domestic Refrigerators .	'000 Nos.	520	390	339	289.8	339	327	563	378	563	400	520	390	..	..
110. Power Capacitors MVAR (RT & LT)	,,	2750	2200	1238	1204	1482	1085	1582	950	1715	1100	2000	1600	(—)750	(—)600
111. Welding Electrodes . .	MRM	800	715	742.8	512.8	742	521	742	624	742	730	742	750	(—)58	(—)35
112. Electric Fans . . .	Mill Nos.	8.25	6.60	3.52	4.18	5.0	3.84	5.0	4.2	6.0	4.6	7.0	5.0	(—)1.25	(—)1.6
113. Power Cables ELPE (XLPE, PIGL PVC	'000 Km.	60	45	41.8	25.2	43	22	45.8	20	45.8	22	43	35	(—)17	(—)10

*Excludes 0.61 Million Nos. capacity for export.

(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Electronics																
114.	Consumer Electronics . .	Rs. crores	602	522.50	305	210.5	349	272	415	370	482	427	580	476	(—)22	(—)46.5
115.	Radio Receivers	,,	200	177	118	94	130	105	150	120	160	135	188	150	(—)12	(—)27
116.	TV Receivers	,,	200	180	98	69	105	92	130	160	155	170	190	175	(—)10	(—)5
117.	Tape Recorders	,,	50	38	22	18.8	35	28.5	40	35	60	48	75	60	(+)25	(+)22
118.	Record Players	,,	13	11.50	11	8.1	11	7.5	11	7	11	8	11	9	(—)2	(—)2.5
119.	Amplifiers and PA Systems .	,,	25	19	20	13.8	21	14	22	12	22	15	22	17	(—)3	(—)2
120.	Calculators	,,	36	32	22	8.1	22	7	22	8	20	9	20	10	(—)16	(—)22
121.	Electronic Watches . . .	,,	60	50	10	5	10	5	15	8	20	15	30	20	(—)30	(—)30
122.	Others (OTV, TV Glass) .	,,	18	15	..	6.8	15	13	25	20	34	27	44	35	(+)26	(+)20
Industrial Electronics			465	350	205	140	240	163	261	197	320	229	380	275	(—)85	(—)75
123.	Instruments (T&M Analytical)	,,	148	102.5	65	33.5	72	38	72	45	75	50	75	58	(—)73	(—)44.5
124.	Process Control Equipment .	,,	157	122.50	75	49	79.5	46.8	52	52.7	90	60	115	80	(—)42	(—)42.5
125.	Power Electronics . . .	,,	118	95	49	44.5	70	55	83	70	120	90	160	115	(—)42	(+)20
126.	Medical Electronics . . .	,,	42	30	16	13	18	10.3	20	11	22	12	30	22	(—)12	(—)8
Communication Equipment . .			653	509.4	315.2	216	362	253	373	293	405	329	460	377	(—)193	(—)132.4
127.	Mass Communication . . .	,,	13	10.40	4	1.5	5	4	8	6	8	6	10	7	(—)3	(—)3.4
128.	Tele-Communication . . .	,,	400	306	190	144.5	230	170	235	205	260	230	310	270	(—)90	(—)36
129.	Two-way Communication .	,,	35	30	11.2	7	12	9	15	12	17	13	20	15	(—)15	(—)15
130.	Aero-Space	,,	205	163	110	63	115	70	115	70	120	80	120	85	(—)85	(—)78
Computer Systems		,,	120	90	34	23.8	46	34	63	45	85	66	125	90	(+)5	..
131.	CPU	,,	70	50	20	12.3	24	17	35	25	45	36	70	50	..	..
132.	Peripherals	,,	25	22	10	7.8	15	11.5	18	14	25	17	30	20	(+)5	..
133.	Unbundled Soft Ware .	,,	25	20	4	3.7	8	5.5	10	6	15	13	25	20	..	..
D. Product in Free Trade Zone			..	45	..	18.6	..	28	..	55	..	60	..	70	..	(+)25
134.	Components	,,	450	395	210	160	255	180	300	210	360	250	430	300	(—)20	(—)95

APPENDIX II

Mid-Term Appraisal of the Sixth Five Year Plan—Industries & Minerals (Central Sector)

(Rs. crores)

Sl* No.	Ministry/Department	Sixth Plan Outlay (Original)	1980-81 Actual Expenditure	1981-82 Actual Expenditure	1982-83 Budgetary Provisions	1982-83 Revised Estimate	1983-84 Approved outlay
1.	Department of Steel	4000.00	758.56	796.22	859.90	870.31	820.37
2.	Department of Mines	1380.00	152.29	147.51	292.35	326.03	494.00
3.	Ministry of Petroleum (Petro-Chemicals)	935.00	44.30	61.56	106.15	115.53	112.00
4.	Ministry of Chemicals & Fertilizers	2350.00	259.40	278.19	386.65	354.11	428.83
5.	Deptt. of Agriculture & Cooperation	325.00	30.00	75.00	120.00	105.00	145.00
6.	Deptt. of Industrial Development	850.00	138.90	155.64	193.41	194.68	167.90
7.	Deptt. of Heavy Industry	704.04	83.16	118.92	153.00	149.85	207.43
8.	Ministry of Shipping & Transport (Ship building industry)	97.37	13.54	14.75	14.96	11.65	16.10
9.	Department of Electronics	140.28	10.63	19.18	37.49	47.00	32.00
10.	Department of Atomic Energy	352.05	37.51	43.58	56.03	62.41	91.49
11.	Department of Economic Affairs (Currency & Coinage)	40.02	10.04	8.80	6.97	6.12	4.00
12.	Department of Economic Affairs (Banking Division)	354.70	100.83	299.33	83.03	84.00	122.75
13.	Department of Revenue	0.21	..	0.01	0.10	0.07	0.01
14.	Department of Civil Supplies	48.90	1.37	1.13	3.30	1.36	3.28
15.	Department of Commerce—						
	(i) Plantations	137.00	15.00	20.00	25.15	23.19	30.00
	(ii) Other Schemes	25.36	2.52	4.58	3.35	4.22	7.38
16.	Department of Textiles	102.13	21.94	21.11	22.43	22.63	24.89
17.	Department of Science and Technology	6.00	0.65	0.75	0.80	0.80	0.80
	Total	11848.07	1680.64	2061.31	2364.81	2379.06	2708.28*

*Excludes allocation of additional outlay decided in July 1983

CHAPTER 13

TRANSPORT

Railways

The position in respect of some of the basic assets and output indicators of the Railways at the end of each Plan period and up to 1981-82 may be seen in Annexure 13.1 attached.

13.2 The position regarding some of the major targets/projections for Railways as given in the Sixth Plan Document and the progress so far in respect thereof is given in the Table 13.1 below :—

TABLE 13.1

Sl. No.	Item	1984-85 Targets	Achievements up to 1982-83	Anticipated up to 1983-84	Anticipated up to 1984-85
1.	Clearance of originating traffic per year (million tonnes)	309	254	264	282A
2.	Clearance of originating revenue earning traffic per year (million tonnes)	287	228	241	257A
3.	Net Tonne KM's per wagon day (tonne KM's)	1125	1125	1150	1175B
4.	Procurement of Wagons	100,000	43,500	60,000	77,000C
5.	Procurement of Locomotives	780	607	782	980D
6.	Procurement of coaches and EMU's . . .	6070	3275	4486	5900
7.	Track renewals (KMs)	14,000	4300	7050	10,400
8.	Electrification (KMs)	2800	874	1490	2500

(A) Traffic projections are less than original Sixth Plan figures due to lower demand from commodity sectors as compared to those assessed at the time of Sixth Plan formulation.

(B) Achievements in utilisation expected to be higher than the original Sixth Plan target.

(C) Keeping in view the lower demand for rail transport [note (A) above] and higher utillation is [not (B) above] the requirement of wagons has gone down to about 80,000 wagons against the original projection of 100,000 wagons. However due to constraint of resources actual procurement is expected to about 77,000 wagons.

(D) In order to achieve better traffic clearance with fewer wagons through greater mobility, a higher level of locomotive acquisition has been programmed.

13.3 The position in respect of some of the important performance indicators during the first three years of the Plan as compared to the base year 1979-80 is given in Table 13.2 below :

TABLE 13.2

Performance indicators (BG—Good's traffic)

Sl. No.	Indicator	1979-80	1980-81	1981-82	1982-83 (Estimated)
1.	Wagon KM's/Wagon day	73.3	73.4	83.7	85.0
2.	NTKM's/Wagon day .	972	986	1112	1125
3.	Average gross trainload (tonnes)	1694	1721	1775	
4.	Average speed (Kmph) .	19.5	19.7	20.8	22.6
5.	KM's per Engine Day				
	Diesel . .	307	303	370	388
	Electric . .	289	274	366	390

13.4 It will be seen from Table 13.1 above that in some of the critical areas of the Railway's programme like procurement of wagons, track renewal and electrification, there are likely to be shortfalls in the fulfilment of targets. In respect of clearance of traffic, after a very bad three year patch from 1978-79 to 1980-81, the capacity of the Railways for clearance (during the past two years 1981-82 and 1982-83) remained broadly adequate to meet the demands of rail transport from the commodity sectors. During these two years, the traffic clearance as well as wagon utilisation indices on the Railways broke all previous records and the Plan target for wagon utilisation for 1984-85 was achieved in 1982-83 itself. However, even on the basis of conservative estimates of demand during 1983-84 and 1984-85 a sizeable gap between the anticipated capacity of the Railways and the total demand for rail transport is likely to emerge despite the achievement of further increase in the utilisation levels by the Railways. For example on the basis of present allocation for wagons etc., and the achievement of a higher utilisation level of 1150 NTKMs per wagon day the capacity for clearance of the Raiways during 1983-84 is assessed as 264 million tonnes (including 241 million tonnes revenue earning traffic). On the other hand, the total demand for rail transport in 1983-84 is assessed as 275 million tonnes (including 252 million tonnes revenue earning) and is further expected to go up in 1984-85 to 280 million tonnes). In order to prevent recurrence of bottlenecks in rail transport along with the attendent chain reactions it would be necessary apart from other measures to step up the investment in the Railway sector in the coming years. The Railways on their part will have to devote attention to better monitoring of projects some of which are heavily behind schedule with corresponding cost/time over runs

13.5 In the Sixth Plan the outlay approved for Railways was Rs. 5100 crores (at 1979-80 prices). The actual expenditure so far at current prices and at 1979-80 prices has been as folows :—

(Rs. crores)

	1980-81	1981-82	1982-83	1983-84 (BE)	Total
At current prices	973	1210	1332	1342	4857
At 1979-80 prices	887	875	823	745	3330

It will be seen that the investments in the Railways in real terms have remained static or have been regressed. Keeping this in view and the need for increasing the capacity of the Railways as mentioned earlier the investments in Railways would need to be stepped up.

13.6 It is noteworthy that in spite of the substantial improvements in physical performance (Tables 13.1 and 13.2) some of the financial results of the Railways are not quite satistactory. Their operating ratio (i.e. the percentage of working expenses, including DRF, to the gross revenue) in the first three years of the Plan was 96.1 per cent, 89.4 per cent and 88.5 per cent. For 1983-84 the estimated Operating Ratio is 87.5 per cent. As far back as 1960-61|1965-66, the ratios were as good as 78.8 per cent|78.3 per cent respectively. This highlights the fact that, among other things, railway tariffs have not increased in harmony with the increase in the cost of the inputs. While to some extent a deliberate policy of tariff restraint is desirable, it needs to be followed within the primary objective of earning a minimum reasonable return on the capital invested. The percentage of net revenue to capital-at-charge (before payment of dividend to general revenues) of the Railways, however, rose from 2.1 per cent in 1980-81 to 6.02 per cent in 1981-82 and 7.3 per cent in RE 1982-83 and is further budgeted to rise to 9.5 per cent in 1983-84. Sustained efforts will be required to maintain this improvement and achieve the target of 10 per cent return recommended by the Rail Tariff Enquiry Committee (Paranjpe Committee) in their Report (1980). Thus, both physical and financial productivity on the Railways would need to be constantly pursued as a corporate goal.

Ports

13.7 The Sixth Plan envisaged an increase in traffic handled at the ports from 78.5 million tonnes in 1979-80 to 131 million tonnes in 1984-85. While this trend has not materialised due to lower materialisation of export|import traffic like iron ore, fertilizers and POL, the traffic handled at major ports showed substantial increase from 78.5 million tonnes in 1979-80 to 96.12 million tonnes in 1982-83. The overall port capacity increased from around 101 million tonnes to about 114 million tonnes in the same period. At present the capacity available for general cargo is short of requirements and the investment programme in the Sixth Plan is mainly for augmentation of berthing capacity for general cargo including the development of facilities for containerised traffic. The progress of work in the Ports Sector has generally been satisfactory and almost all the schemes are expected to be completed by the end of the Sixth Plan. A new major port at Nhava Sheva has been sanctioned for handling bulk and containerised cargo.

13.8 With the completion of all the schemes for general cargo and containerised cargo adequate capacity would be generated for these commodities by the end of the Sixth Plan and it will be further augmented by the middle of the Seventh Plan when the Nhava Sheva Project is also completed.

13.9 Against the original outlay of Rs. 521.20 crores for major ports in the Sixth Plan the expenditure during the first three years amounted to Rs. 273.31 crores i.e., 52.4 per cent. In the mid-term appraisal the additional requirement for the port sector has been projected at Rs. 324 crores which would be met primarily from the internal resources of the ports|external borrowings. A large part of this additional outlay will be for the Nhava Sheva Port Project.

Roads

13.10 The major components of the Central Sector Roads Programme are completion of missing links and of missing major bridges, double laning with and without strengthening widening to four lanes, and construction of by-passes. The physical achievements under each of these heads is set out in the table below :—

TABLE 13.3

Sl. No.	Scheme	Sixth Plan target	Likely achievement in the three years.—1980—83
1.	Construction of missing links (Kms)	196	171
2.	Construction of missing major bridges (Nos.)	9	6
3.	Double laning including strengthening (Kms)	4,224	2,380
4.	Double laning without strenghtening (Kms.)		
5.	Widening to four lanes (KMs.)	130	34
6.	Construction of by-passes (Nos.)	52	23

13.11 It would be seen that the progress of some of the important items of work under the Central Sector Roads sector like construction of missing links and missing majors bridges during the first three years of the Plan has been quite satisfactory in relation to the Sixth Plan targets. However, in some elements of the programme like double laning and widening to 4 lanes, the progress has not been proportionate to the targets. This has mainly been due to the overall constraint in resources which affected the Annual Plan outlays in this sector, coupled with the increase in cost of bitumen, construction machinery cement and steel, which were subject to major cost escalations in recent years.

13.12 The total Plan outlay on roads, of both the Central and the States Sectors is Rs. 3,439 crores, broken-up as follows :—

		(Rs. crores)
Central Sector		830
State Sector		
(i) Rural Roads under MNP	1,165	
(ii) Other roads	1,444	2,609
		3,439

13.13 The Plan expenditure in the Central Sector along with the scheme-wise break-up is given in the following table :—

TABLE 13.4

(Rs. crores)

Sl. No.	Scheme	1980-85 Outlay	1980-82 Expenditure	1982-83 Anticipated expenditure	Total first three years	1983 84 outlay
1	2	3	4	5	6	7
1.	National Highways	660.00	203.08	128.32	331.40	128.50
2.	Machinery	18.00	3.10	1.25	4.35	1.50
3.	Strategic Roads	38.00	19.88	6.90	26.78	8.50
4.	Roads and Bridges of Eco. & Inter-State importance	40.50	7.77	3.50	11.27	5.00
5.	Roads in sensitive border areas	50.00	7.18	3.85	11.03	5.50
6.	Highway Research Development and Planning studies	4.00	1.12	0.50	1.62	0.75
7.	Highway Training Institute	1.00	—	—	—	—
8.	Over/Under Bridges	9.00	—	0.20	0.20	0.25
9.	Roads in tribal areas	6.50	—	—	—	—
	TOTAL	830.00*	242.13	144.52	386.65	150.00

*Rs. 3 Crores for CRRI transferred to CSIR subsequently.

13.14 It would be seen that the total expenditure/outlay during the first three years of the Plan was Rs. 386 crores against the Sixth Plan outlay of Rs. 827 crores. The flow of expenditure/outlay in this sector has been low mainly due to overall constraint of resources. The outlays approved in the Annual Plans were fully utilised.

State Sector Programmes

13.15 The outays and expenditure under the State Sector have been as follows :—

(Rs. crores)

Plans	Total Roads	Rural Roads under MNP*
Sixth Plan 1980-85	2608.96	1164.90
1980-81 (Expenditure)	517.40	196.46
1981-82 (Expenditure)	581.26	232.43
1982-83 (Anticipated expenditure)	514.31	204.95
1983-84 (Outlay)	586.70	229.85

* Minimum Needs Programme.

13.16 The most important element of the State Sector Roads Plan is the construction of rural roads under the Minimum needs Programme (MNP). This envisages provision of all weather link roads for all villages with a population of 1500 and above and for 50 per cent of the villages with a population of 1000-1500 within a time frame of 10 years, that is by 1990.

13.17 According to a rough assessment, grouping both the population categories together and aggregating the figures of individual States, it is estimated that a total of about 20,000 villages would need to be connected with all weather link roads under this programme during the Sixth Plan period. As against this, the achievements in the first three years aggregated to around 11270 villages which will be about 56 per cent of the Plan target. On an aggregated basis the achievements are thus in line with the target. However, in some of the States the achievements are higher than the target (due to various reasons including construction of rural roads under other programmes) which, while aggregating, cover the figure of shortfall in others. It is assessed that in nearly two-thirds of the States, the Sixth Plan targets are likely to be achieved. The main reason for the shortfall in the rest of the States is the difficulty in providing adequate earmarked outlays for rural roads under the Minimum Needs Programme within the limitations of the total size of the Plan of the State concerned.

Shipping

13.18 The Sixth Plan envisaged that India's Shipping tonnage which, as on 1-4-80, stood at about 5.5 million tonnes Gross Registered Tonnage (GRT) (including 5.3 million GRT overseas tonntge and 0.25 coastal tonnage) would be increased during the Sixth Plan period by another 2.0 million tonnes net. However, due to a severe and unprecedented recession in the international shipping sector the actual increase in the tonnage in the country during the first three years has been only 0.464 million GRT. The outlay provided in the Sixth Plan was Rs. 720 crores and the actual expenditure during the first three years was only Rs. 265.40 crores. It is assessed that there may be a saving of about Rs. 250 crores in the Sixth Plan outlay for this sector.

Civil Aviation and Meteorology

13.19 Traffic on Indian Airlines and Air India routes has increased. The acquisition of aircraft proceeded according to programme—Revenue Tonne Kilometres (RTKM's) on Air India increased from 816 million in 1979-80 to 1114 million in 1982-83. The Sixth Plan target of capacity at about 1900 million available Tonne KM's for Air India is likely to be achieved in 1983-84 itself. Similarly, traffic on the Indian Airlines increased from about 399 million RTKM's in 1979-80 to around 520 million RTKM's in 1982-83 and the Sixth Plan target of capacity acquisition at 8750 million. Available Seat KM's (ASKM's) is likely to be achieved in 1983-84 itself. Both Indian Airlines and Air India were able to improve their financial performance and to generate net surpluses despite the difficult global position in this sector.

13.20 New aircrafts are required for the phasing out of the fuel inefficient older aircraft of both Indian Airlines and Air India. This will necessitate upgradation of airports to higher, standards (on the internal air network). High capital intensity and operating costs underscore the need for attaining high standards of utilisation efficiency. The total outlay of Rs. 855 crores for the civil aviation sector may need to be increased by about Rs. 72 crores.

13.21 Under Meteorology, some additionality to the approved outlay of Rs. 43 crores would be needed to cover the increase in the cost of inputs and additional provision for the INSAT project.

Tourism

13.22 The outlay provided in the Sixth Plan is Rs. 67 crores. The actuals were Rs. 9.55 crores in 1980-81, Rs. 16.85 crores in 1981-82 and Rs. 19.51 crores in 1982-83. An increase in the outlay Principally for ITDC would be required. This is mainly due to the requirement of ITDC for the Asian Games, for completing joint venture schemes and for the requirements of the Non-Aligned Meet and CHOGM.

Inland Water Transport

13.23 The major schemes approved in the Sixth Plan were the acquisition of vessels and capital repairs to vessels belonging to the Central Inland Water Transport Corporation (CIWTC), improvement of the Rajabagan Dockyard and provision of infrastructural facilities in the Eastern region. These schemes are intended to augment the capacity of CIWTC to carry cargo to the North Eastern Region from the prescent level of about 2 lakh tonnes to 5.8 lakh tonnes per annum. Another important scheme was the declaration of the Ganga-Bhagirathi-Hooghly System between Haldia-Farraka and Allahabad stretch as a National Waterway.

13.24 Against an outlay of Rs. 45 crores provided in the Sixth Plan for the Central Sector, the expenditure in the first three years is estimated to be Rs. 16.12 crores. For 1983-84, an outlay of Rs. 12 crores has been provided. An additional outlay of Rs. 5 crores would be needed mainly to allow for the increase in the cost of inputs and to cover the schemes for acquisition of vessels and other facilities with the CIWTC to be completed in the Sixth Plan peroid itself, instead of spilling over to the Seventh Plan as envisaged earlier.

ANNEXURE 3.1

Plan Progress in respect of some basic assets and output indicators

S. No.		1950-51	End of First Five Year Plan	End of Second Five Year Plan	End of Third Five Year Plan	End of Fourth Five Year Plan	End of Fifth Five Year Plan	As on 31-3-80	As on 31-3-81	As on 31-3-82
1	2	3	4	5	6	7	8	9	10	11
I.	**General**									
(a)	M Capial-at-charge (Rs. in crores)	827.0	969.0	1520.9	2680.3	3893.4	4797.1	5484.6	6096.35	6698.05
(b)	Route Kilometres . .	53596	55011	56247	58399	60234	60693	60933	61240	61230
(c)	Electrified Route Kms. .	388	388	748	2423	4191	4720	4820	5345	5473
(d)	Number of Stations . .	5976	6152	6523	6986	7079	7020	7017	7035	7072
(e)	No. of Staff (in thousand) .	914	1025	1157	1352	1432	1495	1551	1572	1575
II.	**Rolling Stock**									
(a)	*No. of Locomotives*									
	(i) Steam	8120	9026	10312	10613	8847	8215	7856	7469	7296
	(ii) Diesel	17	67	181	727	1610	2015	2231	2403	2515
	(iii) Electric	72	79	131	403	669	901	974	1036	1104
(b)	No. of Passenger Vehicles* .	13109	15984	20178	22804	26108	26647	27290	27434	27257
(c)	Electric Multiple Unit coaches	460	574	846	1355	1892	2321	2473	2625	2658
(d)	Other Coaching Vehicles .	6059	6730	7415	8763	8422	8260	8289	8230	8066
(e)	No. of Wagons .	205596	240756	307907	370019	388366	399971	405185	400946	392349
	*Includes Rail Cars.									
III.	**Volume of Traffic**									
(a)	Tonnage originating Revenue (in millions) . .	73.2	92.2	119.8	162.0	162.1	210.8	193.1	195.9	221
	TOTAL . . .	93.0	115.9	156.2	203.0	184.9	237.3	217.8	220.0	245
(b)	Net Tonne Kilometres Revenue (in Millions) . . .	37565	50435	72333	98978	109391	150250	144559	147652	164253
	TOTAL	44117	59576	87680	116936	122354	162687	155995	158474	174202
(c)	Passenger originating (in million)									
	(i) Suburban . . .	412	495	680	1018	1437	1928	1903	2000	2064
	(ii) Non-Suburban . .	872	780	914	1064	1217	1575	1602	1612	1640

CHAPTER 14

COMMUNICATION, INFORMATION & BROADCASTING

Communication Sector

A provision of Rs. 2810 crores has been included in the Central Sector in the Sixth Plan for the programmes relating to Communications. The progress of expenditure so far has been as below :

Year	Expenditure (Rs. crores)
1980-81	320.81
1981-82	521.31
1982-83 (RE)	559.61
1983-84 (as approved)	630.00
Total : (4 years (1980-84)	2031.73
1984-85 . . . . (Assuming a 25% increase over 1983-84)	787.50
Grand Total (for 5 years)	2819.23

14.2 It will be seen from the above that, on present estimates, a sum of Rs. 2031.73 crores is expected to be utilised in the first 4 years of the Plan. Assuming a 25 per cent step up in 1984-85 over 1983-84, a provision of Rs. 787.50 crores may be estimated for the next year. Taking into account this estimate for the last year of the Plan, a total expenditure of Rs. 2819.23 crores may be expected to be incurred in the 5-year period, thus exceeding the Plan provision by Rs. 9.23 crores.

14.3 However, while in financial terms, the Plan provision may be exceeded marginally, the physical targets of the Sixth Plan are not likely to be achieved in the case of telecommunications and Indian Telephone Industries, some shortfalls in achievements are expected under most of the items under telecommunication. The expected achievements by the end of March, 1983 are 5.26 lakh lines of switching equipment and 5.30 lakh Direct Exchange Lines as compared with the Sixth Plan targets of 14.80 lakh lines and 13.30 lakh lines respectively. The achievements in the long distance switching and transmission systems have generally been in the range of 15 per cent to 25 per cent. It would be necessary to show considerable improvement in this area.

14.4 If the trend of performance in the first three years of the Plan is any indication, the prospects for achieving the physical targets in full by the end of the Plan period are not very bright. In the case of local switching capacity, the likely achievement may be around 11-12 lakh lines, i.e. 80 per cent of the target set for the Sixth Plan. As for Direct Exchange Lines, the achievement may be about 8-9 lakh lines, i.e. about 65 per cent of the Sixth Plan target. The performance in the long distance switching and transmission systems is likely to be around 50 per cent. The performance in the case of UHF systems may also show considerable shortfall. While reviewing the physical programme, it will have to be borne in mind that, when the Sixth Plan was being formulated the physical targets were not related to the Plan outlay of Rs. 2810 crores but to a higher outlay of Rs. 3100 crores. Even after making allowance for this factor, the achievements may not reach a satisfactory level. The reasons given for not achieving the targets are inter-alia, the inadequate supply or non-supply of equipments by the public sector undertakings, delay in the receipt of imports etc. There is much leeway to be made and this may call for the urgent adoption of strong and effective measures.

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14.5 The Telecommunication Plan being dependent on the ITI Plan, it is essential that the ITI Plan is implemented on a strictly time-bound basis ensuring adequate supplies particularly of critical parts to the P&T Department in time. There would appear to be complaints that the supplies of the ITI do not contain all critical parts and, as a result, there is considerble delay in commissioning. Likewise, attention has to be paid to the repeated slippages in imports. The administrative machinery has to be geared to avoiding these delays and slippages.

14.6 Of the other communication programmes which include the Indian Telephone Industries, the Hindustan Teleprinters (HTL), Overseas Communication Service (OCS) and the Monitoring Organisation, the outlays of OCS and HTL are likely to be fully utilised. The performance of the OCS has been satisfactory and many of the important projects like the IOCOM Cable Project, Indo-USSR Tropo Scatter line etc. as well as some of the switching programmes have already been completed. The Monitoring Organisation has to be further activised. It appears doubtful if this Organisation would be able to spend the projected Plan outlay of Rs. 8 crores.

14.7 The fund requirements of the ITI will go up appreciably to provide for the newly sanctioned E.S.S. Factory at Gonda and the increase in costs of the on-going Palghat Expansion Scheme, expansion of the Telephone Instruments Division and expansion of the Transmission Unit.

14.8 The Postal Sector has been doing well both in regard to utilisation of Plan outlays and achievement of physical targets. Full performance may be expected in most of the schemes except the construction programmes. While framing the Sixth Plan, it was considered necessary to give a boost to the construction of postal buildings and staff quarters as many of these buildings are very old and the percentage satisfaction of staff quarters is also quite low. However, due to funding compulsions in the Telecommunication sector, it has become necessary to restrict investment in the construct on area of the postal sector.

14.9 The internal resources generation of the P&T Department is not likely to improve appreciably in spite of the revision in the postal and telecommunication tariffs. The internal resources for the Plan may be about 50 per cent of the earlier estimate of Rs. 2798 crores. Budgetary support at a sizeable level would, therefore, have to be continued for the P&T Plan in the terminal year also.

14.10 Internal resources generation and constant updating of technology hold the clue to the success of the Communication Plan. In Telecommunication, a better balance has to be achieved between local switching system and the long distance switching and transmission networks. Such a balance should have a viable impact on resources.

Information and Broadcasting Sector

14.11 A provision of Rs. 240.33 crores has been included in the Sixth Plan under Central Sector for the programmes relating to Information and Broadcasting. The progress of expenditure so far has been as below :

Year	Expenditure (Rs. crores)
1980-81	15.36
1981-82	29.73
1982--83 (RE)	33.14
1983-84 (as approved)	50.00
Total : (4 years 1980-84)	128.23
1984-85	62.50
(Estimates, assuming a 25 % increase over 1983-84)	
Grand Total (for 5 years)	190.73

14.12 It will be seen from the above that, on present estimates, a sum of Rs. 128.23 crores is expected to be utilised in the first 4 years of the Plan. Assuming a 25 per cent step up in 1984-85 over 1983-84, a provision of Rs. 62.5 crores may be reakoned for next year. Taking this into account, an expenditure of Rs. 190.73 crores may be incurred in the 5-year period, leaving a balance of Rs. 49.60 crores. In view, however, of (i) the Specia AIR, TV Plan for the N.E. Region and (ii) the Speia Plan for expansion of Television network during he Sixth Plan (approved recently), there may not be ny shortfall in financial terms. Nevertheless, this wuld have implications on the physical achievements envisaged in the Plan.

14.13 As regards the Sound Broadcastin Schemes which have spilled over from earlier plans, he physical progress has been satisfactory and mos of them are expected to be completed during th current plan period. Only some would spill over into the Seventh Plan including the scheme for nw broadcasting house for External Services Division News Services Division.

14.14 The important new starts in th Plan are upgradation of power of the medium-wave transmitters, setting up of 1000 KW Medium-wave transmitter at Nagpur for National Channel, seting up of 2 numbers of 250 KW Shortwave transmitters at Aligarh and an equal number of 500 KW shortwave transmitters at Bangalore for strengthenin the external services. A number of these new starts would not be completed during the current Pln period. Notable amongst them are the 1000 KW Medium wave transmitter at Nagpur for National Channel and the shortwave transmitters at Bangalore fr externa services. Slippages are also expected in the programme for strengthening of the regional programme directorates as well as construction of staff quarters.

14.15 Under Television; attempts woul have to be made to complete within the current Pln period the TV Centres at Ahmedabad, Bangalore Trivandrum and Gauhati as the project costs are increasing owing to normal escalation as well as intrcluction of colour compatibility in implementation of these schemes. The three programme productin centres to be set up at Raipur, Muzaffarpur and Gulbarga are likely to spill over into the Seventh Pan. Particular attention would have to be paid to bring these programme production centres to commissin quickly so that software capabilities do not lag bhind. The increase of software capabilities is of specal importance in the context of the large expanson of TV coverage now stipulated under the Specia Plan for expansion of TV network.

14.16 In the area of Information and Publicity, work on the construction of Soochna Bhavn is also falling behind schedule and appears likey to spill over into the Seventh Plan.

CHAPTER 15

EDUCATION

15.1 The Sixth Five-Year Plan envisaged a balanced strategy of educational planning with the long-range goal of making available diverse networks of facilities and programmes for education, combining formal and non-formal modes of learning, to enable all citizens to acquire literacy numeracy, computational skills, basic understanding of the surrounding world and functional skills of relevance to daily life and to local environment. It also emphasised that planning effort should shift from provision of inputs and expansion of facilities in general terms to results to be achieved and tasks to be performed with specific reference to target groups of population, particularly the socially disadvantaged. Other important objectives envisaged included development of scientific outlook, sensitization to ethical, social and cultural values which go to make an enlightened nation, and imparting knowledge, skills and attitudes enabling better contribution to productive programme in national development.

15.2 The programme of universalisation of elementary education was given the highest priority. In terms of physical targets, the enrolment of students in Classes I to V was expected to be raised from 83.6 per cent of the relevant age group to 95.2 per cent by the end of the Plan, while the enrolment in Classes VI to VIII was similarly expected to be increased from 40.2 per cent to 50.3 per cent. The enrolment of girls in Classes I to VIII was expected to be increased from 52.2 per cent to 65 per cent of the relevant age-group. Based on existing projections of population in the relevant age-groups and base level data of enrolment in 1979-80, these targets implied an additonal enrolment of about 180 lakh children in Classes I to VIII in full-time institutions. In addition, non-formal education programmes for children in the age-group 9-14 were to be developed to cover 80 lakh children during the Sixth Plan, althouh it was recognised that it would be unrealistic to lay down any specific targets for the purpose.

Similarly, while no physical targets were laid down, adult education programmes were to be developed on a large scale for the age-group 15 to 35 to combat the problem of illiteracy. In the field of secondary and higher secondary education, facilities were to be extended to rural and backward areas and access provided to the weaker and more backward sections of the people with consolidation of existing facilities and improvement of standards. A major effort was to be made in the area of vocationalisation of secondary education based on detailed surveys of existing and potential work opportunities and available educational and training facilities. In the area of higher education, consolidation of facilities and improvement of standards and quality with emphasis on restructuring of courses was envisaged. In technical education, emphasis was laid on furthernance of nationl efforts to develop science and technolog as an instrument of the country's economic progress, and on identification of critical areas and creation of necessary facilities for education in emerging technologies.

An appraisal of the implementation of the different programmes indicates considerable progress in the directions indicated above. There are, however, certain areas which require special attention in order to achieve the objectives of the Sixth Plan in full measure. Some of these are dealt with below :

Elementary Education

15.3 While the overall target of enrolling an additional 180 lakh children in full-time educational institutions is likely to be achieved by the end of the Plan (Annexures I&II), the progress in this regard is lagging in certain States. Bihar, Jammu & Kashmir, Madhya Pradesh, Meghalaya, Orissa and Sikkim are lagging in respect of enrolments in Classes I to V. Similarly, Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Haryana, J&K, Meghalaya, Orissa, Rajasthan, U. P. and West Bengal are showing shortfalls in girls' enrolment in these classes. There has been slow progress in regard to enrolment in Classes VI to VIII in the States of Jammu & Kashmir, Karnataka, Madhya Pradesh, Meghalaya, Nagaland, Rajajasthan, Tamil Nadu and U.P. Girls' enrolment has been on the lower side in Class VI to VIII in Andhra Pradesh, J&K, Karanataka, M. P., Megalaya, Nagaland, U.P. and the Union Territories of Andaman & Nicobar Islands, Chandigarh, Goa, Daman & Diu. There is a need to accelerate the implementation of the new strategies envisaged in the Sixth Plan, viz.

(a) intensified use of existing facilities including adjustment of schooling hours according to local conditions;

(b) provision of new facilities which would be economically viable and educationally relevant; and

(c) introducing measures with a view to eliminating wastage and reducing drop-outs in elementary education.

These strategies call for a detailed local level planning involving the local community aspects to which the State Governments need to pay much more attention than hitherto.

Under the non-formal system of elementary education for the age-group 9—14 current assessment indicates that the coverage may be of the order of 35 lakh in the Plan period as against the 80 lakh envisaged. It is, therefore, necessary to diversify non-formal learning programmes so that a variety of options are made available to school children especially in the villages to suit their diversified needs.

According to the present assessment, the total achievement of enrolment in elementary classes (6--14 age group), both under formal and non-formal system is estimated to be of the order of 110 million by the end of the Sixth Plan. As the estimated population of the 6—14 age-group on the basis of 1981 census is of the order of 140 million, there will be a backlog of about 30 million non-attending children of this age-group in 1984-85. If universalisation of elementary education is to be achieved by 1990, as envisaged under the 20 point programme, nearly 50 million additional children of the age-group 6—14 will have to be covered in the Seventh Plan, as the estimated population of the age-group 6—14 would be of the order of 160 million in 1990. The adoption of the different strategies referred to earlier is, therefore, of particular importance for achieving the goal of universalisation of elementary education.

Secondary Education

15.4 In the field of secondary education, the Sixth Plan recognised that, with the expansion of the base of education at the elementary stage, an increasing number of students, including large numbers of first-generation learners, would reach the secondary education stage and facilities have to be provided for their education, since such education is the only means of social mobility and economic independence, particularly among the socially disadvantaged. However, the Plan emphasised the importance of paying special attention to the quality of education at this stage and to improving internal efficiency of the system and enhancing the employability of its products. There is still a great need for more sustained and planned effort and clear targets in respect of these qualitative improvement programmes.

Vocationalisation

15.5 Apart from emphasis on science education and recognising the needs of exceptionally talented children, a major programme of manpower development through 'Vocationalisation' of higher secondary education related to employment opportunities was to be developed. So far, satisfactory progress can be said to have been made only in the States of Tamil Nadu, Maharashtra, Karnataka, Andhra, Pradesh and Gujarat. The number of vocational courses and their coverage needs to be enhanced considerably and substantial number of students attracted to these courses. Vocational courses also need to be developed in close association available facilities in factories and other establishments in the area with a view to keep down the per capita cost and to attract trained persons in industry for imparting requisite skill-training.

Higher Education

15.6 In the field of higher education, the main emphasis is on consolidation of existing facilities, tackling the problem of non-viable institutions and preventing proliferation of new higher educational institutions and improvement of quality of higher education with special emphasis on :

(a) restructuring of under-graduate courses to make them purposeful and also terminal for those who would seek employment;

(b) provision for vocational courses leading to employment and stress on certificate or diploma rather than an academic degree; and

(c) pormotion at post-gradute level of research on practical problems of local and regional relevance as well as of fundamental research.

While significant initiatives have been taken by the University Grants Commission in all these areas, a major impact on the higher education system in these directions is yet to be made. Special efforts are also being made to forge links between the higher educational system and the requirements of the science and technology policy.

Adult Education

15.7 According to report received from the States, the total achievement by the end of the Sixth Five Year Plan is estimated at around 20 million. A big leeway is thus yet to be covered in this regard. The University Grants Commission has recently approved a major programme for involving students. Further efforts need to be made to make the programme mass-based with widespread involvement of local communities, voluntary organisations and panchayats and also for improving the delivery system, and supervision and material content of the programmes, linking them to various developmental and welfare activities. The consolidation and expansion of the programme in the remaining years of the Sixth Five Year Plan would be crucial for the achievement of the estimated targets of 115 million by the year 1990.

20-Point Programme

15.8 Apart from other measures taken to achieve the targets of universalisation of Elementary Education and eradication of illiteracy by 1990, a scheme of Awards to States for excellent performance in improving girls' enrolment both in elementary classes and adult centres has been introduced with a sum of Rs. 10 crores earmarked for this purpose in 1983-84.

ANNEXURE 15.1-A

Sub: *Additional Enrolment—(Targets & Achievements)—Classes (I-V)—Boys*

(in 000's)

Sl. No.	States	VI Plan (1980—85) Target	1980-81 Achievement	1981-82 Achievement	1982-83 Likely Achievement	1980—83 (4+5+6)
1	2	3	4	5	6	7
1.	Andhra Pradesh	406	112	100	90	302
2.	Assam	275	32	38	72	142
3.	Bihar	438	41	140	15	196
4.	Gujarat	17	65	31	—6	90
5.	Haryana	20	41	29	8	78
6.	Himachal Pradesh	27	11	4	4	19
7.	Jammu & Kashmir	130	17	25	25	67
8.	Karnataka	—8	39	20	12	71
9.	Kerala	15	—14	1	—28	—41
10.	Madhya Pradesh	782	60	108	120	288
11.	Maharashtra	513	70	140	89	299
12.	Manipur	23	5	6	6	17
13.	Meghalaya	33	—	5	1	6
14.	Nagaland	6	2	2	3	7
15.	Orissa	461	5	45	40	90
16.	Punjab	—93	—3	—33	—55	—91
17.	Rajasthan	290	120	155	90	365
18.	Sikkim	6	—4	1	4	1
19.	Tamil Nadu	100	46	50	87	183
20.	Tripura	23	12	10	9	31
21.	Uttar Pradesh	723	33	272	550	855
22.	West Bengal	410	72	125	100	297
	TOTAL (STATES)	4597	762	1274	1236	3272
	UNION TERRITORIES					
23.	A& N Islands	7	1	1	2	4
24.	Arunachal Pradesh	12	3	4	2	9
25.	Chandigarh	11	2	1	4	7
26.	Dadra & Nagar Haveli	—3	—1	—	—	—1
27.	Delhi	41	12	18	15	45
28.	Goa, Daman & Diu	18	3	2	2	7
29.	Lakshadweep	—	—	—	—	—
30.	Mizoram	12	2	3	2	7
31.	Pondicherry	—1	—	1	—	
	TOTAL (UTs)	97	22	30	27	79
	TOTAL STATES & UTs	4694	784	1304	1263	3351

ANNEXURE 15.1 B

Sub : *Additional Enrolment (Targets & Achievements) Classes I-V-Girls*

(in 000's)

Sl. No.	States	1980—85 VI PLAN Target	1980-81 Achievement	1981-82 Achievement	1982—83 Likely Achievement	1980—83 (4+5+6)
1	2	3	4	5	6	7
1.	Andhra Pradesh	547	74	99	50	223
2.	Assam	275	32	148	58	138
3.	Bihar	1194	28	161	148	337
4.	Gujarat	495	17	99	75	192
5.	Haryana	224	42	25	17	84
6.	Himachal Pradesh	26	20	5	5	30
7.	Jammu & Kashmir	115	13	17	15	45
8.	Karnataka	103	34	17	44	95
9.	Kerala	15	—9	1	—17	—5
10.	Madhya Pradesh	369	10	22	130	162
11.	Maharashtra	398	72	145	150	36
12.	Manipur	43	7	8	8	23
13.	Meghalaya	32	5	—2	1	4
14.	Nagaland	7	2	2	2	6
15.	Orissa	252	25	28	36	89
16.	Punjab	—56	4	—27	—28	—51
17.	Rajasthan	360	48	64	48	160
18.	Sikkim	10	1	2	2	5
19.	Tamil Nadu	400	72	50	100	222
20.	Tripura	17	11	9	10	30
21.	Uttar Pradesh	1080	97	146	87	330
22.	West Bengal	921	124	253	77	454
	TOTAL STATES	6828	729	1172	1019	2920
23.	A & N Islands	6	1	1	1	3
24.	Arunachal Pradesh	6	3	3	1	7
25.	Chandigarh	12	1	2	3	5
26.	Dadra & Nagar Haveli	—	—	—1	—	—1
27.	Delhi	112	12	10	10	32
28.	Goa, Daman & Diu	12	2	2	1	5
29.	Lakshadweep	—	—	—	—	—
30.	Mizoram	9	1	3	2	6
31.	Pondicherry	5	1	—	2	3
	TOTAL (UTs)	162	21	20	20	61
	TOTAL STATES & UTs	6990	750	1192	1039	2931

ANNEXURE 15.1-C

Sub : *Additional Enrolment (Targets & Achievements)—Classes I—V-Total*

(in 000's)

Sl. No.	States	1980—85 VI PLAN Target	1980-81 Achievement	1981-82 Achievement	1982-83 Likely Achievement	1980—83 (4+5+6)
1	2	3	4	5	6	7
1.	Andhra Pradesh	953	186	199	140	525
2.	Assam	550	64	86	130	280
3.	Bihar	1632	69	301	163	533
4.	Gujarat	512	82	130	70	282
5.	Haryana	244	83	54	25	162
6.	Himachal Pradesh	53	31	9	9	49
7.	Jammu & Kashmir	245	30	42	40	112
8.	Karnataka	96	73	37	56	166
9.	Kerala	30	—23	2	—45	—66
10.	Madhya Pradesh	1151	70	130	250	450
11.	Maharashtra	911	142	285	239	666
12.	Manipur	66	12	14	14	40
13.	Meghalaya	65	5	3	2	10
14.	Nagaland	13	4	4	5	13
15.	Orissa	713	30	73	76	179
16.	Punjab	—149	1	—60	—83	—142
17.	Rajasthan	650	168	219	138	525
18.	Sikkim	16	—3	3	6	6
19.	Tamil Nadu	500	118	110	187	405
20.	Tripura	40	23	19	19	61
21.	Uttar Pradesh	1803	130	418	637	1185
22.	West Bengal	1331	196	378	177	751
	TOTAL (STATES)	11425	1491	2446	2255	6192
23.	A & N Islands	13	2	2	3	7
24.	Arunachal Pradesh	18	6	7	3	16
25.	Chandigarh	23	3	3	7	13
26.	Dadra & Nagar Haveli	—3	—1	—1	—	—2
27.	Delhi	153	24	28	25	77
28.	Goa, Daman & Diu	30	5	4	3	12
29.	Lakshadweep	—	—	—	—	—
30.	Mizoram	21	3	6	4	13
31.	Pondicherry	4	1	1	2	4
	TOTAL (UTs)	259	43	50	47	140
	TOTAL STATES & UTs.	11684	1534	2496	2302	6332

ANNEXURE 15.2—A

Sub : *Additional Enrolment (Targets & Achievements)—Classes (VI-VIII)—Boys*

(in 000's)

Sl. No.	STATES	VI Plan 1980—85 Target	1980-81 Achievement	1981-82 Achievement	1982-83 Likely Achievement	1980—83 (4+5+6)
1	2	3	4	5	6	7
1.	Andhra Pradesh	253	46	41	52	139
2.	Assam	125	24	17	55	96
3.	Bihar	300	73	108	105	286
4.	Gujarat	351	26	31	135	192
5.	Haryana	60	31	22	7	60
6.	Himachal Pradesh	28	15	6	6	27
7.	Jammu & Kashmir	37	7	6	6	19
8.	Karnataka	180	20	7	9	36
9.	Kerala	55	—19	14	32	27
10.	Madhya Pradesh	324	30	38	40	108
11.	Maharashtra	284	84	73	80	237
12.	Manipur	19	4	5	5	14
13.	Meghalaya	22	2	1	1	4
14.	Nagaland	9	—	2	2	4
15.	Orissa	136	24	22	38	84
16.	Punjab	154	20	28	47	95
17.	Rajasthan	225	38	37	61	136
18.	Sikkim	5	1	1	—	2
19.	Tamil Nadu	250	46	50	26	122
20.	Tripura	12	1	3	3	7
21.	Uttar Pradesh	420	42	194	95	331
22.	West Bengal	340	96	184	208	488
	TOTAL (STATES)	3589	611	890	1013	2514
23.	A. & N Islands	3	—	1	—	1
24.	Arunachal Pradesh	3	—	1	1	2
25.	Chandigarh	6	1	1	3	5
26.	Dadra & Nagar Haveli	1.3	—	—	1	1
27.	Delhi	39	12	9	11	32
28.	Goa, Daman & Diu	13	1	1	1	3
29.	Lakshadweep	—	—	—	—	—
30.	Mizoram	10	2	1	2	5
31.	Pondicherry	5	1	3	—1	3
	TOTAL (UTs.)	80.3	17	17	18	52
	TOTAL STATES & UTs.	3669	628	907	1031	2566

ANNEXURE 15.2—B

Sub : *Additional Enrolment (Targets & Achievements)—Classes (VI-VIII)—Girls*

(in 000's)

STATES	VI Plan 1980-85 Target	1980-81 Achievement	1981-82 Achievement	1982-83 Likely Achievement	1980-83 (4+5+6)
2	3	4	5	6	7
1. Andhra Pradesh	195	24	32	30	86
2. Assam	125	11	38	38	87
3. Bihar	200	28	50	43	121
4. Gujarat	260	15	3	117	135
5. Haryana	60	16	6	14	36
6. Himachal Pradesh	26	9	5	5	19
7. Jammu & Kashmir	45	1	8	5	14
8. Karnataka	124	21	3	10	34
9. Kerala	45	—2	26	26	50
10. Madhya Pradesh	88	7	9	20	36
11. Maharashtra	153	59	50	28	137
12. Manipur	31	5	6	6	17
13. Meghalaya	20	—	1	1	2
14. Nagaland	7	3	—	—	3
15. Orissa	99	18	18	29	65
16. Punjab	95	19	24	11	54
17. Rajasthan	100	10	13	—1	22
18. Sikkim	3	1	—	1	2
19. Tamil Nadu	250	29	50	33	112
20. Tripura	4	1	2	3	6
21. Uttar Pradesh	460	47	3	103	153
22. West Bengal	226	63	123	192	378
TOTAL (STATES)	2616	385	470	714	1569
23. A & N Islands	3	—	1	1	2
24. Arunachal Pradesh	4	1	—	1	2
25. Chandigarh	7	—	1	2	3
26. Dadra & Nagar Haveli	1	—	—	—	—
27. Delhi	27	8	8	9	25
28. Goa, Daman & Diu	7	2	1	—	3
29. Lakshadweep	—	—	—		—
30. Mizoram	9	2	1	2	5
31. Pondicherry	9	3	—3	8	8
TOTAL (UTs)	57	16	9	23	48
TOTAL STATES & UTs.	2683	401	479	737	1617

ANNEXURE 15.2—C

Sub : *Additional Enrolment (Targets & Achievements)—Classes (VI-VIII)—Total*

(in 000's)

Sl. No.	STATES	VI Plan 1980-85 Target	1980-81 Achievement	1981-82 Achievement	1982-83 Likely achievement	1980-83 (4+5+6)
1	2	3	4	5	6	7
1.	Andhra Pradesh	448	70	73	82	225
2.	Assam	250	35	55	93	183
3.	Bihar	500	101	158	148	407
4.	Gujarat	611	41	34	252	327
5.	Haryana	120	47	28	21	96
6.	Himachal Pradesh	54	24	11	11	46
7.	Jammu & Kashmir	82	8	14	11	33
8.	Karnataka	304	41	10	19	70
9.	Kerala	100	—21	40	58	77
10.	Madhya Pradesh	412	37	47	60	144
11.	Maharashtra	437	143	123	108	374
12.	Manipur	50	9	11	11	31
13.	Meghalaya	42	2	2	2	6
14.	Nagaland	16	3	2	2	7
15.	Orissa	235	42	40	67	149
16.	Punjab	249	39	52	58	149
17.	Rajasthan	325	48	50	60	158
18.	Sikkim	8	2	1	1	4
19.	Tamil Nadu	500	75	100	59	234
20.	Tripura	16	2	5	6	13
21.	Uttar Pradesh	880	89	197	198	484
22.	West Bengal	566	159	307	400	866
	TOTAL (STATES)	6205	996	1360	1727	4083
23.	A & N Islands	6	—	2	1	3
24.	Arunachal Pradesh	7	1	1	2	4
25.	Chandigarh	13	1	2	5	8
26.	Dadra & Nagar Haveli	2	—	—	1	1
27.	Delhi	66	20	17	20	57
28.	Goa, Daman & Diu	20	3	2	1	6
29.	Lakshadweep	—	—	—	—	—
30.	Mizoram	19	4	2	4	10
31.	Pondicherry	14	4	—	7	11
	TOTAL (UTs.)	147	33	26	41	100
	TOTAL STATES & UTs.	6352	1029	1386	1768	4183

CHAPTER 16

HEALTH, FAMILY WELFARE & NUTRITION

Family Welfare

The Plan document aims at the long term goal of reducing the net reproduction rate of the country to unity by 1995. This implies that the birth rate would be reduced from about 33 at the beginning of the Plan to 21 by 1995 and the death rate from 14 to 9 during the same period. For achieving this it had been estimated that the level of effective couple protection should be raised from 22.5 per cent in 1980 to 60 per cent by 1995. For the VI Plan period the target was to increase the percentage of eligible couple protection to 36.6 per cent by the end of 1984-85. This was to be achieved by carrying out 22 million sterilisations, 7.9 million IUD insertions and raising the level of CC & OP Users from 3 million to 11 million by 1984-85.

1981 Census Findings

16.2 The 1981 Census has revealed that the population of the country by March, 1981 was higher by about 13.2 million than what had been assumed in the Plan document on the basis of the projections of the Expert Committee. The 1981 Census results also showed that the assumptions on which the Expert Committee had projected the population of the country had been over optimistic and the demographic parameters at the beginning of the VI Plan such as the birth rate/death rate, annual growth rate were actually higher. The final data based on the 1981 Census are still awaited from the Registrar General. However, it was obvious that a much larger effort on the Family Planning side was called for. The whole matter was reviewed by the Cabinet and a number of decisions were taken to strengthen the Family Planning programme which included the followings:—

(i) The Plan target for sterilisation was raised from 22 millions to 24 millions. To facilitate this, the scale of payments to State Governments for sterilisation was liberalised by providing an additional Rs. 50 per sterilisation.

(ii) It was decided to position in each village with a population of 1000 a trained health guide preferably a local woman by March, 1984, the Government of India meeting 100 per cent of the cost of the scheme.

(iii) A Cabinet Committee with the Prime Minister was also set up to consider further proposals for providing incentives for improving the performance of the Family Planning Programme.

(iv) A Population Advisory Council was set up under the Ministry of Health with the Health Minister as Chairman to keep the Population Control Programme under close surveillance and advise Government on policy matters. Item No. 13 of the New 20-Point Programme specifically enjoins that Family Planning be made a people's movement on voluntary basis.

Financial Outlays

16.3 An outlay of Rs. 1010 crores was earmarked for the Family Welfare Sector in the Sixth Plan. With the transfer of the Health Guide Scheme from the Health Sector to the Family Welfare Sector in 1981-82, the unspent balance of Rs. 68 crores for that scheme was also transferred to Family Welfare, bringing the total available provision to Rs. 1078 crores. The outlays approved for 1980-81, 1981-82 and 1982-83 and the expenditure relating to these years of the Family Welfare Programmes are given below:—

(Rs. in crores)

	1980-81	1981-82	1982-83
Approved	140.00	155.00	245.00
Actual	141.92	183.90	294.75

16.4 The expenditure trends indicate that the allocation for Family Welfare for the VI Plan period will have to be substantially augmented keeping in view the higher targets envisaged for the year 1983-84 and the increase in costs necessitated by the decisions referred to in para 16.2 above and also general escalations in the cost of POL, additional D.A. etc.

Review of Performance

16.5 The actual achievements so far and the targets suggested by the Ministry under different methods of family planning in 1983-84 in relation to the Sixth Plan targets are indicated in Table 16.1.

TABLE 16.1

(In Millions)

Items	Sixth Plan Targets (Revised)	Achievements						1983-84 Targets fixed by Ministry
		1980-81		1981-82		1982-83		
		Target	Achievement	Target	Achievement	Target	Achievement	
1. Sterilisation	24.0	2.9	2.1	2.9	2.8	4.5	3.9	5.9
2. IUDs	7.9	0.8	0.6	0.8	0.8	1.5	1.0	2.2
3. OP Users } 4. CC Users } . .	11.0	5.5	3.8	5.5	4.6	7.0	5.7	9.0

16.6 There has been a marked revival of performance of the Family Planning programme which had slid back in the year immediately preceding 1980-81. However, by the end of March 1983 it has been possible to acieve only 36.7 per cent of the Plan targets for sterilisations and 30 per cent of IUDs. The performance of the non-terminal methods like CC & OP Users is yet to register a significant increase. The porcentage of effective protection of eligible couples against fertility at the end of 1982-83 was 25.9 per cent against the target of 36.6 per cent by the end of 1984-85.

16.7 Achievement of the full targets laid down in the VI Plan will be an uphill task calling for redoubled efforts not only to reach and motivate eligible couples to accept an appropriate method but also to provide the necessary service Although the programme is being implemented very seriously now by most of the States, populous States like Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have to intensify their efforts to achieve the targets set, Sterlisation is at present the mainstay of the programme constituting nearly 90 per cent of the total number of couples effectively protected. Even in sterilisation tubectomy continues to be the predominant method. In this background, the development of infrastructure for family planning in the form of Post-Partum Centres which are to be extended to 400 taluk|sub-divisional hospitals and development of surgical facilities in the PHCs including those developed under the area programme would seem to need higher priority for sustained progress. These programmes need to be speeded up and existing facilities and infrastructure fully utilised. But more dependence on sterilisation will not be sufficient to reach the goal of 60 per cent couple protection by 1995 or even 36.6 per cent by 1984-85 and a major drive in the adoption of non-terminal methods, particularly in CC and Oral Pills is called for. The area projects in the States|districts lagging behind in Health & Family Planning services have to be implemented earnestly.

Maternal and Child Health Programme

Maternal and child Health Care Services are an intergral part of the Family Welfare Programme. These are mainly being provided through the network of sub-centres and MCH centres in th country. Auxiliary Nurse Midwives, supported by Health Assistants (Female) and Doctors, are providing the essential services.

Although the Programme has picked up, it needs streamlining at the implementation level by strengthening Vitamin A Prophylaxis Programme and extending immunisation coverage to children, especially D.T. (Diptheria-Tetanus). Health Education and Nutrition need to bz fully integrated into the programme.

Additional Financial Requirement

16.8 Out of Rs. 1078 crores allocated for the Family Welfare Programme in the Sixth Plan, the anticipated expenditure upto the end of 1982-83 is Rs. 620 crores, which leaves a balance of Rs. 458 crores for 1983—85. For the Annual Plan 1983-84, an outlay of Rs. 330 crores has been approved, with the stipulation that additional funds required on the basis of actual performance under sterilisation and IUD would be found. With reference to the anticipated expenditure in 1983-84, the balance available for 1984-85 would be around Rs 100 crores. It has been estimated that an additional Rs. 300 crores would be required for the Family Welfare Programme in the Sixth Plan keeping in view the targets, the performance anticipated and the commitments to the State Governments. However, in accordance with the recent decision of the Cabinet, an estimated additional Rs. 91 crores would be needed. This additional outlay includes a higher compensation to acceptors of sterilisation at Rs. 100 per case, incentives to the States for bettering their performance and certain other items.

Health

Central Sector

16.9 The orginal allocation for the Central Sector in the Sixth Plan was Rs. 601 crores. On account of the transfer of the village Health Guides Scheme to the Family Planning Sector, the allocation for the Health Sector will now stand reduced to Rs. 533 crores. The total anticipated expenditure in the first three years is Rs. 320.14 crores which works out to 63 per cent of the total approved outlay.

Rural Health Programme

(i) The Scheme of training of existing uni-purpose workers for converting them into multi-purpose workers has been completed in 329 districts by the end of March 1983 and the training is continuing in 41 districts. The remaining districts are also expected to be covered during 1983-84. The quality of implementation of the multi-purpose workers scheme has not been satisfactory except in some States like Karnataka, Gujarat and Maharashtra. In most others, optimal and cost effective use of the trained multi-purpose workers is yet to be made.

(ii) Under the Village Health Guides Scheme a total of 4247 primary health Centre were covered till march 1983 and 2,42,161 Health Guides trained and positioned upto the end of March 1983. By March, 1984 all the PHCs in the country are expected to be covered except some PHCs in Bihar. The Community Health Guides Scheme has made some impact in those States like Gujarat, Maharashtra and West Bengal etc., where the selection of the workers was made properly and the guides trained well. In these States the Health Guides have done good work in Malaria control, Family Planning education and motivation, MCH work, disinfection of wells etc. In other States the scheme is yet to make a significant impact. The concept of the community being involved in the management of its health problems is yet to be translated into action except in the case of the Mini-Health Centres scheme of Tamil Nadu which is being operated on a limited scale.

(iii) The scheme of training of male multi-purpose workers (new workers), medical and para-medical Staff has no made much progress except in the case of one or two categories like laboratory technicians, pharmacists etc. This is so in spite of the fact that the Government of India has undertaken to meet 100 per cent of the cost of the training. The main hurdle has been indentifying the requirements of States of trained personnel in different areas on account of lack of response from them. There is likely to be some savings in the allocation made for these schemes.

(iv) As a result of the modification in the pattern of assistance for the ROME Scheme, the entire allocation is likely to be utilised. The manner of implementation of the scheme and its impact could, however, bear a critical evaluation, particularly the use of the three mobile clinics supplied to each medical college under the scheme which are stated to be unwidely and not suited to our rural conditions.

Control of Communicable Diseases and Blindness

(i) *Malaria.*—The incidence of disease has declined from 6.5 million cases in 1976 to 2.08 million cases (provisional) in 1982, during which period there had been an extended coverage of cases as reflected by increase in the number of blood smears examined from 55 million in 1976 to 60 million (provisional) in 1982. The strategy adopted for containing P. falciparum is reported to have proved effective and there has been a decilene in the incidence of these cases from 7.5 lakhs in 1976 to 4.7 lakhs (provisonal) in 1982, as also substntial decrease in the number of reported deaths. There are, however, localised problems of P. falciparum infection, resistance of the vector to DDT|BHC and resistance of the malaria parasite to drugs. These need to be tackled firmly by intensified spraying with appropriate insecticides, effective surveillance combined with presumptive|radical treatment.

(ii) *Tuberculosis.*—It is estimated that there are about 10 million cases of tuberculosis in the country. 3 million cases had been detected by the beginning of the Sixth Plan. It is targeted to detect an additional 3 million cases in the Sixth Plan raising case detection from 30 percent of the total cases detected to 50 per cent of the total estimated cases. It is also targeted to increase 'case arrest' from 50 per cent of the detected cases to 75 per cent. The main strategy of the TB control programme is early case detection and prompt domiciliary treatment coupled with health education and follow up. Fully equipped and staffed district TB clinics and centres undertake case findings and treatment activities in close collaboration with the existing medical and health institutions in districts. There are at present 353 District TB Centres, 353TB clinics and about 44,000 indoor beds for tuberculosis set up by the States|UTs. Central assistance for the National Tuberculosis Programme since 1979-80 is limited to provision of X-Ray equipment and anti-TB drugs to district TB Centres. Generally the provisions made by the States for drugs are far less than the requirements. Tuberculosis control has been included in 20-Point Programme. During the year 1982-83 the target for case detection was 10 lakh new cases. 10.6 lakh cases are reported to have been tetected by March, 1983. The facilities to treat and follow up these cases, however need to be strengthened and streamlied. Adequaet Plan provision must be ensured for supply of anti-TB rugs Microscopy, the only tool of cases detection at the primary health centre level needs to be augmented and accelerated. Maintenance of X-Ray facilities and supply of X-Ray films need careful consideration.

The other critical areas that need attention are the acute shortage of trained Radiographers. shortage of X-Ray films, poor involvement of multi-purpose health workers in the programme of case detection and improvement in the performance of the programme. A Task Force has been set up by the Ministry of Health for streamlining and strengthening the National Tuberculosis Programme. Action on implementation of its recommendations is under the active consideration of the Ministry of Health.

(iii) *Leprosy Control Programmes.*—The estimated number of leprosy cases in the country at the beginning of the Sixth Plan was approximately 3.2 million. of these 15 to 20 per cent would be of the infectious type, 25 per cent with disabilities of varying degree and about 20 per cent of these cases will be of children. The strategy under the National Programme for Control of Leprosy continues to be early case detection through mass survey and education and bringing cases under treatment., it is estimated that upto the end of 1982-83, 31 lakh cases have been detected and registered for treatment. Good number of cases have been discharged from the list due to cure, drop out or death etc. At present 29 lakhs are under treatment. The Sixth Plan target is to reach 90 per cent case detection and increase the level of disease arrest from 20 to 40 per cent.

The programme is funded 100 per cent by the Centre with effect from 1981-82. During the year 1982-83 the States of Haryana and Maharashtra have exceeded the set targets. Andhra Pradesh, Tamil Nadu, Pondicherry and Andaman & Nicobar Islands reported 70 per cent to 80 per cent achievement. Poor performance has been reported from Himachal Pradesh, Jammu & Kashmir, Manipur Nagaland, Sikkim, Tripura and Lakshadweep. In pursuance of the recommendations of a Task Force headed by Dr. M.S. Swaminathan former Member, Planning Commission, an additional outlay of Rs. 50 crores has been agreed to for the programme for 1983—85. The programme which is included in the 20-Point Programme is being revamped with emphasis on early case detection, effective treatment including introduction of multi-drug regimen on a pilot basis, surgical correction of deformaties, rehabilitation of arrested cases and intensive health education.

(iv) *Control of Blindness.*—It is estimated that there are 9 million cases of blindness in the country and another 45 million are estimated to be suffering from visual impairment. Cataract constitutes about 55 per cent of the cases of blindness which is curable by surgical intervention. The programme of control of blindness was initiated in 1976. During the Sixth Plan it was targeted to bring down the level of blindness from 1.4 per cent to 1 per cent. Ophthalmic care facilities have been strengthened in 540 primary health centres, 250 District hospitals and 30 Medical Colleges. Non-Government organisations are being encouraged and assisted to participate in the programme particularly in conducting mobile eye camps. 26 centres have been identified for training ophathalmic assistants who will be posted at the primary health centres. During 1982-83 a target of 12.94 lakh cataract operations was fixed against which the performance was 7.8 lakhs. Punjab, Pondicherry and Chandigarh have exceeded the targets assigned to them. Madhya Pradesh, Haryana, Tamil Nadu and Meghalaya have reported good performance. The poor performing States are Assam, Bihar, West Bengal, Manipur, Kerala and Sikkim. The main reasons for the low performance on the whole are shortage of trained doctors & opthalmic assistants, slow process in the installation and use of equipments and other facilities by the States|UTs and poor utilisation of mobile units set up under the programme. The blindness control programme is being restructured on the basis of the recommendations of the Swaminathan Committee, and additional resources are being earmarked for the programme which is now included in the 20 point Programme. The monitoring and evaluation of the programme need to be strengthened to obtain a relevant and reliable feed back on performance at various levels.

Health Programmes in the State Sector

16.10 Since primary health care is essentially a States' Subject, the bulk of the outlays for this purpose falls under the State Sector. Besides providing for the minimum needs programme and for matching share for Centrally Sponsored Schemes of Control of Communicable Diseases, Control of Blindness and Rural Health, the State Plans provide for development of hospitals and dispesaries, medical educaton development of ISM Homoeopathy and other miscellaneous schemes such as drug control and prevention of food adulteration, school health etc.

16.11 The total approved outlay for the Sixth Plan for all States and UTs is Rs. 1220.05 crores. In the first three years of the Plan, a total expenditure of Rs. 684.23 crores, (56.1 per cent of total Plan outlay) is expected to be incurred Against the approved outlay of Rs. 408.46 crores for the minimum Needs Programme in the Sixth Plan, the likely expenditure upto 1982-83 works out to Rs. 188.95 crores, which accounts for about 46 per cent of the total outlay.

16.12 The State have generally been under compulsion to allocate larger resources to development of medical colleges and attached hospitals to bring them in conformity with Medical Council of India's stanards. Medical education, research and development of super-specialities have also received relatively larger allocations in the course of actual implementation than was originally contemplated. Similarly the States have been spending larger allocation for development of district, sub-divisional and taluka hospitals on consideration of local needs.

Minimum Needs Programme

16.13 The population and cost norms of sub-centres and primary health centres were revised when the Sixth Plan was formulated. Some States particularly those in the North Eastern Region have found the cost norms not realistic enough, while the population norms have been generally accepted The target set and achivements reported under the minimum needs programme during the first two years of the Plan and likely achievements against the targets set for the annual Plan 1982-83 are given in Table 16.2

TABLE 16.2

Programme	No. in position as on.1-4-80	1980-85 (targets)	1980-81 Achievement (Addl.)	1981-82 (Addl.)	1982-83	
					Target	Achievement
Sub-Centres	48960	40000	3259	5504	7931	7668
PHCs	5484	600	257	112	209	191
Subsidiary Health Centres	2056	1000	240	244	783	723
Community Health Centres	218	174	101	38	76	58

16.14 It will be seen that performance over the successive years in the Plan period reflects considerable improvement in respect of establishment of sub-centres and subsidiary health centres. There have been organisational constraints in the construction of buildings in the rural areas for PHCs and sub-centres under minimum needs programme since in many States, the State PWDs have not been able to handle the job effectively and funds provided have lapsed. There have also been shortages of construction materials like cement and steel. Some States particularly in the north eastern region have felt critical shortages in trained manpower including doctors, nurses. ANMs and other para-medical workers which need immediate attention.

Additional Financial requirement for the Sixth Plan

16.15 The balance outlay available for Central Sector programmes for the year 1983—85 would be around Rs. 213 crores. An outlay of Rs. 130 crores has been approved for the annual plan 1983-84 for the Health Sector including some token provisions for strengthening the programme for control of Leprosy, TB and Blindness under the new 20-Point Programme. The actual expenditure during 1983-84 may be around Rs. 140 crores if these programmes pic up, leaving a balance of only Rs. 73 crores for 1984-85. The requirement for 1984-85 would be about Rs. 160 crores if the targets set for the programmes of Control of Communicable Diseases and Blindness are to be achieved. Thus the additional outlay required in the Sixth Plan for the Central Sector would be about Rs. 100 croes.

Nutrition

16.16 The coverage of beneficiaries under the Special Nutrition Programme for pre-school children 0-6 years and pregnant women in the Integrated Child Development Services (ICDS) was targeted at 5 million children and 0.5 million women in 600, blocks by the end of the Sixth Plan period. With the inclusion of the ICDS in the new 20-Point Programme and the decision to expand it to 1000 projects by the end of the Sixth Plan, the target for supplementary nutrition is now 7.51 million beneficiaries inclusive of about 0.75 million women. The coverage during 1980-83 has been around 2.2 million in the ICDS blocks. Special Nutrition Programme for the targeted groups outside the ICDS areas contained at the level of around 6.50 million beneficiaries as envisaged in the beginning of the Sixth Plan period. It is not proposed to expand this. Further, as contemplated at the time of the preparation of the Plan, efforts would continue to be made to integrate services in the feeding centres. The states have also been requested to bring these feeding centres within the ambit of new ICDS projects at the time of initiation. Under the mid-day meals scheme for school children. the existing level of beneficiaries of over 17 million is being maintained and the programme is to be integrated with other essential services for improving health, nutrition and other related aspects of human welfare.

16.17 The following Table No. 16.3 gives the coverage of beneficiaries in the Sixth Plan :

TABLE 16.3

(Figures in million)

Year	Special Nutrition Programme		Mid-day Meals Programme
	Total	of which ICDS	
1	2	3	4
As on March 1979 (non-Plan level)	6.71	0.27	15.10
March 1980	6.91	0.59	17.40
March 1981	7.98	0.87	17.40
March 1982	8.00	1.00	13.79
March 1983	9.00	2.20	17.98

16.18 The outlay of Rs. 223.19 crores in the State Sector is for the maintenance and expansion of coverage of beneficiaries in the Plan for supplementary feeding programmes forming part of the Minimum Needs Programme. A major proportion of the outlay in the Central Sector amounting to Rs. 13.95 crores is for the programme of the Department of Food and Rs. 1.00 crore for the Applied Nutrition Programme of the Ministry of Rural Development. The schemes of the Department of Food include diet surveys and nutrition planning; nutrition education and extension; production of nutritious beverages; fortification of foods; integrated education in nutrition health hygiene and sanitation and research and development. The total Sixth Plan outlay of the States|Union Territories and the Centre and the actuals|anticipated expenditure on these are as given in table 16.4 below :—

TABLE 16.4

(Rs. in crores)

	Sixth Plan Approved outlay	1980-81 Actuals	1981-82 Actuals	1982-83 Ant. Expdr.	Total 1980-83
1	2	3	4	5	6
States	214.55	25.89	33.72	68.11	127.72
UTs	8.64	1.27	1.73	2.36	5.36
SUB-TOTAL	223.19	27.16	35.45	70.47	133.08
Centre	14.95	2.66	0.73	0.43	3.82
TOTAL	238.14	29.82	36.18	70.90	136.90

16.19 The low utilisation of funds in the Central Sector outlay has been on account of non-finalisation of the scheme on integrated education in nutrition, health, hygiene and sanitation and non-implementation of the scheme on production of iron-fortified salt by the Department of Food.

16.20 Whereas there is a likelihood of shortfall in the Central Sector Plan outlay for the Sixth Plan increased outlays have been asked for in the States Sector. The increase is mainly on account of (i) addition of ICDS projects from 600 to 1000 and (ii) espansion on mid-day meals in Andhra Pradesh (this accounts for an expected additional expenditure of Rs. 80 crores in 1983-84).

16.21 The expansion of the SNP programme outside ICDS is being discontinued. Efforts are to be made to integrate the other essential services at the feeding centres. The mechanism for monitoring and coordination needs to be strengthened. Further, to make mid-day meals programme effective, it is necessary to structure and integrate it with the essential services of health, sanitation and water supply.

CHAPTER 17

HOUSING, URBAN DEVELOPMENT AND WATER SUPPLY

Housing

The Sixth Five Year Plan envisages maximising benefits by allocating the available funds for low cost housing schemes. The objective of the Plan is to reduce substantially the number of absolutely shelterless people and to provide conditions for others to improve their housing environment. The Plan lays emphasis on the following measures:

(i) Provision of house-sites and assistance for the construction of dwellings for rural landless labourers.

(ii) The public sector housing schemes should be so designed as to benefit the maximum number of people.

(iii) To reduce the cost of public housing schemes by using cheap and alternative building material.

Targets and achievements of selected physical programmes for 1980—85 are given in Table 17.1.

17.2 The Sixth Plan provides funds for providing house sites to 68 lakh landless families in rural areas and assistance for house-construction to 36 lakh families. This scheme is a component of the new 20-Point Programme, as well as the M.N.P. During the Annual Plan 1983-84 discussions, the need to achieve the target in full in respect of house-sites has been emphasised. As against the modest level of construction assistance visualised in the Plan, the State Governments are providing substantially, larger quanta of assistance with the result that the Plan targets in respect of construction might not be realised.

17.3 Firm data in respect of the performance of EWS Housing Scheme under State Sector for the first three years is not available. The achievement of the target of 16.19 lakh dwelling units during 1980—85 is unlikely.

General Pool Office and Residential Accommodation

17.4 The Plan envisaged provision of 26615 housing units and 0.157 million sq. metres of office accommodation. During the first three years, the achievements are 14971 housing units and 101,674 sq. metres of office accommodation. It is visualised that the original Sixth Plan target would be achieved without any additional allocation.

17.5 In the case of subsidised housing scheme for plantation labour, there was low physical achievement, because the planters contribution of 12½ per cent was practically nil.

17.6 Table 17.2 gives Plan outlays|expenditure on Housing programmes.

TABLE 17.1

Targets and Achievements of Selected Physical Programmes 1980-85

Programmes	Unit	Sixth Plan Targets	1980-81 Actuals	1981-82 Actuals	1982-83 Anticipated
(1)	(2)	(3)	(4)	(5)	(6)
State Sector					
1. L. I. G. H. Scheme	Nos.	64000 100000@	4346	9932	10172
2. M. I. G. H. Scheme	Nos.	20000 45000@	2163	3837	3761
3. Economically Weaker Section Housing	In Lakhs	16.19 3.00@	5982 (Nos.)	13085 (Nos.)	99000 (Nos.)
4. Rural House-Sites Scheme	In Lakhs	68.00	[—— 23.74 ——]		
5. Rural House Construction Scheme	„	36.00	[—— 15.58 ——]		
Central Sector					
(a) Residential accommodation	Nos.	26615	[—— 14911 ——]		
(b) Office accommodation	Area sq. metres	157000	[——101674 ——]		

@HUDCO target.

8 PC/83— 15

TABLE 17.2

Plan Outlays/Expenditure on Housing Programmes

(Rs. crores)

Scheme/Programmes	VI Plan Outlay	1980-81 Actuals	1981-82 Actuals	1982-83 Anticipated	Total 1980-83
(1)	(2)	(3)	(4)	(5)	(6)
1. **Housing**					
States	1065.95	231.18	219.21	224.50	674.89
UTs	124.92	20.24	26.33	28.71	75.28
Total	1190.87	251.42	245.54	253.21	750.17
2. **Rural House-Sites-cum-House Construction**					
States/UTs	353.50	[————199.19————]			199.19
3. **Centre**					
Urban Housing (including office accommodation)	300.00	65.93	71.01	88.95	221.89

Urban Development Programme

17.7 The thrust of the urbanisation policy during Sixth Five Year Plan (1980—85) is to give greater emphasis to the provision of adequate infrastructural and other facilities in the small, medium and intermediate towns. The aim would be to strengthen these market centres to equip them to serve as growth and service centres for the rural hinterland. Instead of attempting a massive relocation of slums, greater emphasis is to be laid on environmental improvement of slums.

State Sector

17.8 The major programmes in the State Sector are the environmental improvement of slums, urban development programmes including small and medium towns and integrated development of C.M.D.A. and State Capital Projects.

Environmental Improvement of Slums included in the Minimum Needs Programme

17.9 The Sixth Plan envisaged covering about 10 million slum dwellers assuming a per capita expenditure of Rs. 150. Physical coverage of slum dwellers during 1980—82 was only 1.93 million, while in 1982-83 and 1983-84 additional coverage was targeted at 1.84 million and 2.2 million respectively. Even if these latter targets are achieved the remaining coverage for 1984-85 will be 4.03 million. Achievement of this target, therefore, seems unlikely. It has been found that the physical performance has been tardy as some State Governments have been incurring a high per capita expenditure, ranging from Rs. 300 to Rs. 400, as against the existing norm of per capita expenditure of Rs. 150. A per capita expenditure of Rs. 250 would perhaps be more realistic than the existing norm.

17.10 The acquisition of privately-owned slums is another problem which is beset with legal complications. Some State Governments have passed legislation either to acquire privately-owned slums or to give themselves power to carry out improvements in them. Other States would also need take similar Steps.

17.11 Under the States|UTs sector, an amount of Rs. 887.53 crores was provided in the Sixth Plan for urban development programmes. The programmes envisaged by the State Governments add up to Rs. 926.76 crores, as they have accorded higher priority for environmental improvement of slums and State Capital Projects.

Central Sector

17.12 The principal schemes in the Central Sector are the integrated development of small and medium towns and the development of the national capital region. A plan provision of Rs. 96 crores was made for Integrated Development of small and Medium Towns as a Centrally sponsored scheme. This will be in the form of assistance to the State Governments on a matching basis. It is visualised that about Rs. 200 crores would become available from the Central and State Governments and implementing agencies for the planned development of about 200 small and medium towns during the Plan period. Small and medium towns with a population of less than one lakh are eligible to receive assistance from the Centre under the scheme of matching contributions. It is visualised that roughly Rs. 1 crore per town will be invested.

17.13 The progress of the scheme is rather slow. During the first two years, Central releases amounted to only Rs. 21.03 crores or about 22 per cent of the Central provision. The slow progress of the scheme is due to the following factors:

(i) Many State Governments did not transfer the Central assistance to the implementing agencies.

(ii) In many cases, the implementing agencies did not utilise the funds after receiving the assistance.

(iii) In a number of cases, the implementing agencies are not technically equipped for the purpose.

(iv) Land acquisition delays.

17.14 The State Governments have been asked to review progress, and to accelerate the execution of the schemes, after identifying the problems of implementation.

Outlays:

17.15 The Plan outlay expenditure on these programmes|schemes are given in Table 17.3 below:

TABLE 17.3

Plan outlays/expenditure on Urban Development

(Rs. Crores)

	Sixth Plan Outlay	1980-81 Actuals	1981-82 Actuals	1982-83 R.E.	1980-83
A. State Sector Total Plan					
States	780.77	134.62	140.43	140.43	415.48
UT's	106.76	15.01	14.20	40.05	69.26
Total	887.53	149.63	154.63	180.48	484.74
Of which :					
(i) **Environmental Improvement of Slums**					
States	141.15	20.28	21.22	26.26	67.76
UT's	10.30	1.21	3.29	2.42	6.92
Total	151.45	21.49	24.51	28.68	74.68
(ii) **C.M.D.A. & States Capital Projects**					
States	286.00	50.89	55.09	40.81	146.79
UT's	27.25	5.69	4.85	5.90	16.44
Total	313.25	56.58	59.94	46.71	163.23
B. Central Sector Total Plan	110.00	10.36	16.95	16.20	43.51
Of which :					
(i) Integrated Development of Small & Medium Towns	96.00	9.00*	12.03*	12.00*	33.00*
(ii) National Capital Region	10.00	0.75*	1.00*	2.00*	3.75*

*Figures relate to Central Assistance released to States in matching basis.

Water Supply and Sanitation

17.16 The Sixth Five Year Plan provides an outlay of Rs. 3922.02 crores (Rs. 3307.80 crores in the State Sector and Rs. 614.22 crores in the Central Sector) for Water Supply and Sanitation. As against the approved outlay, an expenditure of Rs. 1851.26 crores is estimated during the first three years of the Plan and an outlay of Rs. 906.39 crores has been approved for the Annual Plan 1983-84.

Urban Water Supply and Sanitation

17.17 The outlays for Urban Water Supply and Sanitation are provided wholly in the State Sector. The approved Plan provision, the expenditure in the first three years and the outlay for 1983-84 are given below:

(Rs. Crores)

	Sixth Plan Outlay	1980-83* Anti. Expnd.	1983-84 Outlay	Total 1980-84
Urban Water Supply and Sanitation	1753.56	688.71	341.48	1030.19

*Actuals for 1980-81 and 1981-82 and Anticipated Expenditure for 1982-83

It will be seen that about 40 per cent has been spent in the first three years. It is unlikely, therefore, that the Plan provision will be fully utilised.

17.18 Regarding Urban Sanitation, in view of the high cost of construction and maintenance of sewerage schemes and the reluctance of the local bodies to levy proportionately higher taxes, most of the towns, excepting class I cities, may have to be provided with only low cost sanitation schemes. The need for this has been impressed upon the States during the Annual Plan discussions.

Rural Water Supply

17.19 The Sixth Plan, recognising that water-borne or water-related diseases constitute nearly 80 per cent of the country's public health problem, provided for a major increase in allocation of funds (Rs. 2,007 crores) for providing assured sources|safe sources of drinking water to the villages identified as "problem"* villages in the country. The provision above mentioned has to be compared with the Fifth Plan provision of Rs. 381 crores (which itself was much higher than the total of Rs. 289 crores provided in all the previous plans for rural water supply and sanitation). Apart from the "problem" villages (which are covered under the Minimum Needs Programme or MNP and now are numbered at 230,784), the existing sources of water supply of other villages need improvement|augmentation. The Sixth Plan provides Rs. 128 crores for these villages also.

17.20 Thus, the total Plan provision for rural water supply is Rs. 2,135 crores, as follows:—

TABLE 17.4

Rural Water Supply and Sanitation : Sixth Plan Outlay

(Rs. crores)

	States/ UTs/ Sector	Centrally Sponsored Scheme (A.R.P.)	Total
1. "Problem" villages covered under Minimum Needs Programme (230,784 villages)	1407.11	600.00	2007.11
2. Other villages water supply schemes . . .	128.00	. .	128.00
3. Total : Rural Water Supply Schemes . . .	1535.11	600.00	2135.11
3. Sanitation . . .	19.13	. .	19.13
TOTAL : RWS and Sanitation	1554.24	600.00	2154.24

*"Problem" villages are defined as follows:—

(a) Those which do not havd an assured source of drinking water within a reasonable distance of , say, 1.6 kms.

(b) Those which are endemic to diseases like cholera, guineaworm, etc; and

(c) Those where the available water has an excees of salinity, iron, fluorides or other toxin elements.

Physical Progress

17.21 The physical progress in the first three years of the plan is as follows :

TABLE 17.5

	Sixth Plan Target (Nos.)	Achievement 1980-83	Villages covered Target 1983-84	Balance
1. "Problem" villages . .	2,30,784	99,965	48,846	81,973 (of which 14,000 are likely to spill-over to the Seventh Plan)
2. Other villages . .		20,897	. .	. .

Out look for the balance period of the Plan

17.22 With the first three years of the Plan covering 99,965 "problem" valiages and a target of 48,846 for 1983-84, the total coverage for the first four years works out to 148,811. This is expected to go up by nearly 6,000 due to the allocation of additional funds in 1983-84. Even so, the balance of problem villages left to be covered in the last year of the Plan would be around 76,000. Since this represents nearly 49 per cent of the achievement in the first four years of the Plan, some shortfall is inevitable. Even after deducting some 14,000 villages expected to spill-over in the Seventh Plan (due to physical constraints expressed by some State Governments), a coverage of some 62,000 villages in the last year of the Plan may not entirely be possible, given the resources constraints.

Constraints affecting the programme

17.23 The following constraints have emerged :

(1) Financial constraints are foremost in view of the overall resources scarcity.

(2) There is need for cheaper systems and more realistic formulation of schemes to cover the maximum number of villages within the given resources. These is wide variation from State to State in the estimates of schemes prepared. Many States seem to have over specified in their estimates.

Outlay

17.24 The outlay on Rural Water Supply Schemes under the Minimum Needs Programme is given below :

TABLE 17.6

Outlays|Expenditure on Rural Water Supply Schemes (under MNP)

(Rs. crores)

	Sixth Plan (outlay)	1980-83* (Ant. Expd.)	Annual Plan 1983-84 (outlay)	Total
"Problem" villages				
States/UTs .	1407.11	728.68	318.41	1047.09
Centre . .	600.00	364.50	199.60	564.10
TOTAL .	2007.11	1093.18	518.01	1611.19

*Actuals for 1980-81 and 1981-82 and anticipated expenditure for 1982-83.

CHAPTER 18

THE HILL AREA DEVELOPMENT PROGRAMME

During the Sixth Plan, the programme objective is to develop the specified hill areas, including the Western Ghats, without causing destruction to their ecology. In order that development outlays reflect this emphasis on restoration and conservation of the eco-system consistent with development, the Sixth Plan has envisaged that Plan schemes in these areas should be so formulated that they aim at better land-use and control of soil erosion through watershed management; afforestation; silvi-pasture development and replacement of annual-crops with perennial shrubs and plantation crops; and forestry in steep slopes.

18.2 The Hill Area Development Programme (HADP) is being implemented in the State of Uttar Pradesh, Assam, West Bengal and Tamil Nadu, while the Western Ghats Development Programme (WGDP) being implemented in the States of Maharashtra, Karnataka, Kerala, Tamil Nadu and the Union Territory of Goa. Special General Assistance earmarked in the Sixth Plan for both these programmes is Rs. 560 crores which consists of Rs. 485 crores for the HADP and Rs. 75 crores for the WGDP.

18.3 The physical coverage in the four HADP States is given in Table 18.1 below :

TABLE 18.1

Coverage of the Hill Areas

Hill Area	Area (000 sq. Km.)	Population (1971) (lakhs)	No. of Districts
Assam Hill Areas	15.2	4.55	2 Districts (Karbi Anglong and North Cachar)
Uttar Pradesh Hill Areas	51.1	38.22	8 Districts (Dehradun, Pauri Garhwal, Tehre Garhwal, Chamoli, Uttar Kashi, Almora, Pithoragarh and Nainital.)
West Bengal Hill Areas	2.4	4.80	3 Sub-Divisions, of Darjeeling District viz Sub-Division of Salar Kalimpong and Kurseong.
Tamil Nadu Hill Areas	2.5	4.94	1 District (Nilgiris).

18.4 The HADP sub-Plans show the disaggregated outlays flowing into the Hill areas from the State's divisible pool of Plan resources as well as the special central assistance provided to the area on some criteria. Developmental schemes for the area are drawn taking this total funding into account. The Sub-Plan idea, however, has not been accepted by the WGDP States mainly on the ground that the central assistance is too meagre for the large area to be covered, and some of the States like Kerala, have reported that the talukawise break-up of the Plan as required for Western Ghats Development Programme was not readily available.

18.5 The outlays on the HADP in the Sixth Plan are as given in Table 18.2 below :—

TABLE 18.2

HADP Outlays 1980-85

(Rs. in crores)

	State's Plans Flows	Special Central Assistance	Total Outlay
Uttar Pradesh	220.00	350.00	570.00
Assam	80.00	71.28	151.28
	300.00	421.28	721.28
West Bengal	N.A.	29.85	..
Tamil Nadu	N.A.	21.81	..

I. The Hill Area Development Programme—Physical Progress

(i) *The U.P. Hill Areas*

18.6 Among the Hill Areas coming under the Special Programme, the U.P. Hill Areas which encompass eight districts receive more than 70 per cent of the Special Central Assistance and constitute the single largest beneficiary. A statement showing inter se allocations among various sectors during the Fifth and Sixth Plan periods may be seen in Table 18.3 below :

TABLE 18.3

(Rs. crores)

Sector	Fifth Plan		Sixth Plan	
	Outlay	%	Outlay	%
I. Agriculture & Allied Sectors . . .	48.76	23.75	148.19	26.00
II. Co-operation .	1.38	0.67	3.58	0.63
III. Water & Power Dev.	27.37	13.33	65.50	11.48
IV. Industry & Mines .	12.14	5.91	36.16	6.34
V. Transport & Communication . . .	55.68	27.12	132.50	23.25
VI. Social & Community Services .	59.86	29.15	182.97	32.10
VII. Economic Services .	0.15	0.07	1.10	0.20
TOTAL . . .	205.34	100.00	570.00	100.00

18.7 It may be seen from above that the hill area allocations have increased nearly three-fold and a similar increase is also reflected in the different sectors. The proportion (percentage) of outlays in the various sectors is almost the same. Thus, nearly one-third is allocated to production sects (Agricul-community services, another one-third goes into economic infrastructure (Transport & Communications and Water and Power Development) and another one-third is allocated to production sectors (Agriculture and Industry).

(ii) Table 18.4 below gives some targets and achievements during the first two years of the Plan period. From these statements it would be seen that while the Plan targets in respect of forestry, education and new road construction may be achieved the progress in respect of rural electrification, installed micro-generation capacity and water supply (coverage of problem villages) appears to be slow, leaving larger targets to be achieved in the remaining two years.

TABLE 18.4

Sectors	Unit	1980-85 Targets	1980-82 Achievements	1982-83 Targets
U.P. Hill Areas				
Power				
Installed capacity (Addl.)	KWS	1800	300	Not specified
Rural Electrification (Additional villages) .	Nos.	4929	934	710
Roads				
New Creation . .	Kms.	2568	1050	480
Re-construction and Maintenance . . .	Kms.	1100	400	155
Water Supply				
Additional villages to be covered . . .	Nos.	4250	1462	700
Education				
Primary Level enrolment	%age	110	93	99
Secondary Level enrolment (Cumulative) . .	000	280	150	173
Forestry				
Plantation of species of economic & industrial importance . .	Hect.	15000	7915	3600
Plantations of fast growing species . .	Hect.	5700	2843	1375
Roadside Plantations .	(R. Kms.)	2000	1030	350
Assam Hill Areas				
Water Supply villages covered . . .	Nos.	740	280	148
Darjeeling Hill Areas				
Agriculture				
Area under HYV of Maize, wheat, paddy, vegetables etc. . . .	Hect.	N.A.	1034*	N.A.
Animal Husbandry				
Insemination done .	Nos.	N.A.	42600*	N.A.
Cross-breed calves born	Nos.	N.A.	1500*	N.A.
Soil Conservation				
Treatment of landslip affected area . . .	Hect.	N.A.	285*	N.A.
Afforestation for soil conservation. . .	Hect.	N.A.	331	N.A.
Cinchona				
Maintenance . .	Hect.	N.A.	308*	N.A.
Land Preparation for new plantations . .	Hect.	N.A.	98*	N.A.
Dioscorea				
Maintenance of new plantations . . .	Hect.	N.A.	54	N.A.
Ipecac (Production) .	Kamaras	N.A.	16000	N.A.
Nilgiris Hill Areas .	..	——Not available —		

*Relates to 1981-82.
N.A.—Not Available.

(iii) *Assam*

18.8 The main thrust of the Special Central Assistance component of the Assam Plan has been on the composite project now renamed as Integrated Jhum Control Project. During the Sixth Plan, about 35.24 per cent of the Special Central Assistance is earmarked for this project. Till 1980-81, this project functioned as an aggregation of the departmental programmes. This resulted in the implementation of the project in an isolated and uncoordinated manner and the progress was slow. Against a target of 15,000 hectares of soil conservation and terracing during 1974—79, the achievement upto the end of 1979-80 was barely 6174 hect.

18.9 In the light of this experience, the State Government was advised to adopt a project approach. It has taken considerable time to make a tangible beginning in this direction. The task of preparing a project report providing for forward and backward linkages was taken up during 1981-82. Activities under this project during 1981-82 were primarily in the nature of maintenance works and an expenditure of Rs. 270 lakhs was incurred against an approved outlay of Rs. 450 lakhs.

(iv) *West Bengal*

Darjeeling Hill Areas

18.10 The State Government which had submitted the Plan proposals for 1980—85 were advised to modify the proposals keeping in view the changed objectives of the Sixth Plan. They have not done so till now in the absence of knowledge about the targets for the Plan period and with the meagre information available in the Plan documents, it has been difficult to evaluate the achievement against targets.

(v) *Tamil Nadu*

Nilgiris Hill Areas

18.11 The State Government who had submitted their proposals for 1980—85 were advised to recast the proposals keeping in view the guidelines on Hill Areas Development contained in the Sixth Five Year Plan. They have not submitted the revised proposals, in the absence of which it is not possible to have an objective review of their achievements.

18.12 In the Nilgiris District, the area under tea cultivation constitutes nearly 40 per cent of the cropped area and thus forms the mainstay of the economy Cultivation of paddy, potato, ginger and other vegetable seeds were the other important agricultural crops. The main thrust of the sub-Plan, therefore, is on soil conservation measures in the tea and potato cultivation areas like construction of check-dams, contour walls, etc. Rejuvenation of tea holdings, increasing the tea bush density in the existing plantations through distribution of seedlings,! fertilizers, etc. at subsidised rates are the main activities under the sub-Plan. With a view to encouraging the cultivation of spices, vegetable seeds and potatoes, a scheme for distribution of seedlings, etc. has also been taken up. There are also schemes to help the formers' tea cooperatives in processing and marketing of the tea-crop. Comparable data about targets and achievements for the various sub-Plans are, however, not available.

18.13 The Hill Area Development Programme Plans have not yet been able to bring the required thrust and emphasis in the planning and execution of the programme, despite the fact that in UP the HADP has been under implementation since the Fifth Plan. It is even difficult to say that the first two years of the Plan (i.e. 1980-82) were a period of transition to this approach as the annual plans prepared by the States have continued with narrow sectoral schemes without adequate emphasis on eco-conservation or eco-restoration.

Western Ghats Development Programme

18.14 The utilisation of plan funds during the three year period 1980-83 was, by and large, more than 98 per cent of what was provided. However, during 1980-81 some shortfalls have occurred in Kerala (Rs. 13 lakhs i.e. 5.8 per cent of Special Central Assistance), Tamil Nadu (Rs. 12 lakhs i.e. 6.7 per cent of Special Central Assistance), and Goa (Rs. 6.55 lakhs i.e. 13 per cent of Special Central Assistance). In 1982-83 there was a shortfall in Karnataka (Rs. 20.83 lakhs i.e. 7 per cent of the Special Central Assistance). Since the Sub-Plan approach is not being followed in respect of this programme, no idea of the flow of funds from the State Plan Resources to this area is available. Hence, this review is confined to the performance under the Special Central Assistance Component.

The emphasis and strategy of the programme

18.15 During the Fifth Plan period, this programme was heavily tilted in favour of schemes of a beneficiary-oriented type as characterised in the IRD Programme. In the Sixth Plan, an eco-development objective has been emphasised consistent with development. The States were told to re-orient their programme and utilise the Special Central Assistance component mainly for bringing about this shift in emphasis. Detailed discussions were held in the official level committee in August, 1980, January, 1982 and December, 1982. It was noted that the schemes showed no improvement. Fresh guidelines were issued again, laying emphasis on the need for selecting one or two watersheds as the basis of development. The trends, as revealed by the programme content of the Annual Plans 1980-81 and 1981-82, indicate that the old approach is still persisting and a change-over to the new pattern would need to be ensured.

Review of the HADP & GDP

18.16 Review of the performance of the States in both these programmes reveals the following:—

(i) None of the States seems to have worked out a five-year perspective in respect of these programme. Consequently goals and objectives lack definitional clarity and with available information, monitoring at the State level as well as the level of Planning Commission is difficult.

(ii) Linkages, complementarities and infrastructural and organisational support so essential in these areas are often not perceived or provided for. As a result not only does the approach vary from State to State, but schemes where institutional finance was expected do not measure upto the financial institution's criteria for bank ability. Whatever plans are prepared by the States, are weak both in technical content as well as in presentation or conceptualisation. With the lack of precision in framing plans for both these programmes, the annual plans prepared by the State Governments are mostly on *ad hoc* basis.

(iii) There is lack of effective monitoring of hill area programme at all levels, as also a general lack of coordination in the multi-level planning effort that is essentially required.

CHAPTER 19

DEVELOPMENT OF BACKWARD CLASSES

The Backward Classes comprise Scheduled Tribes, Scheduled Castes, denotified nomadic and semi-nomadic tribes and other castes which are socially and educationally backward. By devolution of funds, through special component Plans (for States|UTs) and Special Central Assistance to a much larger extent than in the earlier Plans, it was the aim to see that at least half of them are provided substantial assistance to enable them to cross the poverty line.

19.2 The total outlays contemplated in the Sixth Plan for development of backward classes and the expenditure actually incurred|estimated|provided for are given in Table 19.1.

TABLE 19.1

(Rs. crores)

	VI Plan 1980-85 Outlay	1980-81 Actuals	1981-82 Anticipated Expdr.	1982-83 Anticipated Expdr.	Total (1980-83)
A. Scheduled Tribes					
1. State Flow (Tribal Sub-Plan)	3521	467	594	687	1748
2. Special Central Assistance .	470	70	85	95	250
TOTAL—A .	3991	537	679	782	1998
B. Scheduled Castes					
1. State Flow (Spl. Component Plan) . .	4204	457	651	710	1818
2. Spl. Central Assistance .	600	100	110	120	330
TOTAL—B .	4804	557	761	830	2148

19.3 To achieve this objective, comprehensive development plans are required to be formulated keeping in view special problems and needs of each of these communities. Also the programmes have to be integrated with other general programmes in the context of the overall development strategy of the Plan.

19.4 For tribals and tribal areas, the strategy is to continue with tribal sub-Plans (TSP) and for scheduled castes, Special Component Plans are being formulated. The major thrust of the tribal sub-Plans and special components plans is to come from State's own Plan funds with the Centre providing an additive in the form of Special Central Assistance. Besides these allocations, Central Ministries are also required to identify programmes and allocate funds for tribal sub-Plans and Special Component Plans out of Central and Centrally-sponsored schemes.

Tribal Development

19.5 The State Governments have, by and large, established a system of showing flow of funds from the State Plans to the TSP in different sectors' development schemes. However, the Central Ministries have yet to establish a similar system for Central and Centrally sponsored schemes.

19.6 Apart from the Tribal sub-Plan, areas having a minimum of 10,000 population with 50 per cent or more tribal concentration have been identified in blocks or talukas for integrated development. The total number of such pockets identified so far is 235 covering a population of 32.36 lakhs.

19.7 For the Sixth Five Year Plan a flow of Rs. 3521 crores is envisaged out of the State Plans for the tribal areas against which it is expected that Rs. 1748 crores would be utilised by the end of 1982-83 leaving a balance of Rs. 1780 crores. Special Central Assistance amounting to Rs. 250 crores has been allocated by 1982-83, out of Rs. 470 crores allocated for the Sixth Plan, leaving a balance of Rs. 220 crores.

19.8 The strategy for tribal sub-plan during the Sixth Plan has been modified from the previous Plan to place more emphasis on family-oriented programmes than on infrastructure development. In the Sixth Plan there is also an emphasis on development of tribal pockets with a minimum of 10,000 population containing at least 50 per cent tribal population, as well as on development of primitive tribes.

19.9 Tribal sub-Plans are being implemented in 19 States|UTs where the tribal population is 50 per cent or more in concentration in blocks|taluks in scheduled areas and other tribal areas. These plans, however, are not formulated for the tribal majority States of Meghalaya and Nagaland and the UTs of Arunachal Pradesh, Dadra and Nagar Haveli, Lakshadweep and Mizoram as their entire State-Plans are for tribals.

19.10 The Tribal sub-Plans are divided into a number of Integrated Tribal Developments Projects (ITDPs) for planning and operational purposes. By the end of the Fifth Plan, 180 projects had been recognised. While the TSP programmes have been implemented since Fifth Plan, and a system of flow of State Plan funds to tribal areas established, it is found that with the exception of a few States like Gujarat and Maharashtra, the formulation of the programmes is not being done at the ITDP level. This lacuna comes out at the Annual Plan discussions when needs of tribals or specific areas in TSP are discussed. Also, the bench-mark surveys which were to have been completed by the end of the previous Plan so that the data could be used for planning at block taluka|tehsil levels, have not been done in some States. The administrative system is still to be perfected for TSPs. Most often it is noticed that there is lack of coordination between various departments at State, district and project levels. It has also been noted that the work done by the Tribal Research Institutes, particularly in respect of evaluation etc. has not been utilised by the States in formulation and modification of existing programmes.

19.11 As regards programmes, under TSP, although in the current plan emphasis has shifted from area-based infrastructure to family-oriented programmes there is still considerable investment in such sectors as Power, Irrigation, Roads and Communications, and construction of buildings for administrative purposes, health and educational services. Of the total outlay, 42 per cent is accounted for by the infrastructure development in Irrigation, Power and Roads sectors.

19.12 It is only from 1981-82 that the State Governments have been requested to identify tribal families who would receive direct benefits from various programmes. The total number of tribal families who would be assisted during the Plan period has not yet been indicated by the State Governments. States are yet to formulate separate programmes for tribal pockets.

19.13 Although, in the Tribal sub-Plan, emphasis is on family oriented programmes, infrastructural base is not over-looked. Besides, there are group-based programmes like LAMPS (Large-sized Multi-purpose Societies), for bringing the tribals into the cooperative movement and to eliminate money-lenders, middlemen and forest contractors. Organisation of LAMPS was taken up in the Fifth Plan itself. So far, more than 2,000 such LAMPS have been set up with about 58 per cent tribal members. The LAMP societies in most States undertake functions related to credit, marketing and distribution of essential consumer articles. The performance of these societies has been uneven and many of them are beset with management problems. A committee was constituted in 1981 to ascertain (i) the present stage of management of LAMPS in States concerned, (ii) the suitability of the present personnel relative to the tasks devolving on LAMPS, and (iii) ways and means of improving the working of LAMPS.

19.14 It has been found that varied forms of cadre-structure are prevalent in LAMPS in different States and even within the same State. The employees of LAMPS form a heterogeneous cadre. There is need to have a common cadre of LAMPS Managers in all the TSP States.

19.15 For the most backward tribal groups who are existing at a pre-agricultural level of economy| low literacy level, special comprehensive development programmes are being formulated. 71 such communities have been identified, and project reports for 29 groups have been finalised.

Scheduled Castes' Development

19.16 For the Scheduled Castes, the strategy of Special Component Plan has been adopted for 24 States|UTs having a large Scheduled Caste population. The special development programmes for Backward Classes would be in addition to this. These programmes would also provide for educational and economic schemes for those groups who are not included in either of the Schedules but are equally indigent.

19.17 The main programme is for the generation, or augmentation, of purchasing power through schemes like the National Rural Employment Programme, the Integrated Rural Development Programme and the programmes in the sectors of agriculture, animal husbandry, fishery, sericulture etc. In addition, the basic needs of these communities would be met from the Minimum Needs Programme.

19.18 Special Central Assistance is an additive to the State Plans and programmes for Scheduled Castes. It is not tied to specific schemes on the schematic pattern. It is meant for the totality of the States' efforts for the development of the Scheduled Castes. The additionality accruing to the States from the Special Central Assistance is to be used by them only for income-generating economic development schemes (including directly relevant training, directly relevant back-up services and institutional build up and arrangements for implementation, supervision, monitoring and evaluation) in conjunction with the outlays in their respective Special Component Plans.

19.19 The major problem in the Special Component Plan is that of methodology of quantification of funds from all the sectors in proportion to the scheduled caste population in a State and the application of the formula for distribution. The criteria laid down for distribution of Special Central Assistance to the States are :—

(a) On the basis of SC population and on the relative backwardness of a State (inverse of State per capita domestic product)	50%
(b) The percentage of the SC families in the State covered by composite economic development programmes in the Plan to enable them to cross over the poverty line	25%
(c) The percentage of the Special Component Plan to the Annual Plan as compared to the SC population percentage in the State . . .	10%
(d) Programmes for relatively weaker and more exploited groups among the scheduled castes like civic sanitation workers (sweepers and scavengers), bonded labourers, nomadic and Vimuktajati communities of SCs . . .	10%
(e) The performance in the implementation of the Special Component Plan with reference to (a), (b) and (c) above	5%

The State Governments are being urged to maximise the flow of funds to the SCP and increase the quantum to correspond to the percentage of SC population in the total population. However, due to high allocations to the non-divisible sectors, the States have not been able to achieve this objective.

19.20 Under the Special Component Plans, programmes are aimed at economic betterment of SC families. The SC families engaged in traditional occupations like leather works, scavenging, fishing, weaving etc., from the target groups. Definitive evaluation of these programmes|schemes is yet to be done.

19.21 The flow of finance from Central Ministries to the Tribal Sub-Plan areas and for scheduled castes has not been encouraging.

Problem of Institutional Finance

19.22 The flow of institutional finance which is important both for tribal sub-plans and Special Component Plan still remains weak.

Monitoring & Evaluation

19.23 The monitoring system has not yet been fully established in the States. Only 8 States have so far set up monitoring cells. At the Centre, the Programme Evaluation Organisation (PEO) of the Planning Commission has taken up evaluation of some ITDPs, while some States have entrusted the Tribal Research Institutes with this work.

Backward Classes

19.24 The Backward Classes sector comprises educational incentives, some economic programmes and provision of amenities like drinking water, house sites etc. as supplemental to the general benefits. In addition, there are 9 Centrally sponsored schemes. Of the important schemes in this sector, the post-matric scholarships scheme is expected to help 7.3 lakhs Scheduled Caste and Scheduled Tribe students in getting scholarships during 1982-83. The rates of post-matric scholarships have recently been increased and the scheme is gaining popularity. The progress of expenditure of the scheme indicates that the Plan outlay may have to be increased. Lastly, 100 per cent grants are provided to all-India and regional voluntary organisations carrying out work among Scheduled Castes and Scheduled Tribes.

1925 In regard to the targets, this is a sector where very few States give precise targets under each of the schemes. The only substantial schemes under this sector are pre-matric educational incentives in terms of stipends, scholarships, boarding grants, etc. and post-matric scholarships for which a provision of Rs. 130 crores exists in the Plan.

19.26 During the Sixth Plan, the Plan investment envisaged for the sector of Welfare of Backward Classes and Centrally sponsored schemes and the progress of expenditure is as given in Table 19.2.

TABLE 19.2

(Rs. crores)

	Outlay 1980-85	Actuals 1980-81	Anti-Exp. 1981-82	Likely Outlay 1982-83	Total 198083
B. C. Sector					
State/UT . .	726*	103.31	113.87	146.48	363 66
C.S.S. . .	240	29.94	48.25	53.40	131 59
Total . .	966	133.25	162.12	199.98	495.25

*Revised outlay shown by States/UTs against the Rs. 72 crores provided in the Plan.

19.27 Under the Scheduled Caste Finance and Development Corporations Scheme, which is meant to help the Scheduled Caste families to avail themselves of institutional finance by providing margin moneys, more than 5 lakh Scheduled Caste families have been assisted. However, the tardiness of the banks in providing necessary loans to Scheduled Caste families remains a major handicap for these corporations.

19.28 The expenditure on the scheme of Machinery for Implementation of the Protection of Civil Rights Act is expected to be Rs. 7.21 crores by the end of 1982-83 as against an outlay of Rs. 6 crores for the entire Plan period. The last two years of the Plan also would need more than Rs. 8 crores since States are being assisted to improve sanitation on a whole town basis so as to free scavengers from this occupation.

19.29 Central assistance is sanctioned to voluntary organisations for doing welfare work among SC|STs so as to improve the Socio-economic conditions of these communities. In all, 22 all-India voluntary organisations and regional agencies received grants-in-aid during the three years of the Plan. Rs. 7.50 crores have been provided for the scheme in the Plan and the expenditure upto 1982-83 is estimated at about Rs. 3.23 crores. The schemes taken up by these agencies are : setting-up institutions like hostels, dispensaries, training centres, etc. or doing publicity or propaganda for removal of untouchability and tribal welfare.

Conclusion

19.30 To conclude, the following measures appear to be necessary for achieving the objectives of the Sixth Plan :

(i) For Tribal sub-Plans, it will be necessary to streamline planning and implementation machinery at block|project|State level. Special attention should be paid to primitive tribal groups.

(ii) In view of the difficulties encountered by State Governments in maximising the Special Component Plan size in proportion to the percentage of Scheduled Caste population in their total population, it is suggested that the formula for distribution of special Central assistance may be reviewed.

((iii) It is imperative that flow of institutional finance is ensured for both Tribual sub-Plan and Special Component Plan if these families have to be assisted in generating additional income to cross the poverty line.

((iv) Effective methods of quick evaluation of programmes and feed-back from States to the Centre have to be evolved.

(v) In view of the tempo of expenditure in the Central Sector of Development of Backward Classes, an enhancement of the outlays for the Centrally Sponsored Schemes appears necessary.

CHAPTER 20

SOCIAL WELFARE

The economic needs of the most deprived sections of the society are to be taken care of in the general development sectors, particularly through target-group oriented approach. Additionally, certain programmes are being implemented in the social welfare sector which are of a supplemental nature. Though, in the overall context, the total impact of the latter may not be very significant, their chief utility lies in their being able to add an incremental factor which could tilt the balance in favour of the general sector programmes. In the Sixth Plan an outlay of Rs. 271.97 crores has been provided under this sector. Against this, the estimated expenditure in the period 1980-83 aggregates to Rs. 163.17 crores as given in Table 20.1 below :—

TABLE 20.1

(Rs. in crores)

	Sixth Plan Outlay	1980-81 Actuals	1981-82 Actuals	1982-83 R.E.	1980-83 Total	%age
	1	2	3	4	5	6
States	109.78*	13.05	19.34	19.88	52.27**	5[illegible].95**
UTs	12.19	1.56	2.08	2.90	6.54	53.65
TOTAL	121.97*	14.61	21.42	22.78	58.81**	56.56**
Centre	150.00	23.50	31.12	49.74	104.36	69.57
GRAND TOTAL	271.97*	38.11	52.54	72.52	163.17**	64.25**

*Includes Rs. 8 crores for Special Employment Scheme (SES) under Labour & Employment Sector.

** Excludes expenditure on SES.

20.2 Both in the State and Central Sectors, the expenditure is likely to exceed the approved outlay as indicated below:

(Rs. in crores)

	1980-85 Outlay	Expdr. 1980-83	Outlay 1983-84
States/UTs	121.97*	58.81	31.39
Centre	150.00	104.36	60.00

*Includes Rs. 18 crores for SES.

20.3 As may be seen, the balance for the State Sector for 1984-85 is much less than the current year's outlay while in the Central Sector the expenditure already exceeds the Plan outlay.

20.4 The scheme 'Integrated Child Development Services' (ICDS) is a major programme in the Central Sector. Its main object is improvement of nutritional and health status of children in the age-group 0-6 years, reduction in the incidence of morbidity, mortality, malnutrition and school drop-out and enhancement of capabilities of the mother to look after the normal health and nutritional needs of the children through proper nutrition and health education. The scheme aims at providing a package of services consisting of (i) supplementary nutrition (ii) immunisation (iii) health check up (iv) referral services (v) nutrition and health education and (vi) non-formal education to children below the age of six years and pregnant and nursing mothers. The administrative unit for the location of ICDS project is a community development block in the rural|tribal area and a ward in urban slums. Upto 1979-80, 150 ICDS projects had been sanctioned. The target for the Sixth Plan was establishment of 600 projects; later it was decided to increase the number of 1,000 projects. Upto 1982-83, the total number of projects sanctioned was 620, but not all of them have become operational. For 1983-84, 200 additional projects have been approved.

20.5 The scheme of Functional Literacy for Adult Women (FLAW) which is being implemented in ICDS projects aims at imparting non-formal education to adult women, using functional literacy as the means in the field of health and hygiene, food and nutrition, home management, child care and civic educational skills. Its operation has been restricted to the 300 ICDS projects sanctioned upto 1981-82. In the Sixth Plan, provision for this scheme is made on a year to year basis.

20.6 The Ministry of Social Welfare had envisaged the setting up of national institutes, one each for the visually handicapped, the orthopaedically handicapped, the hearing handicapped and the mentally retarded with the object of undertaking research, training, rehabilitation and providing certain national level services in the respective fields. The National Institute for the Visually Handicapped and the National Institute for the

Orthopaedically Handicapped have been functioning at Dehradun and Calcutta respectively for some years. The National Institute for the Hearing Handicapped has been set up at Bombay in 1982-83. The National Institute for the Mentally Retarded is likely to be set up in 1983-84.

20.7 The Ministry of Social Welfare has also been involving the State Governments in several ways for reaching out benefits to the disadvantaged. Funds have been placed at the disposal of the State Governments for promoting institutional and non-institutional services for children in need of care and protection and giving scholarchips to the handicapped for education, technical and professional training. The number of beneficiaries under the former scheme is 0.28 lakh during 1980—83 while under the latter it is about 0.30 lakh during the same period.

20.8 There are a number of other schemes which are run through voluntary organisations with funds made available by the Ministry of Social Welfare. Some selected schemes and the likely achievement during 1980—83 are as follows :—

	Unit	Achievement
1. Condensed courses of education for adult women	No. of courses	2,876
2. Socio-economic programme	No. of units (e.g. handloom units, dairy units)	2,331
3. Hostels for working women	No. of hostels	117
4. Creches for children of working mothers	No. of creches	5,000 (cumulative since 1974-75)
5. Assistance to disabled persons for purchase/fitting of aids and appliances.	No. of organisations assisted	56 (Cumulative since.1980-81)

20.9 Besides, some important schemes coming from the earlier Plan periods like National Institute of Social Defence, National Institute of Public Co-operation and Child Development, grants to the Central Social Welfare Board, grants to all-India voluntary organisations continue to be operated in the Central Sector.

20.10 Monitoring of the programme performance of the social welfare programmes so far has been in terms of financial achievements rather than on their physical performance. Emphasis has to be laid on the latter aspect as well.

CHAPTER 21

WOMEN AND DEVELOPMENT

The Chapter on 'Women and Development' was introduced for the first time in the Sixth Plan (1980—85). The chapter deals with the efforts required in the different welfare and development sectors for women; no separate outlays and programmes were envisaged. The Plan recognised three sectors—education, employment and health—as of particular importance for formulating a strategy for women.

Education

21.2* In the field of education, under the programme for universalisation of elementary education, there has been a special drive for higher enrolment and retention of girls in schools. The enrolment of girls increased from 272.78 lakhs (64.9 per cent) in 1979-80 to 281.18 lakhs (66.2 per cent) in 1980-81; 291.19 lakhs (70.3 per cent) in 1981-82 and 301.58 lakhs (72.4 per cent) in 1982-83 in Classes I—V. The target for 1983-84 is 319.60 lakhs (76.3 per cent). Similarly, for Classes VI—VIII, the enrolment of girls improved from 61.53 lakhs (26.0 per cent) in 1979-80 to 65.68 lakhs (27.2 per cent) in 1980-81, 73.83 lakhs (31.0 per cent) in 1981-82 and 81.20 lakhs (33.7 per cent) in 1982-83. The target for 1983-84 is 87.41 lakhs (35.8 per cent).

21.3 School-going girls are being provided incentives like uniforms, free books, stationery and attendance scholarships.

21.4 To encourage Scheduled Caste and Scheduled Tribe girls to continue higher education, a centrally sponsored scheme on 50:50 basis with the State Governments provides for construction of hostel facilities. The Central outlay has been as follows :—

	(Rs. lakhs)
1980-85	1300
1980-81	265
1981-82	390
1982-83 (Revised)	325
1983-84 (Approved outlay)	325

*Figures in parenthesis represent enrolment ratios of the corresponding population age-groups.

So far approximately 1000 hostels have been constructed. The rates of post-matric scholarships are also higher for girls belonging to Scheduled Castes and Scheduled Tribes as compared to boys.

21.5 In training programmes like TRYSEM, seats have been reserved in many States for girls.

Employment

21.6 A number of steps have been adopted by the Government to promote the employment of women. These include, inter-alia, expansion and diversification of education and training opportunities available for women and better implementation to existing laws for provision of creches. The Ministry of Labour has set up Advisory Committees in 20 States and Union Territories for creation of employment opportunities for women under the Equal Remuneration Act of 1976. The Ministry of Health and Family Welfare has sent guidelines to the State Governments for relaxation of the existing criteria in the selection of ANMs so as to facilitate local recruitment. Mahila Mandals and other voluntary organisations are being encouraged to take up socio-economic programmes for providing wage and self-employment. Efforts are made to offer a larger proportion of jobs to women in the schemes relating to the public distribution system, rural godowns, Operation Flood II, dairy development. social forestry and the armed forces. The reduction of the burden of household chores on women is among the aims of the schemes relating to development of low-cost, efficient fuels and delivery systems of such fuels, fodder and water supply. Special attention is being paid to these schemes. The revised 20-Point Programme envisages provision of potable water supply to all problem villages. Special forestry programmes for providing fuel and fodder have been undertaken in many States.

Health

21.7 The mother being a very important element of society, the welfare of the mother and indirectly that of all women, is an essential component of the health sector. The health sector stresses the importance of 'mother care' in view of the prevailing socio-economic conditions. Besides, importance is being given to the creation of employment opportunities for women in the health sector. These avenues are in the form of Female Health Guides, Health Workers (Females), Health Assistants (Female) and Lady Medical Officers at the primary health centre level. In urban areas, women are involved at every level in all fields related to health measures. Recently it has been decided that all health Guides should preferably be women in order to facilitate rapport with local women for the improvement of their health.

21.8 The health sector has organised health services for the women under the package porgramme of Maternity and Child Health Care (MCH). Domiciliary care of ante-natudal mothers, raising the immunisation tatus of expectant mothers and provision of nutrition package to overcome nutritional deficiencies are among the major programmes in the field of Maternity and Child Health Care. Development of areas like mother-craft, training in breast-feeding, understanding the growth and development pattern of the children are some of the other programmes in the health sector aimed at women. Health insurance benefits in the form of maternity leave, diet supplements., vocational placements and Labour laws governing the working hours and working conditions of women form part of the general welfare programme.

21.9 The total number of MCH beneficiaries has increased from 68 million in 1981-82 to 74 million in 1982-83. During the last three years the training intake of female workers has increased from 5,012 (1979-80) to 14,309 and Female Health Assistant from 1,062 (1979-80) to 1,558. Upto March, 1982, 3.6 lakh dais have been trained including 1980-81 (76,215), 1981-82 (55,782).

Social Welfare

21.10 The scheme of 'condensed Courses of Education for Audlt Women' aims at : (i) opening up new vistas of employment to a large number of needy women ; and (ii) creating a band of competent trained workers to man various developmental projects. Two-year condensed courses are organised to enable the adult women who have some schooling to appear in middle|high school examinations. During 1980—83, 2,876 courses are expected to have been organised. The other important scheme is the 'socio-economic programme' under which voluntary organisations are given grants-in-aid to organise a wide variety of income-generating projects for the benefit of needy women. Nearly 2,331 units are expected to have been set up during 1980—83. Grants-in aid are also being provided to voluntary organisations for the construction|expansion of hostels for working women. Five thousand creches are being maintained for the children of working mothers, The scheme 'Functional Literacy for Adult Women' continued to function in the Integrated Child Development Services (ICDS) projects. Its operation would continue in 300 ICDS projects sanctioned upto 1981-82. Besides, ICDS, which offers a package of services to mothers and children, specially pregnant and nursing mothers, has been expanded to cover 620 blocks by 1982-83. For the welfare of destitute women, training centres| institutes for the rehabilitation of women in distress are being set up through the voluntary organisations.

Science and Technology for Women

21.11 Another important area taken up with regard to developmental programmes for women is a scheme on "Science and Technology for Women". The main objective of the scheme is to improve the life and status of women by the application of science and technology, by providing employment opportunities to them, reducing the element of drudgery in their lives and improving their health and environmental conditions. Another objective is to bring about greater involvement of women in science and technology. Significant progress has been made in the implementation of the scheme, and more than 40 projects have been sanctioned so far. Several integrated programmes for women have been taken up in rural|tribal areas which include : identification of location-specific problems of women; demonstration and field trials of relevant technologies; and evaluation of the impact of the technologies introduced.

21.12 An All India Coordinated Project on Fuel and Cooking System is being implemented by 12 research institutions|voluntary agencies. The results of this project will help women to economise the use of cooking fuel and reduce their drudgery, specially the harmful effect of smoke on their health conditions. Several skill training programmes have been supported to train women in areas such as spinning, weaving, safety match making, fabrication of solar stills, radio repair, biodynamic gardening, manufacture of PVC and leather goods, floral crafts etc. The States covered are : West Bengal, Maharashtra. Gujarat. Rajasthan, Himachal Pradesh, Uttar Pradesh, Tamil Nadu, Assam, Meghalaya, Haryana, Delhi (UT) and Kerala. Non-formal education programmes in nutrition, health and sanitation and dissemination of information through workshops and publications have also been supported.

CHAPTER 22

ENVIRONMENT

A new Department of Environment has been set up during the Sixth Plan period. The following are the main components that come under the administrative control of the Department :

(i) Botanical Survey of India, Zoological Survey of India, National Committee on Environmental Planning, Environmental Research, Man and Biosphere Programme, Environmental Impact assessment. National Museum of Natural History (N.M.N.H.) earlier supported by the Department of Science and Technology.

(ii) Integrated ecodevelopment research projects for Himalayas, Western Ghats and region along Ganga Basin pertaining to hill area development.

(iii) Hazardous Chemicals & Micro-organisms Control (recommended by the Science Advisory Committee to the Cabinet).

(iv) Public Health relating to operation of Prevention and Control of Water Act, Water Cess Act, Air Act and Central Board for Prevention and Control of Water Pollution.

(v) Work relating to Agriculture & other services pertaining to wild life preservation and protection of wild birds & animals.

Environment Planning and Coordination

22.2 Under the Environmental Research Programme important major schemes taken up include Heavy Metal Pollution, microbial degradation of industrial wastes, etc. Regarding the integrated eco-development programme for Himalayas, Western Ghats & Ganga basin guidelines on priority areas for action oriented research projects were prepared and discussed with the Vice Chancellors of the concerned Universities in the Western Ghats and the Himalayan Region. A similar exercise is being taken up in respect of the universities in the vicinity of the Ganga. An Environmental Information System (ENVIS) has been approved by the Goverrment in 1982-83 under which a computer terminal and a mini computer is being installed in the Department by the National Information Centre (NIC). DOEN has started the work on computerised environmental information. With regard to Environmental Monitoring Organisation (EMO), a Technical Advisory Board and a cell for secretariat support is being created. An assessment with regard to the existing structure in the State|UTs has been made and guidelines prepared for initiating environmental activities at the States|UTs level.

Eco-development Programmes

22.3 Reports on three biosphere reserves viz. Nilgiri, Namdapha and Nanda Devi have been prepared. Project reports for the biosphere reserves at Gulf of Manner, North Islands of Andaman and Valley of Flowers are under preparation. An Eco-development task force was created to work in Shivalik, U.P. in the area of afforestation and soil conservation. A simiar task force is planned to be deployed in Himachal Pradesh. Eco-development Camps have been organised in collaboration with NSS scheme of the Ministry of Education where thousands of students from various states have been involved for tree plantation and other afforestation programme. In addition, Universities as well as voluntary organisations have undertaken massive programme of tree plantations digging pits for manure, soil conservation, etc.

Environmental Education and Training

22.4 An Environmental Education Research and Training Centre has been set up at IISc, Bangalore; and proposals for other new centres are under consideration. The proposal for the establishment of a National Institute of Environmental Management is under active consideration. The Department has initiated several activities for creating environcental awareness through seminars, symposia, audiovisual presentations, popular lectures, etc.

22.5 The activities of BSI and ZSI have now been oriented to cover survey of eco-systems, biosphere reserves data on endangered species, evaluation of economic plant resources for rural development and social forestry Several programmes have been initiated by BSI like seed bank and National Herbarium, Floristic resources in 100 selected districts etc. A 10 year review in respect of appendices on flora for the Convention on International Trade in Endangered Species of Flora and fauna (CITES) has been prepared. Faunistic surveys are being conducted by ZSI in important eco-systems like estuaries, coastal areas, mangreves hilly tracts of eastern ghats, selected high altitude areas in Himalayan region, etc. Surveys of parasites and predaters of major agricultural|crops intensive faunistic surveys in NE States, status surveys of endangered and threatened birds and animals of Nanda Devi sanctuary, faunal component of the continental shelf, etc. are being initiated. National Museum of Natural History has undertaken various activities on non-formal education on natural sciences for school children, teenagers, teachers, handicapped etc. Work on setting up a gallary on Introduction Ecology has been completed, the design or the Mobile Museum has been developed and unit will be acquired soon.

Environmental Pollution Control (HUD) & Water Sector)

22.6 The Air (Prevention & Control of Pollution) Act of 1981 has been entrusted to the Central Board for the Prevention and Control of Water Pollution. The main laboratory of the Board has acquired capability to measure toxic metals and special organic chemicals like pesticides. The major thrust of the laboratory will be in the area of special chemicals, toxicity assessment including bioassa treatment, plan performance investigations, pilot plant studies for small scale industries etc. Upgrading of the main laboratory for air quality measurements both for ambient as well as stack emission will be taken up. An integrated study of the Ganga Basin has been completed and integrated River Basin Studies for the Brahmputra, Indus & Narmada are proposed to be taken up. Comprehensive industry documentation and the industry-specific national implementation programmes have been initiated in the area of sugar, fermentation, fibre, oil refinery, caustic, chlorine, etc. Similar programmes in the area of Textiles, Fertilizers, Steel mills, etc. are being initiated. Two continuous monitoring stations one for carbomonoxide and the other for sulphur dioxide have been installed in Delhi. Environmental impact assessment of major power & industrial projects has continued.

Wild Life Preservation & Protection (Agriculture Sector)

22.7 The Wild life Institute of India was set up in 1982-83 for building up scientific knowledge on wild-life reserve, developing trained personnel, carring out research and providing information and advice on specific wild life management. The Institute has started functioning with the nucleous of its staff at FRI, Dehra Dun and a Board has been constituted to oversee the growth of the Institute. Assistance is being provided for development of national parks sancturies and selected zoos. In the tiger project, in addition to 11 existing tiger reserves, four more areas in West Bengal, Arunachal Pradesh, M. P., and A. P. are being taken up. The area under the scheme is expected to increase from 15,800 sq. km. to 25,000 sq. km.

22.8 The following table gives for the field of environment, the 1980-85 provision, actual expenditure in 1980-81 and 1981-82 and revised estimates for 1982-83 and plan outlay for 1983-84 under the S&T sector, HUD & Water supply sector (Water & Air Pollution Control) and Wild life Preservation and Protection (Agriculture Sector).

TABLE 22.1

(Rs. crores)

Environment	1980-85 (Provisions)	1980-81 (Act.)	1981-82 (Act.)	1982-83 (RE)	1983-84 (BE)	1980-84 (Expected
(i) S & T Sector	42.00*	1.71	3.52	5.14	9.50	19.87
(ii) Environmental Pollution Control (HUD Sector)	12.00	1.33	2.23	2.15	2.50	8.21
(iii) Wildlife Preservation (Agri. Sector)	12.44	1.09	1.10	2.35	3.00	7.54
TOTAL	66.44	4.13	6.85	9.64	15.00	35.62

*Excluding Rs. 8 crores for Integrated Eco-development Programme for Himalayas, Western Ghats & Ganga.

CHAPTER 23

SCIENCE AND TECHNOLOGY

The Sixth Five Year Plan 1980-85 for Science and Technology envisages the development and implementation of several policies, as well as institutional measures to develop a sound base in science and technology, in competence and in skills and its increasing application to problems of national development. During the period 1980-83, the following institutional mechanisms have been created :

(i) A Cabinet Committee on Science and Technology has been formed to provide policy guidance for development of S and T efforts and to review the progress of efforts in the S and T sector.

(ii) A Science Advisory Committee to the Cabinet (SACC) was constitute in March, 1981.

(iii) A Science and Technology Entrepreneurship Board has been set up to promote entrepreneurship amongst S & T personnel to increase employment opportunities using avalible institutional finance.

(iv) A National Bio-technology Board has been constituted to take steps to achieve self-reliance in this newly emerging frontier area.

(v) A Commisson for Additional Sources of Enrgy (CASE) was estabished in 1981 for formulation of policies, development and implementation of R and D projects and applications in the area of new and renewable energy sources. The Deparatment of Non-Conventional Energy Sources (DNES) was established in September 1982 as a Department in the Ministry of Energy.

(vi) Department of Environment was set up in November, 1980.

(vii) Department of Ocean Development (DOD) was set up in July, 1981 and is entrusted with planning and coordination of oceanographic research and development, setting up of research facilities, expeditions to Antarctica, dealing with the newly emerging area of ocean bed resources pertaining to polymetallic nodules etc.

23.2 An Ocean Policy was announced in Parliament in November 1982 which provides for optimum utilisation of ocean resources, acquisition of basic knowledge and development of appropriate technology, creation of an integral legal framework together with enforcement agencies and building up suitable manpower and skills.

23.3 A Technology policy statement, aimed at rapid achievement of self-reliance, promoting indigenous S and T, aproprıate adaptation of imported technologies and ensuring transfer of technology for efficient application of research results has been announced.

23.4 SACC has made several important recommendations. Mention may be made of population stabilisation including new immunological approaches to fertility regulation; eradication and control of leprosy; import, distribution and usage of hazardous chemicals and micro-organism; strengthening of mathematical research in the country, amenities and facilities for scientists. On the recommendation of SACC a special programme to support educational institutions in the country to build up their infrastructure capabilities for work S and T has been initiated. SACC also considered measures for greater involvement of women in S&T and special personnel policies for women scientists and technologists, developing excellence in selected areas of Science, impact and assessment of the Scientific Policy Resolution and thrust areas in Electronics.

23.5 A Status Report on Science and Technology for Women has been compiled and published. An All India Coordinated project on Fuel and Cooking systems to reduce drudgery of rural women has been formulated.

23.6 Two All India meetings of State Councils on Science and Technology were held for effective implementation of S and T programmes at State level. The programme is expected to pick up during the coming years. Two expert Committees for S and T for Scheduled Castes and Scheruled Tribes and S and T for young scientists have been constituted.

A. Scientific Agencies

Atomic Energy (R&D)

23.7 The major outlay on S and T in the Sixth Plan is in relation to the Bhabha Atomic Research Centre (BARC) and the Reactor Research Centre (RRC). The major continuing projects of BARC pertain to the 100 MW Thermal Research Reactor (R-5 project), the New Engineering Halls and the Plutonium Recycling Project. R-5 is expected to be commissioned sometime in 1984 during this Plan period The main constraint in attaning criticality would be availability of Heavy Water. All the on-going schemes are expected to be completed except the Plutonium Recycling Project; Phase II of the project is expected to spill over to the 7th Plan. Among major new projects, mention may be made of the development and procurement of hot cell equipment, modern heavy ion accelerator, and new and modern computer system for R and D work. The medium heavy ion accelerator facility at TIFR would consist of a 14 million volt terminal, pelletron type of tandem accelerator incorporating the most modern electrostatic accelerator technology. At the Reactor Research Centre (RRC), the Fast Breeder Test Reactor (FBTR) is expected to be completed during 1984. The Variable Energy Cyclotron (VEC) has been commissioned at Calcutta as a national facility for advanced work in nuclear physics and controlled direct irradiation of biological and agricultural products. Research facilities are being set up for optimal utilisation of the cyclotron. Due to heavy pressure of work at Trombay, the Atomic Energy Commission have decided to set up a Third R and D Centre at Indore.

Space Science and Technology

23.8 The profile for the activities of the Department for the decade 1980-90 was approved in July, 1980 with the total 10-years outlay of Rs. 854 crores. In December, 1980 the National Remote Sensing Agency was transferred to the Department of Space from the Deptt. of Science and Technology. Amongst the on-going projects, APPLE, India's first experimental geo-stationary 3 axis stabilised tele-communication satellite which was launched in June, 1981, continues to be operational. APPLE utilisation is being carried out by ISRO and other user agencies. Bhaskara II, a remote sensing satellite launched in 1981 from the USSR, also continues to be operational. The second development version of the Satellite Launch Vehicle SLV (SLV-3-D-II) was successfully launched in April, 1983.

23.9 Three major projects, viz. the Indian Remote Sensing Satellite (IRS), Augmented Satellite Launch Vehicle (ASLV) and Polar Satellite Launch Vehicle (PSLV) were approved in June, 1982. The IRS will now be a 800 kg. satellite as against 600 kg. envisaged earlier. The data from IRS during its designed life of 3 years would be used for resources survey in agriculture, forestry, geology, hydrology and meteorology. It is scheduled for launch in 1985-86 from the USSR. ASLV is a follow up of SLV development programme whose main objective is to upgrade SLV performance and increase its payload capability. The vehicle will have the capability of launching satellite of approx. 150 kg. in near earth orbit. Some of the major components of the PSLV Mission would get proven with this vehicle; these include strap on technology, on-board computer and the execution of yaw manoeuvres after launch. The launch vehicle is scheduled for first launch in 1984. The PSLV was earlier asessed to have initial capability of placing a 600 kg. satellite in sunsynchronous orbit. Due to increase in the weight of the Indian Remote Sensing Satellite, the Polar Satellite Launch Vehicle has been designed to have the capability to launch satellites in the thousand kg. class. A preparatory Committee has been constituted with Member (Science), Planning Commission as Chairman with the mandate to report on the mechanism and modalities for the evolution of a National Natural Resources Management System.

Deptt. of Science and Technology

23.10 Some of the major schees under implementation relate to Intensification of Research in High Priority Areas (IRHPA), Science and Engineering Research Council (SERC), Regional Sophisticated Instrumentation Centre and Integrated Facilities. Under IRHPA a major programme in plasma physics has been taken up at the Physical Research Laboratory, Ahmedabad. Similarly research in immunology has been taken up as high priority area with the setting up a National Institute of Immunology. Other high priority researches taken up for intensive support include the Centre for Study of Visceral Mechanism at the Patel Chest Institute, Delhi, partial support for the Indian Middle Atmosphere programme being coordinated by the Department of Space. a project on metallic glass, provision of a 200 KV National Electron Miscroscopic Facility at Banaras Hindu University, a 500 MHZ Fourier Transform Nuclear Magnetic Resonance Spectrometer (FTNMR) at TIFR, a multi-agency project for study of seismicity and seismotectonics of the Himalayan Region etc. Major emphasis under SERC is being given in promoting front-line carefully selected areas. A comprehensive research programme on Genetic Engineering covering both the basic and applied aspects have been initiated. Thrust areas in Chemical, Engineering and Physical Sciences have been finalised. Four Regional Sophisticated Instrumentation Centres at Calcutta, Lucknow, Madras and Bombay have already been set up for providing expensive and sophisticated research equipment|instruments to scientific workers. Three new Regional Centres for the same purpose have also been set up at Chandigarh, Nagpur, Shillong and action is in progress to provide the initial complement of research equipment at these Centres. The instrument development programme is meant for indigenous development of sophisticated instruments required for scientific and technological work. The work on the second phase of the project is expected to be completed in the present plan period. The first phase of the Resin project involving 9 institutions was completed under newer fibres and composite programme. The second phase of this project with UNDP assistance has been initiated. Several new programmes have been initiated : to promote scientific interest in various spheres like State S and T Councils, S and T for Youth, Women, Scheduled Castes|Scheduled Tribes etc. Arising from these efforts, 22 States and 8 Union Territories have formulated programmes for establishment of State Committees|Councils on S and T.

Council of Scientific and Industrial Research

23.11 The various laboratories are classified under six categories, viz. Physical and Earth Sciences, Chemical Sciences, Biological Sciences, Engineering Sciences, Information Sciences and Industrial Research Associations. To enable internal laboratory inter-institutional approach, R and D programmes have been grouped under 26 areas of research. Amongst the important on-going programmes to receive sustained support are cellular and molecular biology, collagen and bio-polymers, catalysis, photo chemistry, computerisation, process design and simulation design, tissue culture and polymer technology. New computer facilities are proposed to be added at some of the national laboratories like SERC, Roorkee, Madras, NAL etc. Multi-disciplinary and multi-agency projects are being formulated jointly with other agencies like Department of Steel, Deptt. of Ocean Development, Department of Electronics, Department of Coal etc. In these programmes the existing investments of CSIR laboratories would be utilised along with the expertise and facilities available with the concerned collaborating agencies towards solution of major tasks defined under a project. The multi-agency projects of relevance to steel sector so far identified pertain to conservation of coking coal, raw material beneficiation and agglomeration, conservation of energy, new high valued steel alloys, alternative process for steel making refractories, corrosion resistant materials for tribology. Major programme in the area of electronics so far identified pertain to development of semi conductor devices, process control instrumentation, vacuum tubes thyristor inverter for railways fibre optics, electronics and electronic materials. Similarly in the area of oceanography, a long term plan has been evolved relating to exploration of sea bed minerals, minerals under shallow waters, living resources, training centre as well as an Institute for Shipping and Ocean Engineering Research.

Department of Ocean Development

23.12 DOD has acquired through a grant-cum-loan scheme from the FRG an oceanographic research vessel, "Sagar Kanya" meant for scientific research in the fields of geology, geophysical sciences, oceanography, mateorology etc. The ship has been delivered recently. DOD will carry out cruise planning in consultation with various agencies. The acquisition of a fisheries and oceanographic research vessel (FORV) is another continuing scheme. The ship is being acquired from Denmark. The ship is likely to be delivered in November, 1984 and this will be used for carrying out research in the field of living resources, location of fish resources etc. Among the new major programmes of the Department, mention may be made of the Antarctica Expedition and Polymetallic Nodules Programme. Two successful expedition to Antarctica were undertaken during 1981-82 and 1982-83. The Department envisages two or three such expeditions annually from 1983-84 onwards. Antarctica Study would be a continuing one and the Department envisages to set up a permanent and seasonally manned station at Antarctica. and for servicing the station, the Department proposes to acquire an ice breaker. An Antarctica Study Centre is proposed to be set up consisting of scientific technical and logistic personnel. The polymetallic nodules programme envisages survey, exploration, collection, laboratory investigations of marine mineral resources and feasibility studies for their commercial exploitation. India has been recognised as a pioneer investor by the Third UN Conference on the Laws of the Seas in April, 1982. The programme would be sharpened in the coming years by way of detailed exploration and collection of nodules. The DOD is currently engaged on developing a Decade profile on various aspects of development and its related programmes.

National Tent House

23.13 During 1980-83 a number of sophisticated equipments have been purchased and four new Divisions, viz. Agro Chemicals, Metrology, Rubber and Plastics, Electronics were created. Part II of the UNDP Project relating to augmentation of testing facilities at NTH is expected to be operational during 1983-84. Other programmes include introduction of new areas for testing and calibration, organisation of training cells, maintenance of bettter liaison with industry and building and construction works at Bombay, Ghaziabad and Madras.

Environment

23.14 Please see the Chapter on Environment.

B. S. & T Component under Deptts|Ministries

Agriculture, Animal Husbandry & Fisheries

23.15 The main S and T thrust in the field of crop production has been on varietal improvement and development of new technologies to diversify agricultural production. Several improved varieties of rice were recommended for release specifically for (i) upland, midland and low land situtaion; (ii) resistance to gall-ridge, brown plant hopper, tungo virus etc. An early maturing rice variety suitable for flood prone areas of Assam and a variety for saline area were also major releases. Several disease resistant varieties of wheat were developed. Under the oil seeds programe about 30 improved varieties of ground nut were released for various parts of the country; several other varieties of oil seeds like Sesamum, safflower etc. have also been developed and released. Several varieties like sorghum, cauliflower, potato etc. were also identified|developed. In dry land agriculture, suitable crop production technology for the rainfed areas has been developed. Number of inter cropping systems have also been tested at different research centres.

23.16 In the field of animal sciences high priority has been given to the conservation of important indigenous livestock resources, their multiplication and improvement through selection. An Indian Mohair breed was developed in Maharashtra through grading of local goats and angora. A few broiler strains were also recommended for release and commercial exploitation. A number of strains of rabbits introduced from USSR and the U.K. for meat, fur and skin products gave highly satisfactory performance. A significant break-through was achieved in artificial breeding and rearing of Pearl oyster and in breeding the commercially important tiger prawn and white prawn. Under the Agricultural education programme, a University is being set up in J&K. In addition to the 19 Krishi Vigyan Kendras and 7 Trainer's Training Centres in the country, 45 new Krishi Vigyan Kendras and 1 new Trainers Training Centre have been approved for establishment during the plan period. Human resources development in backward areas has been continued through grant of scholarships to selected candidates from SC|ST. In addition to the existing Advanced Centres for post-Graduate Research, seven more new centres were sanctioned in various disciplines and are to be established soon with UNDP assistance. Communication Centres have been esablished for dissemination of improved technologies in cereals, pulses and oil seed crops using modern methods of communication, training of extension of workers etc. The transfer of technology programme through laboratories to land, National demonstration and operations research projects have ben oriented to provide proper emphasis on dry land farming, oil seed and pulse production. The lab. to land programme has been expanded to cover additional 25,000 families, representing small and marginal farmers of dry land| rainfed areas. Assistance is also being provided for the establishment of pilot projects for Research Centre on Dry Land Agriculture and for preparation of field manuals for oilseeds, pulses and dry farming.

Food

23.17 S&T programmes pertaining to Food are undertaken in National Sugar Institute (NSI), Kanpur and Indian Grain Storage Institute (IGSI) Hapur. Some of the major R & D programmes initiated by NSI include manufacture of lactic acid from waste molasses by chemical means, manufacture of yeast using sugar cane molasses and production of High Fructose-Glucose Syrup by chemical means. In addition, studies on treatment of effluents and specifying pollution tolerance limits have been initiated. Some of the achievements of IGSI are fabrication of 10 bins of different capacities, design of 2 metal bins and 2 non-metal storage structure, development of a simple design of grain dryer etc. In addition, several audio-visual aids like exhibition sets, posters and slides were prepared for demonstration, number of samples of grains were tested for insecticides|pesticides etc.

Forestry

23.18 The Forest Research Institute & Colleges at Dehradun with its regional branches and field centres continued to be the main centre for carrying out research in forestry and forest products. Some of the important works undertaken include provennes trials with regard to natural and exotic species, intensive management of production forest, fuel and energy plantation, biomass tree breeding; completion of Vol. V of Indian Wood on structure, identification and properties of 134 tree species; setting up of a National Forest Computer Centre etc. Some of the important programmes like forest fire protection research, forest productivity, physological studies of logging operations etc. are in progress. Several important programmes would be initiated like Establishment of Electron Microscope Laboratory, Design and Development of container from wood products, studies on sheet formation of paper etc. The Science Advisory Committee to the Cabinet has reviewed the research support needed for Forestry through a Task Force. The recommendations of SACC would be taken into account while formulating the Seventh Five Year Plan.

Irrigation

23.19 Research Projects in the Irrigation Sector are taken up by the Central Water and Power Research Station, Poona, Central Soil and Materials Research Station, New Delhi, National Institute of Hydrology and Central Board of Irrigation and Power. Of these the National Institute of Hydrology is still in a formative stage. The progress of research projects under the CW&PRS, Poona and CS&MRS, New Delhi has been slow for various reasons such as preparation of porjects for external aid, recruitment of staff, buying of equipment etc. The progress of research projects sponsored by the Central Board of Irrigation and Power has been satisfactory.

23.20 The major activities of the Central Water and Power Research Station are modelling, testing, basic research, and evolution of economic designs for ensuring safety and operational efficiency of river valley projects at their conception stage. The present applied and fundamental research activities are mainly centred around the disciplines of river engineering, reservoir and appurtenant structures, coastal and off-shore engineering, ship hydro-dynamics, hydraulic machinery, stratified flows, foundations and structures, mathematical modelling and instrumentation.

23.21 The Central Soil and Materials Research Station has been conducting basic and applied research and providing advice in the field of geo-mechanics and construction materials. The research station also renders consultancy services to various Departments of the Central and State Governments, Electricity Boards, public sector undertakings etc. Field and laboratory investigations as also studies were carried out on 25 projects in soil mechanics, and foundation engineering, 19 projects in rock mechanics, 24 projects in concrete technology, 10 projects in chemistary and sediment. Officers of the research station received advance technology training abroad in the field of concrete, rock fill and rock mechanics under the UNDP assistance.

23.22 The National Institute of Hydrology has identified the following 8 priority areas for research :

(i) hydrologic analysis of stream flows in a basin;

(ii) water balance of river basins;

(iii) water shed models including those for snow-fed basins and basins with limited data;

(iv) method of operation of a system and reservoirs for multi-purpose use like irrigation, flood control and power;

(v) evolution of mathematical model for storm precipitation for flood estimation;

(vi) evolution of methodologies for flood estimation, forecasting and control;

(vii) methodology for ground water estimation and development; and

(viii) study of extreme storms and floods and their implication in hydrologic synthesis.

The Institute has so far carried out review of literature, implementation and testing of computer programmes, collection of data, training of scientists, implementation in consultancy research projects for ground water modelling studies and Narmada Basin Flood studies.

23.23 The Central Board of Irrigation and Power has sponsored research studies on the following major topics i.e. water studies and hydrology, hydraulics, irrigation drainage and reclamation, flood control and river training, coastal engineering, tidal hydraulics, etc. Work on 22 projects was completed in 1981-82 and another 30 projects were expected to be completed during 1982-83. Work would be continued on 60 on-going research projects in the current year.

Meterology

23.24 Under the India Met. Deptt. complete Meteorological Data Utilisation equipment was installed and the first cloud cover picture of earth was received from INSAT-IA satellite. Cyclone Warning Radars have been installed at Karaikal (Tamil Nadu). Design fabrication and supply of special instruments for the measurement of temperature, humidity, surface ozone etc. to the Second Indian Antarctica Expedition was undertaken. An equipment was installed at New Delhi for the reception of high resolution cloud pictures from TIROS-N series of polar oribiting satellite of the USA. The Indian Institute of Astrophysics completed fabrication of the major part of the components for the 234 cm optical telescope to be installed at Kavalur. A new fast photo electric recording system was designed and constructed Meteorological rocket pay loads were successfully flight tested for air worthiness upto 48 KM by the Indian Institute of Tropical Meteorology.

Industry and Minerals

23.25 The pace of in-house research and development activities at the larger public sector undertakings has picked up. Many of these organisations now have fullfledged research and development centres. Activities relating to upgradation of existing technologies are also in progress. Among some of the achievements mention may be made of the absorption of technology relating to the equipment for 210 and 500 MW power plants, fluidised bed boilers for utilising low grade coals and improved combustion equipment all by BHEL, newer types of machine tools by HMT and CMTI, work in the field of photovoltaics by BHEL and CEL etc. An important centre for development in welding processes has been established at Tiruchirapalli. A multi-institutional development project of importance for the future will be the High Voltage Direct Current Programme. In the area of electronics the country has taken an important step in microelectronics with the commissioning of the semi-conductor complex. The base in the electronics industry has grown in the last few years at Chandigarh. The thrust areas in electronics for the future have been identified and specific proposals are being formulated well in time for the Seventh Plan. These relate to communications, power electronics, computers and information systems, fibre optics, controls and special materials.

23.26 In conventional industries like textiles, jute, medium size electrical equipment and automobies, cooperative research organisations of the industry ike ATIRA, IJIRA, ERDA, ARAI etc. have been actve.

23.27 An area identified for intensifying our efort is that relating to production engineering and appropriate automation.

23.28 The space programme has ensured increasing participation of domestic industry by way of components and sub-systems of very high quality and reliability. The organisation has set up a consultancy division to facilitate technology transfer to industry.

23.29 Among the more important facilities for research and development coming up at present mention may be made of the facilities for fertilizer technology and those of EIL, ONGC and HIL.

23.30 To improve linkage between the national laboratories and the larger public sector manufacturing enterprises, coordinating groups have been set up for reviewing progress of joint development projects.

23.31 The major programme taken up at IPCL's R&D centre relates to the area of polymerisation which has helped in improving operational efficiency of the plants. This centre will also take up programmes for different products like butyl rubber, new polymer etc.

23.32 The chemical industry units like HOC have set up facilities for pilot plants for scale up studies, facilities for testing various catalysts, high pressure, hydrogenation etc. Among important processes developmed mention may be made of aniline regeneration catalyst, butenediol etc.

Steel

23.33 Research and Development activities in the steel sector have been largely concentrated on increased productivity in the steel plants, introducing new products and reducing cost of production. A number of projects have been taken to the stage of industrial application and for commercial upscaling. In the area of coal and coke encouraging results were attained in projects on beneficiation of coal, upgrading of washery fines of Durgapur Steel Plant, indentification of optimum coal blends for Bhilai Steel Plant, and study on the possibilities of extraction of new coal chemicals cokeoven gases in Bhilai Steel Plan. These projects were designed to reduce consumption of coal and improve productivity. In the area of raw materials and iron making, the production and use of superfluxed sinter composite, which has been used in L. D. converter as a partial substitute for lime and scrap, has been successfully developed both at Rourkela and Bokaro Steel Plants. A demonstration plant to inject 4 tonnes of lime dust per hour through tuyeres of blast furnace at the Durgapur Steel Plant is being set up following the success achieved at pilot plant stage in Kalinga Iron Works, Barbil. Similarly encouraged by the successful trend of trial results on external desiliconisation| desulphurisation of hot metal at Durgapur Steel Plant, Bhilai Steel Plant is expected to try the technology soon. Productivity of blast furance has been improved by adopting better techniques. Technology of producing high basic sinter has been developed and tested at Bhilai Steel Plant which has shown an increase in the productivity of Blast furnnce.

23.34 A project on oxygen-assisted electric arc furnace of the Alloy Steel Plant has indicated reduction in power consumption by 60 KWH|t of liquid steel and reduction in melt-down time by three minutes. Similarly a project for improvement in dephosphorisation, in 10 tonne electric arc furnace of Alloy Steel Plant has been successfully completed. This will enable production of low phosphorous steel.

23.35 RDCIS has successfully designed a cooling system for the wire rod mill of Bhilai Steel Plant which reduces the scale loss by 2 per cent and also brings down the temperature from 1000° to 850° centigrade in 0.1 second.

23.36 In the area of product development, a number of projects have been successfully completed. These are micro alloyed steel plates with sulphide shape control for improved transvers ductility in Bhilai Steel Plant. With the introduction of the desulphurisation at Rourkela Steel Plant production of high strength and high shelf energy pipeline steel for transportation of oil and gas would be possible. Efforts are being made to produce extra deep drawing quality steel for automobile application on the basis of the successful development of boron-treated deep drawing steel in the country.

Mines and Minerals

23.37 During the Sixth Plan period 58 schemes were taken up: Geological Survey of India (11), Indian Bureau of Mines (7), Mineral Exploration Corporation (3), Bharat Aluminium (2), Bharat Gold Mines Ltd. (7), Hindustan Coper Ltd. (13), Hindustan Zinc Ltd. (6), Indian School of Mines (4), Central Mining Research Station (2), Benaras Hindu Universty (1), Indian Institute of Metals (1), and RRL, Bhubaneswar (1). These schemes related to application of goe-chemistry and geo-physics for rapid exploration as well as determination of depth continuity of ore deposits, faster drilling of holes, rapid development of mine openings, mine supports, ground movement warning in mines, augmentation of mineral beneficiation capability, establishment of beneficiation and metallurgical techniques for improving the mineral and metal products and recovery of associated minerals and metals, recovery of metal values from oceanic nodules and gold mine tailings (gold), application of leaching techniques for metal extraction, and so on.

23.38 Most of these schemes have been successfully completed and results adopted for regular practice viz., recovery of tungsten mineral from tailings and run-of-mine ore in the Bharat Gold Mines, recovery of selenium, tellurium, silver, gold in the copper smelter plant, extraction cobalt from copper converter slag; long hole raising in mines: modification of steel supports for greater stability of mine openings: micro-seismic warning system in deep gold mines; etc. Semi-commercial pilot plant for beneficiation of low grade rock-phosphate has been set up in Rajasthan based on the process flow-sheet prepared by the Indian Bureau of Mines and detailed engineering provided by Engineers India Ltd. Successful refractory bricks, have been manufactured by Central Glass and Cermic Research Institute based on beneficiated kyanite concentrate produced in laboratory of Indian Bureau of Mines. High grade China clay from inferior grade feed has been produced in the Indian School of Mines on the samples from Purulia deposits.

23.39 Computerised data processing systems for mineral resources, their potential and evaluation and mineral productions as well as on rock mechanics have been initiated through suitable R&D schemes.

23.40 Research Studies conducted through the schemes of Mineral Development Board have established the possibility of using intered manganese ore fines for manufacturing of ferro-managanese ferro-manganese slak as a carrier of managanese in replacement of direct manganese ore in the Blast furnace: the overburden of chromite mines contains small quantities of nickel which could be concentrated by simple screening: chromite fines could be agglomerated and used for charge-chrome manufacture. The introduction of Inred process of iron making is under negotiation with a Swedish Company and samples are being sent for use of K.R. process (F.R. Germany) in iron making. A few more schemes on conservation of minerals are under finalisation.

ELECTRONICS

23.41 The items which have already gone for production by funding under the auspices of the Technology Development Councl of the Deptt. of Electronics include specialised electronic materials, cock-pit voice recorders, solid state oscilloscope, defence grade passive components, UHF and microwave communication equipment etc. User evaluation and flight trials of Air route Surveillance Radar and user evaluation of precision approach radar taken up under the auspices of the National Radar Council have been completed. Electronic Reserch & Development is carried out under the auspices of DOE, DAE, DOS, Ministry of Communication, Ministry of Defence and the Ministry of Education.

Energy

Petroleum

23.42 The Institute of Drilling Technology (IDT) has carried out a number of programmes in the area of development of drilling, techniques and technologies, viz. studies of the methods to imporve the effectiveness of oil spotting, chemical analysis of resinex and synthesis of an equivalent chemical IDEX, preparation of oil well cement, development of turbulance inducers and high temperature retarders from indigenous sources, and designing of mud systems for high temperature wells etc. The R&D projects handled by the Institute of Reservoir Studies (IRS) encompass the preparation of development plans and performance, analysis of oil and gas fields, selection and optimisation of enhanced oil recovery techniques; simulation studies of poor oil producers; calculation of artificial lift design parameters for weak producers and evolving suitable chemical treatment for field effluent disposal etc. Experimental facilities are being set up for Naphtha cracking. Delayed coker pilot plant is being established. Setting up of an R&D centre at Gurgaon of EIL has been recently approved. The R & D centre of the Indian Oil Corporation at Faridabad has developed a high efficiency Kerosene wick stove and LPG burner for domestic purposes. A Research & Development Laboratory has been set up by Lubrizol India Ltd. Feasibility report for an Engine testing laboratory for the R&D centre was approved in 1982 and it is expected to be commissioned by 1985-86.

Coal

23.43 About 86 R&D schemes have been identified in the field of exploration, exploitation, beneficiation and utilisation of coal; of these 25 have been completed. The salient features of the results of investigations under the R&D projects so far complete are: declassification in one of the highly gassy seams was completed, and the seam which has been abandoned is now being worked; strata investigations have resulted in predicting the roof behaviour in longwall faces; technology for inert gas infusion in fire areas has been established. A project on Hydraulic Mining with the assistance from FRG has been taken up. The trial of hydraulic mining is expected to start by this year end.

Power

23.44 Expert technical consultancy services from France was obtained for the Project "Establishment of 200 MVA High power testing station with synthetic testing facility". Work on the feasibility studies has commenced. The Central Board of Irrigation and Power has taken up a project to identify problems faced in the State Electricity Boards and other utilities in providing uninterrupted power supply, satisfactory condition of voltage and frequency in the design, construction, operation and maintenance of power systems and to carry out systematic field studies to pin-point the problems and evolve suitable remedies. R&D work on High Voltage D.C. technology and Low calorific Value Fuel auxiliary injection in power boilers have been initiated.

Renewable Energy Sources

23.45 For details please see Chapter on "Energy".

Telecommunication

23.46 Under Indian Telephone Industries (ITI) 4 GHZ 1800 channel System has been cleared for field trials, 2.6 MHZ high reliability version, 12 MHZ 270 channel coaxial system, 24 channel UFT have been cleared for production and Engineering model of fibre optics 8 Mb|15 system completed. A new version for a 3-channel open wire carrier system, a main stay of rural communication network in the country has been designed and cleared for production. A multi-channel VHF radio system which provides 7 speech channels and 5 teleprinter channels has been developed. Prototype design of modem eliminator, modernsplitter, circuit design of short haul Modem and Partial circuit design of 4800 BPS Modem transmitter have been completed by Hindustan Teleprinter. Telecommunication Research Centre has developed 12 MHZ Coaxial line terminals and dependent repeaters, group translating equipment (CP-7), PCM 30 channel multiplex, data modem 600|1200 BPS (Mark II), span line test Set, Digital Error Detector, PCM MUX Tester.

23.47 In addition to the above a great deal of telecommunication research is carried out under the Deptt. of Space and in the Ministry of Defence.

Education

23.48 The constraints and limitations in the present S&T efforts in respect of Science Teaching and Research in the University system are well-known. In the long term, these would hamper the growth of properly developed manpower inputs for the national S & T activities. In order to initiate corrective action and to ensure critical minimu potential for growth, it is proposed to support selectively with some central grants-in-aid, some of the educationl institutions in well identified areas as recommended by Science Advisory Committee to the Cabinet (SACC) to build their infrastructural capabilities. A proivsion of Rs. 5 crores has been made for this purpose in the Central Plan 1983-84 of Education Sector; the programme would be undertaken on the advice of the SACC through the University Grants Commission where a special cell will be set up to provide the necessary supporting services. Financial support is made available by UGC and Ministry of Education to faculty members in the universities, University Centres for post-graduate studies, IIT's to enable them to take up well defined research projects in pure and applied sciences as well as engineering and technological subjects. The research projects are basic and fundemental in nature or of an applied nature related to the national R & D effort or in newer fields and inter disciplinary areas of importance. In addition grants are also given by CSIR, Deptt. of Space, Deptt. of Atomic Energy and DST.

Health

23.49 A modified research strategy and plan of action have been developed in the area of medical research. Mention may be made of the Task Force approach, net work of Regional Medical Research Centres, Integrated Research Information Systems etc. The allocation (Plan and Non-Plan) of ICMR has been stepped up from Rs. 10.4 crores in the Fourth Plan and Rs. 20 crores in the Fifth Plan to Rs. 65.00 crores in the Sixth Plan. Some of the major achievements are : development of methods for the biological control of disease transmitting insects, demonstration of an integrated control, including environmental control, for filariasis and malaria, setting up of Toxicological Evaluation Committee for assessing two experimental leprosy vaccines developed by Cancer Research Institute Bombay and AIIMS, New Delhi; based on multi-centric studies, recommendation has been made for large scale indigenous production and use of Isaptent in India; setting up of National Cancer Registry involving three hospital based registries and three population based registries: development of a comprehensive low cost technology for the mass production of colour transparencies by Institute of Pathology, numerous studies for testing safety and effectiveness of long-acting injectable contraceptive etc. Two Regional Medical Research Centres have been established at Bhubaneswar and Port Blair to undertake research on regional health problems. A net work of 22 Human Reproduction Research Centre has been established in different part of the country to work in close collaboration with the medical colleges to carry out clinical research on new and emerging contraceptive technology.

Outlays for S & T

23.50 A total picture of the S & T outlay, (both Plan and Non-Plan) under the S & T agencies (as presently defined) and Ministries for the period 1980-83 year-wise is presented in the Annexure. From the Annexure it could be seen that in the case of the agencies, against a Plan outlay of Rs. 867.15 crores, the expected plan expenditure during 1980-84 is Rs. 678.95 crores (Eq. 78.2 per cent) whilst for the Ministries Departments the expected plan expenditure is Rs. 718.81 crores only against a Sixth Plan outlay of Rs. 1096.36 crores (Eq. 65.5 per cent).

ANNEXURE 23.1

Mid-term Appraisal of Sixth Five Year Plan (1980-85)—*Progress of S & T Expenditure/Outlays*

(Rs. crores)

Sl. No.	Department	1980-85		1980-81(Act.)		1981-82(Act.)	
		Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1	2	3	4	5	6	7	8
A.	**S & T Sector Agencies**						
1.	Atomic Energy (R & D)	248.98	284.59	24.02	47.29	32.97	55 64
2.	Space (S & T)	245.80	146.92	28.55	29.29	46.16	29 53
3.	DST	92.87	189.55	10.36	31.24	14.41	31.24
4.	Environment (S & T)	42.00*	13.12	1.71	2.70	3.52	4 01
5.	CSIR	189.00(T)	245.61	28.10	39.30	37.54	48 18
6.	Ocean Dev.	40.00	..	0.02	..	8.34	0 04
7.	National Test House	8.50	3.56	0.43	0.71	0.68	0.82
	SUB-TOTAL 'A'	867.15	883.35	93.19	150.53	143.62	169.46
B.	**Sectors—Agriculture & Irrigation**						
8.	ICAR	340.00	190.00	42.31	34.00	47.92	38.37
9.	FRI	12.00	..	1.22	..	1.51	..
10.	Irrigation	20.45	14.00	1.52	2.60	1.64	2.77
11.	Food	8.10	3.30	0.39	0.54	0.65	0.69
12.	IMD & Institutes	45.00	73.00	8.30	13.16	9.57	14.37
	TOTAL : Agriculture & Irrigation	425.55	280.30	53.74	50.30	61.29	56.20
	Industries						
13.	Heavy Industry	57.51	100.00	6.22	22.42	6.54	22.53
14.	Industrial Development	18.80†	10.00	4.17	0.51	4.68	0.50
15.	Commerce	32.40(R)	7.20	4.87	1.38	4.74	1.33
16.	Steel	79.85(P)	..	5.50	..	10.34	..
17.	Mines	16.16	..	1.90	..	1.64	..
18.	Chem. & Fert.	26.03	3.50	0.70	0.60	3.79	0.70
19.	Electronics	32.34	3.00	3.86	0.49	5.49	..
	TOTAL—Industries	263.09	123.70	27.22	25.40	37.22	25.06

(Rs. crores)

Sl. No.	Department	1982-83(RE)		1983-84 (BE)		1980-84 Expec.		84-85 Balance	
		Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1	2	9	10	11	12	13	14	15	16
A.	**S & T Sector & Agencies**								
1.	Atomic Energy (R&D)	38.54	61.99	46.49	68.20	142.02	233.12	106.96	51.47
2.	Space (S&T)	54.81	31.26	69.00	33.02	198.52	123.10	47.28	23.82
3.	DST	21.00	39.39	23.95	46.27	69.72	148.14	23.15	41.41
4.	Environment (S & T)	5.14	4.13	9.50	4.46	19.87	15.30	22.13	-2.18
5.	CSIR	45.95	48.45	47.00	50.50	158.59	186.43	30.41	59.18
6.	Ocean Dev.	45.34=	7.18@	32.00	0.27	85.70	7.49	—45.70	—7.49
7.	National Test House	1.42	0.81	2.00	0.82	4.53	3.16	3.97	0.40
	SUB-TOTAL 'A'	212.20	193.21	229.94	203.54	678.95	716.74	188.20	166.61
B.	**Sectors—Agri. & Irrigation**								
8.	ICAR	54.85	45.07	70.00	46.12	215.08	163.56	124.92	26.44
9.	FRI	2.16	..	2.30	..	7.19	..	4.81	..
10.	Irrigation	3.49	2.99	2.51	3.27	9.16	11.63	11.29	2.37
11.	Food	1.04	0.79	1.29	0.88	3.37	2.90	4.73	0.40
12.	IMD & Instts.	10.38	16.84	12.60	17.81	40.85	62.18	4.15	10.82
	TOTAL—Agriculture & Irrigation	71.92	65.69	88.70	68.08	275.65	240.27	149.90	40.03
	Industries								
13.	Heavy Industry	8.31	22.64	11.76	23.00	32.83	90.59	24.68	9.41
14.	Industrial Dev.	5.96	0.51	8.13	0.55	22.94	2.07	—4.14	7.93
15.	Commerce	7.41	1.33	8.18	1.82	25.20	5.86	7.20	1.34
16.	Steel	10.06	..	12.87	..	38.77	..	41.08	..
17.	Mines	4.00	..	3.73	..	11.27	..	4.89	..
18.	Chem. & Fert.	3.53	0.80	4.40	0.90(E)	12.42	3.00	13.61	0.50
19.	Electronics	5.23	..	8.00	..	22.58	0.49	9.76	2.51
	TOTAL—Industries	44.50	25.28	57.07	26.27	166.01	102.01	97.08	21.69

(Rs. crores)

Sl. No.	Department	1980-85 Plan	1980-85 Non-Plan	1980-81 (Act.) Plan	1980-81 (Act.) Non-Plan	1981-82 (Act.) Plan	1981-82 (Act.) Non-Plan
1	2	3	4	5	6	7	8
Energy							
20.	Power	53.10	5.00	[illegible]	0.85	3.63	1.57
21.	Coal	18.00	..	0.61	..	0.53	..
22.	Petroleum	37.66@@	26.43@@	4.54	5.00	4.98	6.30
23.	New Energy Sources	50.00	..	4.26	..	10.53	..
	TOTAL—Energy	158.76	31.43	10.31	5.85	19.72	7.87
Transport & Communications							
24.	Communications	62.15	33.00	3.00	8.07	5.85	9.31
25.	Information & Broadcasting	2.50	2.00	0.33	0.28	0.16	0.35
26.	Shipping & Tpt.	9.75‡	..	0.63	..	0.80	..
27.	TCA—R&D Dte.	1.50	0.50	0.10	0.19	0.05	0.19
28.	Railways	..	36.30	..	5.94	..	7.72
	TOTAL—Tpt. & Communications	75.90	71.80	4.06	14.48	6.86	17.57
Social Services							
29.	Housing & Consts. Tech.	4.00	..	..	..	..	..
30.	Labour	1.06	..	..	..	0.04	..
31.	Education	112.00	30.00	16.40	6.25	22.90	8.25
32.	ICMR	40.00	26.00	4.88	4.28	7.60	4.53
33.	Rural Dev.	10.05	..	0.88	..	1.00	..
34.	Social Welfare	2.00	..	0.33	..	0.10	..
	TOTAL—Social Services	169.11	56.00	22.49	10.53	31.64	12.78
	TOTAL—Sectors (3)	1096.36	563.23	117.82	156.69	156.73	119.78
	GRAND TOTAL (A+B)	1959.56	1446.55	211.01	257.13	300.35	288.72

(Rs. crores)

Sl. No.	Department	1982-83(RE)		1983-84 (RE)		1980-84 (Expec.)		1984-85 (Bln.)	
		Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan	Plan	Non-Plan
1	2	9	10	11	12	13	14	15	16
Energy									
20.	Power	4.39	1.75	8.14	1.82	17.06	6.03	36.04	—1.03
21.	Coal	1.23	..	2.00	..	4.42	..	13.58	..
22.	Petroleum	10.72	6.40	13.64	7.00	33.88	24.40	3.78	2.03
23.	New Energy Sources	12.80	..	17.00	..	44.59	..	5.41	..
	TOTAL—Energy	29.14	8.15	40.78	8.82	99.95	30.43	58.81	1.00
Tpt. & Communication									
24.	Communications	7.49	10.83	9.69	12.07	26.03	40.28	36.12	—7.28
25.	Information & Broadcasting	0.23	0.34	0.30	0.35 (E)	1.02	1.32	1.38	0.68
26.	Shipping & Tpt.	0.68	..	1.23	..	3.34	..	6.41	..
27.	TCA—R&D Dte.	0.11	0.27	0.31	0.29	0.57	0.94	0.93	—0.14
28.	Railways	..	12.10	..	15.00 (E)	..	40.76	..	—4.76
	TOTAL—Tpt. & Comms.	8.51	23.54	11.53	27.71	30.96	83.30	44.94	—11.50
Social Services									
29.	Housing & Const. Tech.	0.01	..	0.25**	..	0.26	..	3.74	..
30.	Labour	0.07	..	0.18	..	0.29	..	0.77	..
31.	Education	29.40	9.24	36.00	10.00 (E)	104.70	33.74	7.30	—3.74
32.	ICMR	10.00	4.80	12.50	5.13	34.98	18.74	5.02	7.26
33.	Rural Dev.	1.60	..	1.80	..	5.28	..	4.77	..
34.	Social Welfare	0.10	..	0.20	..	0.73	..	1.27	..
	TOTAL—Social Services	41.18	14.04	50.93	15.13	146.24	52.48	22.87	3.52
	TOTAL—Sectors (B)	195.25	136.70	249.01	146.01	718.81	508.49	373.60	54.74
	GRAND TOTAL (A+B)	407.45	329.91	478.95	349.55	3497.76	1225.33	561.80	221.35

(T) Changed from 170 to 189 due to retransfer of 4 laboratories to CSIR.

* Sixth Plan outlay of Rs. 8 crores and 1982-83 (BE) of Rs. 3.30 crores transferred from Hill Area Dev. programme excluded.

= Includes the external resources being obtained for ORV, FORV & Second Hand Vessels.

@ Rs. 7 crores for equipments for ORV is shown under Non-Plan in Demands for Grants.

\+ Includes additional outlays pertaining to Hand Tool Instt. and PDTC, Madras from unallocated amount.

** Includes Hostel component for scientists etc. under housing.

@@Due to change of IIP to CSIR, there is a change in VIth Plan allocation.

‡ Change in VI Plan outlay due to retransfer of 4 laboratories to CSIR.

(P) VI Plan allocation changed from 41.70 to 79.85 due to addition of S&T of NMDC, Sponge Iron India etc.

(E) Estimates.

(R) Change in VI Plan outlay due to redistribution of Plan & Non-Plan allocations of TRAs of Ministry of Commerce.

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APPENDIX
TABLES

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TABLE I

Saving and Investment : 1980-85

(Rs. crores)

Period	At current prices			At 1979-80 prices		
	Domestic saving	Foreign saving	Total Investment	Domestic saving	Foreign saving	Total Investment
1979-80	24098	580	24678	24098	580	24678
1980-81	28086	2400	30486	25150	1983	27133
1981-82	33627	3650	37277	27442	1813	29255
1982-83	35998	3300	39298	26234	1891	28125
1980-85 (Revised)	195683	16160	211843	142581	9635	152216
1980-85 (Plan)	..	..	..	149647	9063	158710

Note : Estimates upto 1981-82 are based on the data available in National Accounts Statistics.

TABLE II

Investment and Outlay in the Public Sector Plan : 1980-85

(Rs. crores)

Period	At current prices		At 1979-80 prices	
	Investment	Outlay	Investment	Outlay
1979-80	10490	12177	10490	12177
1980-81	12780	14832	11491	13336
1981-82	15690	18211	12305	14285
1982-83	18410	21356	13131	15230
1980-85 (Plan)	..	..	84000	97500

TABLE III

Resources of the Public Sector Plan Outlay during the first three years of the Sixth Plan

(Rs. crores)

Item	1980-81 to 1982-83		Sixth Plan 1980-85	Percentage achievment	
	At constant (1979-80) prices	At current prices		At constant prices	At current prices
1	2	3	4	5	6
1. Balance from current revenue	9917	12638	26930	36.8	46.9
2. Contribution of public enterprises	6634	8569	18245	36.4	47.0
3. Draft on other private saving	6986	8215	16896	41.3	48.6
4. Market borrowing	8433	11565	19500	43.2	59.3
5. External assistance (net)	3840	4795	9929	38.7	48.3
6. Deficit financing (including reserve withdrawals)	7082	8617	6000	118.0	143.6
TOTAL	42892	54399	97500	44.0	55.8

TABLE IV

Elasticity of Imports (goods only) with respect to Gross Domestic Product at market prices

Year	Ratio
1974-75 to 1979-80	1.53
1979-80 to 1981-82	1.12
1979-80 to 1984-85	1.20