



**44TH MEETING OF THE NDC, THE
EIGHTH FIVE YEAR PLAN 1992-97,
VOL. - II**

Table of Contents

- AGRICULTURE AND ALLIED ACTIVITIES
- RURAL DEVELOPMENT AND POVERTY ALLEVIATION
- IRRIGATION, COMMAND AREA DEVELOPMENT AND FLOOD CONTROL
- ENVIRONMENT AND FORESTS
- INDUSTRY AND MINERALS
- VILLAGE & SMALL INDUSTRIES AND FOOD PROCESSING INDUSTRIES
- LABOUR AND LABOUR WELFARE
- ENERGY
- TRANSPORT
- COMMUNICATION, INFORMATION AND BROADCASTING
- EDUCATION, CULTURE AND SPORTS
- HEALTH AND FAMILY WELFARE
- URBAN DEVELOPMENT
- HOUSING, WATER SUPPLY AND SANITATION
- SOCIAL WELFARE
- WELFARE AND DEVELOPMENT OF SCHEDULED CASTES AND SCHEDULED TRIBES
- SPECIAL AREA DEVELOPMENT PROGRAMMES
- SCIENCE AND TECHNOLOGY
- PLAN IMPLEMENTATION AND EVALUATION



NIEPA DC



D11593

LIBRARY & RECREATION CENTER

Natic Vocational

Mass. Education.

X7-A 1954.

New in D-11593

DOC, N

Date 17-09-2002



◆ EDUCATION, CULTURE AND SPORTS

◆ GENERAL EDUCATION:

◆ Introduction

11.11 It is now universally acknowledged that the goal of Plan efforts is human development of which human resource development is a necessary pre-requisite. Education is the catalytic factor which leads to human resource development which comprises better health and nutrition, improved socio-economic opportunities and more congenial and beneficial natural environment for all. There is already enough evidence in India to show that high literacy rates, especially high female literacy rates, are associated with low rates of population growth, infant mortality material morality and a higher rate of life expectancy. Although the country has not so far achieved the goals of universalisation of elementary education (UEE) and eradication of adult illiteracy (EAI), the 1991 census results reveal a literacy rate of over 52 per cent, with a higher rate of growth for female literacy. This is highly encouraging and the country can hope to achieve the broader goal of 'Education for All' (EFA) by 2000 AD, which has incidentally received international recognition at the world conference on EFA held at Jamtien in March, 1990. The commitment of the Government to the National Policy on Education (NPE) announced in 1986, implemented from 1986-87 onwards and reviewed in 1990 has been reaffirmed. On the eve of Eighth Plan, therefore, the country is poised to make a real breakthrough in achieving its long-cherished educational goals as well as in supporting the drive for higher rate of economic growth.

◆ PLAN PERFORMANCE REVIEW (1985-92):

11.2: The development of educational in terms of institutions and enrolment from 1984-85 onwards is indicated in the Annexure 11.1.

◆ Elementary Educations:

11.3 The Seventh Plan gave over-riding priority for the realisation of the objective of UEE by 1990. It was estimated that for achieving the goal, over 5 crores additional children would have to be enrolled. By 1991-92, however, about 2.53 crores were actually enrolled in the formal system and even after taking account of 0.72 crores in the non-formal system, the target could not be achieved. At the end of 1991-92, the gross enrolment at the primary and upper-primary stages is likely to have reached 10.09 crores and 3.44 crores respectively. The details of enrolment at the elementary stage are given in the following table:

Table 11.1

Enrolment in Elementary Education: Additional and Cumulative Achievement During 1985-92

(Figure in Crores)

Sl. No.	System/Stage	7th Plan (1985-90) Addnl. Achivt.	Annual Plans (1990-91 & 1991-92) Addnl. Achivt.	Cumulative Enrolment at the end of 1991-92
1.	Formal :	1.95	0.58	13.53
	a) Primary	1.34	0.36	10.09
	b) Upper primary	0.61	0.22	3.44
2.	Non-formal :	0.64	0.08	0.72
	Total	2.59	0.66	14.25

289

The latest data show that in 1990-91, the gross enrolment ratio (GER) had reached 101.03 per cent at the primary stage and 60.4 per cent at the upper primary stage. Considering that the number of overage and underage children in the GER data was in the range of 16-23 per cent and the dropout rate for primary stage in 1987-88 was 46.97 per cent and for elementary stage as a whole 62.29 per cent, we are clearly far away from the goal of universal enrolment and retention, much less achievement.

11.4 The strategies of the Seventh Plan underwent a change in the middle of the Plan period with the adoption of the NPE in 1986. The new thrust in elementary education emphasized the aspects of: (i) universal enrolment and universal retention, and (ii) substantial improvement in the quality of education. As part of implementation of NPE, the new scheme of 'Operation Blackboard' (08) was launched. Besides, the scheme of Non-Formal Education (NFE) was revised and a number of schemes for teacher education were also taken up. By March, 1992, the scheme of 08 covered about 80 per cent blocks, 49 experimental, innovative, NFE projects were sanctioned, there were 27,342 NFE centres run by 419 voluntary agencies and there were 2.72 lakh State-run NFE centres.

Teacher Education:

11.5 In 1987-88, a Centrally-Sponsored Scheme (CSS) for restructuring and reorganisation of teacher education was started which included the Mass Orientation of School Teachers (MOST), strengthening of Secondary Teacher Education Institutions (STEIs), State Councils of Educational Research and Training (SCERT), setting up of District Institutes of Educational and Training (DIETs) and establishment and strengthening of Institutes of Advanced Studies in Educational (IASE) in Universities. Between 1987-88 and 1991-92, 12.96 lakh teachers were covered under the scheme of MOST and Central assistance was extended to set up 287 DIETs, 12 IASEs. The scheme of strengthening SCERTs did not, however, make headway.

Adult Education:

11.6 The NPE '86 and the Programme of Action (POA) envisaged that the Adult Education Programme (AEP) would cover 4 crore illiterates by 1990 and another 6 crores by 1995. With the

launching of the National Literacy Mission (NUM) in 1988, the targets were reformulated and strategies recast. Accordingly, 3 crores illiterates were expected to be covered by 1990 and 5 crores by 1995. While Rural Functional Literacy Programme (RFLP) and post-literacy and covered by 1990 and 5 crores by 1995. While Rural Functional Literacy Programme (RFLP) and post-literacy and teaching-learning process were modified, new strategies like area-specific and time-bound approach to achieve 100 per cent total literacy (TL), massive participation of non-governmental organisations (NGOs) and students and effective utilisation of traditional and folk theatre forms in literacy work were evolved. By 1991-92, the post literacy programme was institutionalised in the form of 32,000 Jan Shikshan Nilayams (JSN). Apart from the introduction of Improved Pace and Content of Learning (IPCL) method which reduced the duration of learning from 500 to 200 hours, technology demonstration programmes were initiated in 42 selected districts. The scheme of Sharmik Vidhyapeeths (SVs) was reviewed suggesting a need for expansion. The number of State Resources Centres (SRCs) increased from 19 to 20. A national Institute of Adult Education (NIAE) was set up in January, 1991 to augment the technical and academic resource support to adult education and to undertake quality research and evaluation studies.

11.7 Area-specific and time-bound campaigns for TL first launched town and Ernakulam district in Kerala in 1989 with the active participation of students and voluntary agencies have been extended to other districts. By March 1992, twenty-five districts had achieved total literacy (in the sense of 85 per cent literacy) and TL campaigns were at different stages of progress in 80 districts in AP, Bihar, Gujarat, Haryana, HP Karnataka, Maharashtra, MP, Orissa, Punjab, Rajasthan, UP and WB covering over 3 crore illiterates with the help of about 30 lakh volunteers.

◆ Secondary Education:

11.8 As part of NPE, new CSSs for vocationalisation of higher secondary stage, improvement of science education and environmental orientation to school education were started. The new Central schemes of Navodaya Vidyalayas (NVs) and National Open School (NOS) were also initiated. The existing schemes of Integrated Education, Educational Technology and Computer Literacy Studies (CLASS) Project were strengthened.

290

11.9 By the end of 1991-92, about 8.7 per cent of the higher secondary students (5.85 lakhs) would have been diverted to vocational stream. The Open School affiliated to Central Board of Secondary Education (CBSE) was converted into an autonomous NOS in 1989 and by 1991-92, the total enrolment was in the neighbourhood of 1.50 lakhs. Under the CLASS Project, 2,598 schools were equipped with computers with 60 institutes providing resource support to these schools. As many as 275 NVs designed to provide good quality school education to tented rural children have been established in 29 States/Union Territories. As on March 31, 1991, there were 64,517 students in the NVs and pass percentage of first batch which took Class X examination was 95.77. The National Council of Educational Research and Training (NCERT) brought out the National Curriculum Framework for all stages of education and undertook a massive revision of text books for classes I-XII on the basis of revised syllabi designed as per the framework.

◆ Other Programmes:

11.10 The Central language institutions relating to Hindi, Indian Languages, English, Urdu, Sanskrit and Foreign Languages implemented a variety of schemes relating to training of language teachers, publication of language teaching materials, assistance to voluntary organisation, support for Urdu Calligraphy Centres etc. The National Book Trust (NST) was involved in the work relating to preparation of literated for neo-literates under the NLM and preparation of a Central list of books for the libraries of 5.5 lakhs primary schools under the CB Scheme. The NBT's Nehru Bal

Pustakalya and Aden-Praden Schemes have also made a mark. Besides continuing the schemes relating to national scholarships and scholarships for the talented children for the rural areas, in 1988-89 a new scheme for upgradation of merit of SC/ST students through remedial and special coaching was started as part of NPE.

◆ THRUST AREAS OF EIGHTH PLAN:

11.11 Universalisation of elementary education, eradication of illiteracy in the age group of 15 to 35 and strengthening of vocational education (VE) so as to relate it to the emerging needs in the urban and rural settings are the major thrust areas of the Eighth Plan in the Education Sector. Utilisation of formal, non-formal and open channels of learning would be the strategy for this purpose. The changed approach, improved methodology of teaching, increased participation of NGOs and student volunteers have infused a new vitality into the literacy programme and have given it a fresh momentum. The aim would be to impart a similar vitality and momentum to the universal primary education programme with a definite edge in its favour. The programmes of AE and UEE are complementary and there are situations where the Elementary Education (EE) programmes may benefit from the spin-off effect of the AE programmes. The improvement in the literacy percentage in the decade 1981-91, after allowing for statistical adjustment due to the exclusion of age group 0 to 6 is as much due to the higher literacy rate of school age cohorts and attrition of old-age cohorts with low level of literacy as to the special efforts on the AE front. The need for according the highest priority to UEE is, therefore, well-established. Within the overall school-age population, the focus would be on girls who account for two-thirds of target and among adults the focus would be on women's literacy which has a beneficial impact on children's literacy as well as other national objectives like population control and family welfare.

11.12 So far as UEE is concerned, the NPE stress on retention, participation and achievement, rather than mere enrolment, would be reinforced. Enrolment data are easily available and enrolment is a pre-condition for any further action. However, special attention would be paid to increase in retention, improvement of quality, specification of minimum levels of learning (MLL) and their attainment by the learners.

11.13 In regard to literacy, the emphasis would be on sustainability of literacy skills gained and on the achievement of goals of remediation, continuation and application of skills to actual living and working conditions.

11.14 In view of the employment orientation of the Plan and the need to establish meaningful linkages between the world of work and the world of learning, VE would be another priority area. This would not be confined to higher secondary stage but permeate the whole arena of secondary education and non-formal education/training. A combination of vocational and academic courses would be offered at secondary stage with open education (OE) as an important channel, preparing the students for wage employment and self-employment. In the service sector, expansion of health-related courses having courses having a rural orientation would be emphasised. In the rural areas, agro-based and

291

technology-based vocational courses would be developed by combining the strengths of existing institutional structures with OE institutions.

◆ Targets:

11.15 It is estimated that additional enrolment to be achieved during the Eighth Plan to reach universalisation is approximately 5.61 crores children. These data are based on the assumption of 15

per cent incidence of overage/underage phenomenon both at the primary and the upper primary stages. Enrolment of about 4.38 crores would be achieved through formal schools, about 1 crore through non-formal centres and the rest through the open learning channel of upper-primary stage. These targets are much higher compared with Seventh Plan achievement. They are, however, within the realm of possibility if the requisite will and mobilisation of organisational and financial resources are brought to bear on the task and innovative schemes like voluntary primary schools and OE at the upper primary stage are introduced. The NDC Committee on Literacy recently appointed is expected to give a lead in this regard. Working targets in relation to retention and achievement based on institutional capabilities and consultations with State Governments need to be laid down. The details of enrolment targets are given in Table 11.12 and State-wise targets of formal system in Annexure 11.6.

Table 11.2

Elementary Education: Projected Enrolment for Eighth Plan (1992-97)

(Figure in Crores)

Sl. No.	Stage	Popu- lation by 1997	Popula- with overage/ underage children.	Enrolment achieved upto 1991-92	Addnl. Popu- lation to be enrolled by 1997	Total	Female	Total	Female	Total	Female
1	2	3	4	5	6	7	8	9	10		
1.	Elem.Edn	16.64	8.09	19.14	9.30	13.53	5.54	5.61	3.76 (67%)		
a)	Primary (I-V)	10.53	5.12	12.11	5.89	10.09	4.24	2.02	1.65 (82%)		
b)	Upper- (VI-VIII)	6.11	2.97	7.03	3.41	3.44	1.30	3.59	2.11 (59%)		
											Primary

11.16 According to the 1991 Census, the number of illiterates in all age-groups in 33.6 crores. It is estimated that there will be 11.2 crore illiterates in the 15-35 age group of whom 70 lakhs would have become literate by the end of March, 1992. Thus, the target to be covered during the Eighth Plan will be about 10.5 crores as against the achievement of 2.65 crores during the Seventh Plan. In the context of the emphasis on sustainability of literacy and on continuing education, suitable targets in this regard need to be laid down after consulting State Governments.

11.17 In the VE, the target is to cover 15-20 per cent of students of higher secondary stage by the

end of Eighth Plan.

292

◆ Strategies:

11.18 The main strategy for achieving the targets would be: (a) adoption of the decentralised approach to educational planning and management at all levels through Panchayat Raj (PR) institutions; (b) combining this approach with a convergence model of rural development involving integrated utilisation of all possible resources available at Panchayat, Block and District level for activities relating to elementary education/literacy, child care/development, women's socio-economic empowerment and Rural Health Programmes; (c) large scale participation of voluntary agencies and (d) development of innovative and cost-effective complementary programmes including open learning system (OLS) supported by distance education techniques.

11.19 In specific terms, following measures will be adopted:

(1) The formal school system will be expended and improved.

(2) The non-formal system mainly catering to the needs of children working for wages, children working whole-time in domestic or house- old duties an children in school-less habitations will be expanded, improved and strengthened in the matter of supply of teaching-learning materials, instructional delivery and achievements.

(3) A voluntary school scheme will be introduced. At present, elemen- tary education is considered a responsibility of State and local bodies. However, there is scope for providing part-time school or non- formal education to a large number of learners who are not able to avail of the facility of formal full-time school or non-formal educa- tion centres. Voluntary agencies would be encouraged in a big way to start non-formal part-time schools, thus catering to the learning needs of urban working children and children in the tribal, hilly and inaccessible areas.

(4) A well-defined open learning system will be developed with a network of educational opportunities relevant to the needs and circum- stances of learners, especially girls, women, SCs/STs, and the poor, the unemployed, and the untrained. The major thrust of OLS would be on the acquisition of life-skills, vocational skills, directly contribut- ing to productivity and inculcation of habits of self-learning.

(5) The MLL with reference to class III, V and VIII will be laid down for improving learning achievement. The educational system will be required to ensure that every child who completes any of these stages of learning reaches the minimum level of achievement. Measures for improving classroom teaching like introduction of a comprehensive evaluation system and a continuous inservice training of teachers will be taken simultaneously. The MLL approach will be decentralised, each planning unit being able to determine its present levels of achieve- ment, adopt appropriate MLLs and define a realistic timeframe within which to achieve the mastery level, through additional efforts and inputs where necessary.

(6) District Boards of Education (DBEs) would be set up. They are conceived as the nodal agency for planning and management of education at the district level comprising formal education, AE, NFE and teacher training, vertically linked to Block/ or Mandal Education Committees and Village Education Committees (VECs) in a decentralised framework.





◆ URBAN DEVELOPMENT

◆ Introduction

13.1 Urbanisation is a natural consequence of economic changes that take place as a country develops. At the same time, urbanisation helps to contribute to the growth process at large. This is manifest in the increasing contribution of urban sector to rational income. For instance, in 1950-51, the contribution of urban sector to India's GDP was estimated at only 29 per cent which increased to 47 per cent in 1980-81 and is likely to rise to 60 per cent by the turn of the century.

13.2 The positive role of urbanisation is often over-shadowed by the evident deterioration in the physical environment and quality of life in the urban areas caused by widening gap between demand and supply of essential services and infrastructure. This results from increasing population pressure on urban centres, most of which are financially and organizationally ill-equipped to respond to infrastructural needs. Public investment in urban infrastructure has also been less than adequate. The challenge of reorienting the urbanisation process, thus, lies in overcoming the infrastructural deficiencies and taking the best advantage of economic momentum inherent in urbanisation.

◆ The Urban Scene

13.3 The urban population of India according to the Population Census 1991 was 217.18 million spread over 3768 urban agglomerations/towns. The urban population has been growing at a much higher rate than the total and the rural population and as a result, its proportion in the total population has increased from around 11 percent in 1901 to about 26 percent in 1991. Also, the rate of growth of population has steadily risen from decade to decade except during 1981-91 when it was lower than the earlier decade.

Table-1

Growth of population in India: 1901-1991

Census Year	Population Total	Population (Million) Urban	Percent Rural	Variation Urban	No. of Towns	% contribution of urban population Class I Towns Class II & III	
1	2	3	4	5	6	7	8
1901	238.40	25.85	-	-	1916	26.0	26.9
1911	252.09	25.94	6.40	0.33	1908	27.5	27.9
1921	251.32	28.09	-1.29	8.27	2048	29.7	26.4
1931	278.98	33.46	9.98	19.12	2220	31.2	28.5
1941	318.66	44.15	11.81	31.97	2427	38.2	27.8

			(13.85)				
1951	361.09	62.44	8.79	41.43	3060	44.6	25.8
			(17.29)				
1961	439.24	78.94	20.49	26.41	2700	51.4	28.2
			(17.97)				
1971	548.16	109.11	21.86	38.23	3126	57.2	26.9
			(19.90)				
1981	683.33	159.46	19.68	46.39	4029*	60.4	26.0
			(23.34)				
1991**	844.32	217.18	19.71	36.19	4689	65.2	24.2
			(25.72)				

350

* Includes 80 provisional towns of Assam. ** Provisional Population Census of India 1991, Paper-2.

Source: Census of India 1981 and Provisional Population census of India 1991.

Note: (1) Figures in brackets are percentages.

(2) Decrease in the total number of towns in 1961 compared to 1951 was due to the application of uniform and rigid definition of urban areas adopted for the 1961 Census.

13.4 There are wide variations amongst regions/States in the level of urbanisation (Table-2). The Union Territories of Delhi (92.73%) and Chandigarh (93.63%) are the most urbanised in the country, and the urban proportion is the lowest (8.47%) in Dadra & Nagar Haveli. Among the major States, Maharashtra is the most urbanised with 38.7% per cent of its population living in urban areas, followed by Gujarat (34.40%) and Tamil Nadu (34.20%).

13.5 Inter-state variation in the annual rate of growth of urban population and urban-rural growth differential (URGD) is more revealing. Except in Kerala, Gujarat and Maharashtra, the URGD is lower in all other states during 1981-91 than in 1971-81 (Table-2). Conspicuous deceleration of urban growth during 1981-91 was noticed in Bihar, Orissa, Karnataka and Uttar Pradesh.

Table-2

Level of Urbanisation, Average Annual Exponential Growth, URGD, Rank in Major

STATE	LEVEL OF URBANISATION		AVERAGE ANNUAL EXPONENTIAL GROWTH (URBAN)		URBAN RURAL GROWTH DIFFERENTIAL		RANK 1981-
	1991 %	1971-81	1981-91	1971-81	1971-81	1981-	
INDIA	25.72	3.83	3.09		2.05		1
ANDHRA PRADESH	26.84	3.96	3.55		2.39		1
ASSAM	11.08	3.27	3.27		1.27 (est)		1
BIHAR	13.17	4.37	2.65		2.49		0
GUJARAT	34.40	3.47	2.90		1.46		1

HARYANA	24.79	4.67	3.58	2.67	1
HIMACHAL PRADESH	8.70	2.98	3.11	0.92	1
JAMMU & KASHMIR	23.83	N.A.	N.A.	N.A.	N
KARNATAKA	30.91	4.10	2.55	2.35	0
KERALA	26.44	4.19	4.76	1.73	4
MADHYA PRADESH	23.21	4.45	3.71	2.69	1
MAHARASHTRA	38.73	3.36	3.27	1.74	2
ORISSA	13.43	5.22	3.08	3.76	1
PUNJAB	29.72	3.68	2.56	2.07	1
RAJASHTHAN	22.88	4.62	3.31	2.19	1
TAMILNADU	34.20	2.47	1.76	1.25	0
UTTAR PRADESH	19.89	4.74	3.29	2.94	1
WEST BENGAL	27.39	2.76	2.54	0.91	0

13.6 The urban areas in the country, excluding Assam, Jammu & Kashmir, consist of 300 Class I urban agglomerations/cities, 345 Class II urban agglomerations/towns, 947 Class III urban agglomerations/towns, 1,167 Class IV urban agglomerations/towns, 740 Class V urban agglomerations/towns and 197 Class VI urban agglomerations/towns, making in all 3,696 urban agglomerations/towns (Table-3). The distribution of urban units among States and Union Territories is quite uneven. A comparison of decadal growth rate of urban population by size classes suggests significantly higher growth rate (46.9%) in class I towns compared to negative growth rate in

351

class V and VI towns. However if adjustment is made for re-classification of towns in different size classes in 1981 censuses the difference in the decadal growth rate among the different size classes of towns is less marked.

Table-3

Increase/Decrease of Population in each size Class during 1981-91 - INDIA*

Size Class	No. of UA/Towns in 1991	Population increase/decrease during 1981-91		Contribution to India's total urban population		
		Absolute	Decadal growth Percent a b	1981	1991	
1	2	3		4	5	6
All Classes	3696	56,447,569	36.09	32.81	100.00	100.00
I	300	44,298,200	46.87	34.49	60.42	65.20
II	345	5,119,439	28.14	31.60	11.63	10.95
III	947	5,670,186	25.30	29.57	14.33	13.19
IV	1167	1,600,797	10.72	28.41	9.54	7.77
V	740	-70,982	-1.27	30.02	3.58	2.60
VI	197	-170,071	-21.70	NA	0.50	0.29

- * Excludes Assam and Jammu & Kashmir
 a For all towns as recorded in 1991 census
 b For those towns which are common both in 1981 & 1991 census.

13.7 The Class I urban agglomerations/cities accounted for 65.20 per cent of the urban population of the country in 1991. A further break up of the population of cities indicates that a majority (505%) of the population of Class I urban agglomerations/cities lives in 23 metro-politan urban agglomerations/cities with a population of more than a million each. These cities account for roughly one-third of country's urban population. Furthermore, in India there are four mega cities namely Bombay, Calcutta, Delhi and Madras, with a population of more than five million each in 1991. Almost one-fourth of the population living in Class I urban agglomeration/cities in the country lives in mega cities.

13.8 The population in Class I urban agglomerations/cities has continued to increase at a faster rate (46.87 per cent) during 1981-91 than other towns. Considering the common set of towns, the decadal growth rate is 34.5%.

13.9 Growth of employment (main workers) in urban India during 1981-91 is recorded at 38.0% as against 26.1% in the country as a whole. The population growth in urban areas (36.2%) is close to that of employment growth. As the growth rate of labour force during the same period is expected to be higher than that of total population growth in urban areas, unemployment/underemployment rate might have gone up. With regard to the composition of main workers for which only four broad categories (cultivator, agricultural labour, household industry and other workers) are available, there is no perceptible change between 1981 and 1991 as can be seen from Table 4. However, percentage employed in Household industry has increased to 5.6% from 4.9% in 1981.

352

Table - 4

Percent Distribution of Main Workers by broad categories in All India Urban (excluding J&K, Assam)

Year	Total Main Workers (in million)	Worker Participation Rate (%) of population	Cultivator (%)	Agricultural Labour (%)	HH Industry (%)	
1981	45.72	29.23	5.13	6.05	4.94	8
1991	63.08	29.63	4.63	6.66	5.57	8

Review of urban development policies and programmes in the seventh 1991-92

f

13.10 Thrust of Urban Development Policy

The Seventh Plan asserted that planning of urban development should essentially be supportive of the economic development in the country. It urged making use of industrial location policy to

subserve regional and urban planning and suggested that a concerted effort should be made to channelise private industrial investment in the vicinity of small and medium towns to check migration of population to the metro- polises. The identification of regional urban systems was suggested on the basis of regional characteristics and needs and functions of each town in its regional context. More explicitly, the needs of the poor were to be taken into account in all physical planning exercises.

The following were identified as the major constituents of a compre- hensive plan for urban development:

- (i) Planned and integrated development of small and medium towns and cities along with slowing down of growth of the big metropolises;
- (ii) Revitalisation of civic bodies;
- (iii) Thorough reforms of municipal tax systems and municipal adminis- tration in general;
- (iv) Concentration on the improvement of slums and the provision of basic municipal services;
- (v) Working out measures for regular revolution of funds from State Governments; and
- (vi) Establishment of the necessary institutional framework for chan- neling capital funds for the improvement of urban infrastructure.

Programmes in the Seventh Five Year Plan

13.11 The Plan emphasised the following major programmes:-

(a) Environmental Improvement of Urban Slums (EIUS) Scheme has been in operation in the State sector since 1974. The scheme benefited about 10 million slum dwellers during the Seventh Plan and another 3.3 million during the Annual Plan (1990-91 and 1991-92).

353

(b) A Centrally Sponsored Scheme known as Urban Basic Services was introduced in 1986, with the primary objective of enhancing the sur- vival and development of women and children of urban low income fami- lies. During 1990-91, the scheme was revised to bring about functional integration with EIUS and came to be known as Urban Basic Services for the Poor (UBSP) with 100% Central funding.

(c) Scheme for Integrated Development of Small & Medium Towns (IDSMT) to provide complementary infrastructural support of critical signifi- cance was continued. During the Seventh Plan period 145 addition towns were covered.

(d) Development of National Capital Region around Delhi was aimed at providing infrastructural support to priority towns and the region as a whole.

(e) In the State sector, provisions were made for infrastructure facil- ities civic amenities, and development of State capital projects.

(f) The Nehru Yojana was launched in October, 1989.

It is targeted towards persons living below the poverty line in urban areas. It has three components

viz. Micro-enterprises, Wage employment and Shelter Upgradation.

13.12 A significant source of funding in the urban development sector during Seventh Plan and the Annual Plans 1990-91, 1991-92 was external assistance. Total utilisation of external aid in 1990-91 alone was approximately Rs. 280 corers.

◆ An overview of Plan outlay in the Urban Development sector

13.13 Tables 5 and 6 indicate the approved outlays for Urban Development during the Seventh Plan and the Annual Plans, 1990-91 and 1991-92 for States and the Central Sector. Major features of the Plan outlay are summarised below:-

a) In financial terms the Annual Plans 1990-91 and 1991-92 showed a marked increase over the average expenditure per annum during the Seventh Plan, primarily due to introduction of NRY in 1989. However, the Annual Plan outlay in the central sector showed a decline in 1991-92.

b) EIUS continued to be the most significant programme in the urban sector with Seventh Plan outlay of Rs. 65.3 corers and Rs. 63.4 corers in 1990-91 and 1991-92 respectively.

354

Table - 5
Approved Outlays - Urban Development
State - Sector

Lakhs)

STATES	1985-90 Seventh Five Year Plan	1990-91	1991-92
1		2	3
			4
1 Andhra Pradesh		9000	3757
2 Arunachal Pradesh		50	20
3 Assam		1200	363
4 Bihar		1900	1580
5 Goa		665	144
6 Gujarat		13105	2295
7 Himachal Pradesh		925	435
9 Jammu & Kashmir		3907	6791
10 Karnataka		3000	1429
11 Kerala		2500	529
12 Madhya Pradesh		7760	2826
13 Maharashtra		16000	3600
14 Manipur		755	540
15 Maghalaya		500	260
16 Mizoram		550	300
17 Nagaland		800	360
18 Orissa		650	1650
19 Punjab		4075	4472
20 Rajashthan		2371	815
21 Sikkim		150	90

22 Tamil Nadu	16000	4296	4916
23 Tripura	700	327	350
24 Uttar Pradesh	24700	8350	6810
25 West Bengal	23220	8079	9360
Total - (States)	136483	53580	64002

UNION TERRITORIES

26 A & N Island	300	123	155
27 Chandigarh	6113	1550	1970.61
28 D & N Haveli	7	2	6.6
29 Daman & Diu	-	35.2	15
30 Delhi	19770	10925	11000
31 Lakshdweep	0	25.1	3.5
32 Pondicherry	655	184	224
Total - (UTs)	26845	12844.3	13374.71
Total - (States & UTs)	163328	66424.3	77376.71

355

Table - 6

Approved outlays on urban development: Central Sector

(Rs. in l

St. No.	Name of Scheme	Seventh Plan		
		1985-90	1990-91	1991-92
1	2	3	4	5

URBAN DEVELOPMENT

1. I.D.S.M.T.	8800	2500	1500
2. Equity Support to HUDCO (Infrastructure)	3500	200	450
3. Contribution to NCR Planning Board	3500	1000	1400
4. Research & Training in Urban & Regional Planning	200	-	40
5. Development of Displaced Persons	150	32	10
6. Urban Basic Services	500	2500	2300
7. Urban Transport Consortium Fund	-	200	500
8. Nehru Rozgar Yojana*	-	12000	11300
9. Scheme for Educated Employment Generation in Urban Localities	-	-	200
10. Grants to urban local Bodies	-	-	200

throw

HUDCO/LD&UWS Financing Corporation

11. Removal & Collection of cattle in	150	-	-
Calcutta			
Total	16800	13432	17900

* Nehru Rozgar Yojana was started in 1989-90 and funds released in 1990-91.

Emerging Issues

13.14 The review of urban policy framework in historical perspective indicates that until the Sixth Five Year Plan (1980-85), the urban policies mainly addressed problems like housing, slum clearance, slum improvement and upgradation, preparation of Master Plans, development of small and medium towns, strengthening of municipal civic administration etc. The Seventh Plan made a new beginning by explicitly recognising the problems of urban poor which were seen to be linked with creation of employment opportunities. It is now being recognised that urban policies can directly contribute to achieve the goals poverty reduction and removal of unemployment and under-employment. During the last decade, the growth rate of employment in the urban areas averaged around 3.3% per annum, while the employment growth rate in the rural areas dropped to about 1.6 per cent for males.

13.15 Thus, urban areas have to be enabled to absorb larger increments to the labour force. Further, promotion of non-agricultural activities, upgradation of skills and infrastructure development of smaller towns will need added impetus.

13.16 The most glaring problem has been the high incidence of marginal employment and urban poverty. It is estimated on the basis of NSS 43rd round (1987-88 data) that 41.8 - million people are below the poverty-line. It is recognised that the incidence of marginal and low income employment is mostly in the informal sector, which accounts for large share of total employment in metropolitan cities. What is needed is upgradation of informal sector occupations and their integration with the urban economy at large.

13.17 The gap between the demand and supply of infrastructural services has been continuously widening. Increasing pressure of population, particularly the skewedness of distribution of urban population in large cities and metros and escalating per capita cost of providing urban services account for deterioration of infrastructure services and amenities. The worst sufferers are the poor, whose access to the basic services like drinking water, sanitation,

356

education and basic health services is shrinking.

13.18 Unabated growth of urban population has made the problems of urban housing more severe. The accumulated backlog in the urban housing along with the housing needs for the additions to the urban population has aggravated the problem further, resulting in proliferation of slums and squatter settlements and decay of city environment.

13.19 Fast growth of urban population, spread of urban areas and spurt in secondary and tertiary activities have led to urban transport problems like severe traffic congestions, slowing down of vehicular movement, high air and noise pollution, longer journey hours, increasing costs of travel etc. Urban transport is an important service sector and plays a crucial role in the development of the urban economy and the time has come to take stock of the urban transport scenario.

13.20 In the context of the growing demand for urban services, the rationalisation and the augmentation of revenue system have not made commensurate progress resulting in increasing dependence of urban local bodies (ULB) on the financial assistance from the States and Central Government. Own revenues of the local bodies are not adequate even to meet operation and maintenance expenditure. In the case of the of smaller ULB's, the weak financial position is also combined with lack of organisational and technical capabilities.

13.21 The weak financial and organisational base of ULB's has, in turn, led to highly subsidised and inequitable supply of various urban services with critical dependence on State grants.

13.22 Much of the ills of urban housing and resource mobilisation in larger urban areas can be perhaps attributed to the problems inherent in the urban land market. While urban development programmes have to depend largely on a well coordinated land development programme, the existing legal and administrative machinery has impeded supply and development of serviced land. Also, very little efforts have been made to mop up the large appreciation in values of real estates particularly in metropolitan cities.

13.23 The role of ULBs has weakened progressively over the last two or three decades. In recent years, some of the functions performed earlier by the ULBs have been transferred to State level bodies, including Urban Development Authority and Functional Bodies. This process needs to be reversed so as to foster stronger and more responsive local governments, reflecting local initiatives, perceptions and priorities.

13.24 A corollary to the above process is exploration of avenues through which private initiatives can find a greater role in urban development programme. The role of private sector needs to be expanded. The extent and the manner in which private developers can contribute to urban renewal and squatter settlements and peripheral areas in metropolitan regions (including residential and trunk infrastructure development) needs assessment.

13.25 Attention needs to be focussed not only on the growing challenges of urbanisation but on the relationship between urban and rural development. The rapid transformation in the country's urban scenario must be taken into account and provided for, in order that urban growth becomes compatible with healthy socio-economic development of the nation. It will be necessary to take note of the prevailing dichotomy in rural and urban development and evolve a mechanism for bringing about rural-urban cohesion in the management of growth. This can be achieved through the process of spatial planning, which is an integrating concept that makes it possible to achieve the composite development of human settlements while stimulating economic growth. Spatial development plans would need to be prepared keeping in view the "growth centre" concept. This will provide a framework for identification of "growth centres" and "lower order centres" where investments could be attracted, depending upon their infrastructure level and growth potential.

The Perspective

13.26 Population projections made by the Expert Committee, indicate doubling of India's urban population in two decades i.e. 1981-2001. Growth rate of labour force in urban areas is expected to be even higher. However, the 1991 census recorded significantly lower urban population than that projected. Yet, it may not be prudent to be guided by this transitory trend. Population projections, have been made on the basis of a longer term trend of annual growth of urban population with base

year population corrected on the basis of 1991 census. Estimates worked out are presented in Table-6. The overall level of urbanisation by the turn of the century is likely to be less

357

than that projected earlier, but absolute addition will still be quite large (148 million during two decades). Moreover, a higher share of population in "million plus" cities imply proportionately higher burden of demand for urban services and also higher per capita cost in real terms.

Table-6

Urban population projection - 1991-2001

year	Total Urban Population (in million)		% Urban population	% share of million p cities to populatio	
	(A)	(B)		(A)	(B)
	Committee Now of Experts Projected				
1991	235	217	27.5	25.7	3
1997	-	267	-	28.3	-
2001	332	307	33.0	30.5	3

Figures in the bracket indicate Number of million plus cities.

Thrust areas in the eighth five year plan

13.27 In the light of experiences gained during the Seventh Plan and the two Annual Plans and also taking into consideration the emerging issues and perspective as indicated above and as elaborated in the Report of National Commission on Urbanisation (1988), the thrust areas for the Eighth Plan will consist mainly of more effective implementation of the strategies adopted during the Seventh Plan and partly in formulation of new strategies. The overall Seventh Plan strategy of urbanisation being supportive of economic development with appropriate location of industry and other employment generating activities will be continued. The programmes for the urban poor and for the small and medium towns will have the same focus, but the content and manner of implementation of these programmes will be made more comprehensive and compatible with the overall strategy at the State level. Resource mobilisation and programmes aimed at strengthening of institutions will be given a concrete shape. The distinctive features of the Plan are as follows:-

i) Spatial and economic dimension of planning for the urban sector needs to be consolidated and operationalised.

ii) Convergence of all related programmes to create the desired impact in small and medium towns beyond the threshold level is necessary.

iii) The key to success of urban development strategy lies in taking measures-legal, financial and organisational -- for enhanced and equitable supply of urban land.

iv) Private and public sectors have to act in tandem of urban infra- structure and housing, Innovations in funding pattern and role of private developers in specific areas need to be explored.

v) In view of the deteriorating environmental conditions caused by both natural and man-made factors, the conventional city plans should be modified to incorporate the measures needed for restoration of healthy environment.

vi) Programmes to deal with the problem of urban poverty should be developed in integrated manner emphasising both employment generation and access to basic services involving community level organisations.

13.28 Specific thrust areas of Eighth Five Year Plan

358

(a) Macro strategy for urban development with explicit recognition of rural-urban linkages has to be evolved. In particular, the benefits of accelerated pace of agricultural development should be taken advantage of through appropriate utilisation of backward and forward linkages. This, together with appropriate location policy for development of industry and other major employment generating non-agricultural activities, can provide an effective avenue for absorption of surplus rural labour force.

(b) As a corollary to the above macro level strategy, an integrated plan of hierarchy of rural and urban settlements needs to be evolved. This will imply introducing explicit spatial dimension.

(c) Particular emphasis will be placed on the development of small and medium (S&M) towns which serve as an important link between the village and the large cities. In order to realise the objective of more balanced distribution of urban growth both in terms of its distribution over space and also by size class of urban areas, the small and medium towns have to act as important centres of attraction, in terms of economic opportunities, to the potential migrants not only from villages but also from urban areas to large cities. To operationalise this planning approach, the integration of this strategy for development of small and medium towns in a spatial context with the existing district planning process may be attempted. The concept of GEMS as identified by the National Commission on Urbanisation will be kept in view for this purpose.

(d) The programme implementation approach has accordingly to undergo a change from the present practice of implementing urban development programme in an ad-hoc and isolated manner. Not only the physical infrastructure but also the economic infrastructure should form part of urban development programme. The policy of locating industries in rural areas only at a short distance away from the metropolitan or large cities is only symbolic of dispersal policy. Instead, it will be worthwhile to locate industries in small and medium urban centres having the desired impact on decentralisation of urban growth. It would also be necessary to plan for more efficient land use and economic regeneration of old city areas in the metro region in keeping with the new Industrial Location Policy which aims at more flexible approach to location of industries in the metro region. Similarly, the programmes of the Ministries of Agriculture, Rural Development and Telecommunication need to be oriented to small towns which primarily serve as Rural Service Centres.

(e) In order to achieve better co-ordination of various related programmes within the Ministry of Urban Development, the programme of IDSMT, housing and infrastructural development programmes of JUDCO, and also employment generation scheme under NRY can be suitably inte-

grated. Identification of towns and cities should be made on a selective and priority basis and the investment plan properly coordinated and placed above the threshold level to have the desired impact. Prioritization should be done in the first instance, with regard to primary economic functions (eg. rural growth centres, service towns, tourist towns, industrial towns, etc.) and later integrated with service level deficiency in the urban areas.

(f) Increasing reliance on institutional finance which needs to be dovetailed to an overall plan of infrastructure support in the urban areas is necessary.

(g) With regard to the problem of urban poverty and unemployment, the NRY can be made more effective by identification of potential and more appropriate activities, and by suitable organisation at the district/local level and people's participation.

(h) With regard to the access of the urban poor to basic services like water supply, sanitation, health and education, a combined package of UBSP and EIUS may provide effective means of overcoming the problems.

(i) Resource mobilisation measures of the metropolitan Governments, including rationalisation of existing tax and non-tax resources, and the need for devolution of funds from the State to the Local Government need an urgent plan of action.

(j) Legal bottlenecks (for example, Urban Land Ceiling and Regulation, Transfer of Property, Land Acquisition and Rent Control Acts) need to be removed. This aspect has been examined in detail by the National Commission on Urbanisation and also incorporated in the draft National Housing Policy. A time bound action to effect necessary amendments to these Acts is now called for. Rationalisation of regulatory framework is also necessary as a

359

complementary measure.

(k) A decentralised framework of urban Government with necessary participation of local communities and opinion leader in planning, implementation and monitoring of urban development programmes is another prerequisite for the success of urban development strategy. In addition to the enactment of the Nagar Palika Bill, which is a necessary but not a sufficient condition for efficient urban development, other normal management improvement schemes, including national and local level training programmes and delegation of administrative functions and responsibilities, will help the process. In case of large city government, shift from one centralised authority to a system of smaller area-based committees may be more effective in delivery of urban services.

(l) In view of the large size and the complexity of urban development programmes, institutional support and delivery systems at town and area level (for large cities) need to be developed in the immediate future.

(m) It is necessary to examine the feasibility of developing appropriate specialised organisations at the Centre and State level to deal with financing and development of urban infrastructure.

Major plan programmes in the eighth five year plan

13.29 Given the above thrust areas of the Eighth Plan, the Plan programmes, covering both the State and the Central sectors have been worked out in detail. While most of the programmes are extension of those of the Seventh Plan and 1990-91/91-92 Annual plans, the content, physical coverage and funding pattern have been revised in most cases in accordance with the thrust areas of

Eighth Plan. The major/priority programmes are discussed in detail in the subsequent sections:

◆ Integrated Development of Small and Medium Towns

13.30 The Integrated Development of Small and Medium Towns (IDSMT) scheme was initiated by the Govt. in 1979-80 with a view to reducing the migration of population from rural areas to large cities, to generate employment by creating resource generating ventures in the small and medium towns and also to provide sufficient infrastructure facilities in these towns. The scheme provided for central assistance on matching (50:50) basis with a ceiling of Rs. 40.00 lakhs, which assumed the form of a loan repayable in 25 years. Until March 31, 1991 a total of 457 towns had been covered under the scheme for which the loan assistance released was Rs. 162.73 corers.

13.31 the scheme has broadly served its objective, but it has not had the desired impact on the hinterland. Delays in land acquisition and development and inadequate counterpart funding by the States/UTs have been identified as major bottlenecks in the scheme.

13.32 Therefore, the Eighth Five Year Plan envisages a fresh approach to the development of the towns, dovetailing the activities under the employment generation programmes into the supportive infrastructure development programme with a view to:-

- i) generating employment opportunities to reduce the rural-urban and urban-urban migration;
- ii) developing growth centres for the betterment of rural hinterland adopting a regional approach;
- iii) providing infrastructural facilities to support such employment generation activities; and
- iv) evolving resource generating schemes for local bodies for the purpose of proper operation and maintenance of the infrastructural facilities so created. The IDSMT scheme is intended to cover objectives (ii), (iii) & (iv) and objective (i) forms part of large framework of employment generation.

13.33 To overcome the financial constraints inherent in the original IDSMT, the reformulated approach envisages that the scheme should not depend solely on budgetary finance but should seek support from institutional finance. The budgetary provisions should be used mainly for the provision of seed capital to the State Corporation/local bodies for generation of funds and for critical infrastructure which does not have any direct return.

360

13.34 The coverage of the scheme will be in towns with population between 20,000 to 3 lakhs as follows:

Population	Categories
20,000 -	50,000 A
50,000 -	1,00,000 B
1,00,000-	3,00,000 C
Less than	20,000 X

The guidelines for the scheme indicate the criteria and the order of priorities for selection of towns. The actual selection of the towns is, however, being left to the State Governments.

13.35 The scheme will make the towns with a population of 20,000 to 50,000 the prime target, while the inclusion of towns in 50,000 to 3,00,000 category and less than 20,000 category will be on a selective basis.

13.36 The schemes eligible for central assistance will depend on the category as well as special characteristics of the town. Central assistance will be available in general for the following activities:

- i) Strengthening of link road facilities;
- ii) Provision of bus terminals;
- iii) Development of market yards;
- iv) Industrial sheds;
- v) Water supply;
- vi) Construction/upgradation of road and side drains;
- vii) Development of Shopping Centres;
- viii) Provision of tourist facilities; and
- ix) Localised drainage works.

Land acquisition and development have been a bottleneck. The modified scheme seeks to tackle this problem by excluding payment of land acquisition cost from the Central share and by stipulating that land for the scheme is to be made available within a year of approval. Access to institutional funds need not be limited to local bodies and urban development authorities. Moreover, the borrowers are expected to adopt a basket type approach so that the expenses incurred on the non- remunerative side and for the weaker sections are made up through adequate returns from the remunerative components. The projects under the scheme will have to be comprehensive covering all facets of development including social service and amenities, and be based on the long term Master Plan/Development Plan of the town within its district or regional context.

Financing Patter

A summary of the financing pattern is presented in the following table:

(Rs. in lakhs)					
Category	Maximum project Cost Permissible	Central Assistance (loans)	State share	HUDCO other	1. s
A	200	72	48		8
B	500	120	80		3

C	1000	180	120	7
X	100	36	24	4





◆ WELFARE AND DEVELOPMENT OF SCHEDULED CASTES AND SCHEDULED TRIBES

◆ Background

16.1.1. In 1981, India had 105 million people belonging to Scheduled Castes, which constituted 15.75 per cent of the total population of the country. To this number should be added about 4.1 million neo-Bud- dhists specified as Scheduled Castes during 1990. The projected figure for 1991, assuming the same decadal increase as for the general popu- lation, would be 134.74 million. More than twenty per cent of the population in Punjab (26.87 per cent), Himachal Pradesh (24.62 per cent), West Bengal (21.99 per cent) and Uttar Pradesh (21.16 per cent) belonged to the Scheduled Castes. Eight states, viz., Uttar Pradesh, West Bengal, Bihar, Tamil Nadu, Andhra Pradesh, Madhya Pradesh, Rajas- than and Karnataka accounted for 77.5 per cent of the total Scheduled Caste population of the country in 1981.

16.1.2. The population of Scheduled Tribes was 53.8 million in 1981, constituting 7.8 per cent of the total population of the country. In Jammu & Kashmir, Scheduled Tribes were notified in October, 1989, their estimated population being about 0.8 ;million. The projected figure for 1991, assuming the same decadel increase as for the general population, would be 67.4 million. Majority of the population of Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Dadra and nagar Haveli and Lakshadweep are tribales. Madhya Pradesh (11.99 m), Orissa (5.92 m) and Bihar (5.81 m) accounted for about 46 per cent of the total tribal population of the country in 1981.

16.1.3. A number of Constitutional provisions exist for protection and promotion of the interests of these weaker sections. In conformity with the Directive Principles of State Policy, social justice has been an avowed goal of development. During the four decades of planning, a variety of programmes were launched with the objective of improving the socio-economic condition of Scheduled Castes and Scheduled Tribes. These measures have, no doubt, yielded results but not commensurate with the efforts or the needs of the target groups.

16.1.4. A specific sector of Backward Classes was included from the First Plan to cater to the special needs of Scheduled Castes/Scheduled Tribes/Other Backward Classes. It was visualised that the general development programmes should be so designed as to take care of the needs of Backward Classes as well and the special provisions in the Backward Classes Sector would be additive, to be used, as far as possible, for meeting the special developmental needs of these groups. Unfortunately, this expectation was belied in most cases and the Backward Classes Sector provisions, instead of supplementing the general sectors of development, tended to supplant the general sector provisions. It was, in this context, that the concept of Tribal Sub- Plan was introduced during the Fifth Plan a nd Special Component Plan for Scheduled Castes during the Sixth Plan to facilitate monitoring of development programmes for the benefit of Scheduled Castes and Sched- uled Tribes.

◆ Review of Seventh Plan and 1990 - 92 Plans

16.2. In the Seventh Plan, Special Component Plans for Scheduled Castes, Tribal Sub-Plans for

Scheduled Tribes and specific schemes for the welfare and development of Scheduled Castes and Scheduled Tribes were implemented. At the end of the Plan, the Tribal Sub-Plan strategy was being implemented through 191 Integrated Tribal Development projects, 268 pockets of tribal concentration (Modified Area Development Approach - MADA), 74 clusters and 74 primitive tribal group projects. There was substantial increase in the flow of funds for the development of Scheduled Castes and Scheduled Tribes, resulting in expansion of infrastructural facilities and enlargement of coverage. There was limited involvement of Scheduled Castes/ Scheduled Tribes in the formulation and execution of programmes resulting in non-adaptability of schemes/policies to cater to their specific needs.

16.3. Emphasis was given in the Seventh Plan to the educational development of Scheduled Castes and Scheduled Tribes. Pre-matric stipends and scholarships were given by the State Governments to 190 lakh Scheduled Caste/Scheduled Tribe/Other Backward Class students. Other educational incentives included free supply of uniform, stationery and text-books to about 100 lakh students. Post-matric scholarships were given to about 15 lakh Scheduled Caste and Scheduled Tribe students in 1991-92 as against 9.76 lakh scholarships in 1985-86 and only 1.56 lakh scholarships in 1968-69. These scholarships were given for study of post-matriculation/post secondary courses of

421

study in arts, science, commerce, as well as professional and technical degree/diploma and certificate courses on the basis of a graded means test. For Scheduled Caste and Scheduled Tribe students studying in medical and engineering colleges, a scheme of book banks was started in 1978-79 which benefited about 21,000 students in 1990-91. Hostel facilities for Scheduled Caste and Scheduled Tribe students were considerably expanded.

16.4. For the economic development of Scheduled Castes and Scheduled Tribes, two national level institutions were set up: (i) Tribal Cooperative Marketing Development Federation in 1987 as an apex body for State Tribal Development Cooperative Corporations; and (ii) National Scheduled Castes and Scheduled Tribes Finance and Development Corporation, primarily to act as a catalytic agent in developing schemes for employment generation and financing pilot projects. The Scheduled Caste and the Scheduled Tribe Development Corporations in the States continued to provide economic assistance for self-employment projects. Economic assistance was given to 118.82 (Lakh Scheduled Caste families and 52.76 lakh Scheduled Tribe families under various programmes including IRDP. Margin money loan was disbursed to 22.56 lakh Scheduled Caste families through 24 State Scheduled Caste Development Corporations.

16.5. Special consideration was accorded to Scheduled Caste and Scheduled Tribe families in the Integrated Rural Development Programme (IRDP), the most important poverty alleviation programme in the country. The target of coverage of Scheduled Caste/Tribe beneficiaries in the Seventh Plan was 30 per cent of the total number of beneficiaries. However, the actual coverage was 32.05 per cent in the case of Scheduled Castes and 13.04 per cent in the case of Scheduled Tribe beneficiaries. A target of 50 per cent has been fixed for Scheduled Caste and Scheduled Tribe beneficiaries with effect from April 1990. Since 1990-91, Scheduled Caste beneficiaries are being treated at par with Scheduled Tribe beneficiaries for subsidy purposes, both getting 50 per cent subsidy subject upto a ceiling of Rs.5000. Prior to 1990-91, the subsidy admissible to Scheduled Caste families was only 33 1/3 percent. In the wage employment programme of Jawahar Rozgar Yojana, preference is given to Scheduled Castes/Scheduled Tribes and freed bonded labourers. It has also been provided that at the village panchayat level, 15 per cent of the annual allocation must be spent on items of work which directly benefit the Scheduled Castes and the Scheduled Tribes. Diversion of funds meant for Scheduled Castes and Scheduled Tribes is not permitted.

16.6 To enhance the competitive ability of Scheduled Caste and Scheduled Tribe students, about 8,000 seats were created in 101 pre-examination training centres where coaching was given to

candidates appearing in competitive examinations for entry into public services. The Scheduled Caste and Scheduled Tribe Candidates have been able to increase their representation in Central Government Services and Public Sector Undertakings over the years, as seen from the Table 1 below, due mainly to implementation of reservation policy coupled with educational and coaching facilities.

Table -1

Percentage of Scheduled Caste/Scheduled Tribe representation in Central Government Services

Category	Scheduled Castes		Scheduled Tribes	
	1.1.71	1.1.91	1.1.71	1.1.91
Class I	2.58	9.09	0.41	2.53
Class II	4.06	11.82	0.43	2.35
Class III	9.59	15.65	1.70	4.98
Class IV (excluding Sweepers)	18.37	21.24	3.65	6.82

422

Percentage of Scheduled Caste/Scheduled Tribe representation in Public Sector Undertakings

Category	Scheduled Castes		Scheduled Tribes
	1971	1989	1971
Class I	0.52	5.76	0.17
Class II	1.54	8.41	0.16
All categories	8.17	20.36	2.24

(Separately for Cl.III & IV not available)

16.7.1. For elimination of scavenging, about 10 lakh service latrines in 490 towns in 19 States were taken up for conversion into pour flush latrines. Reports indicate that by the end of the Seventh Plan, 9.63 lakh dry latrines were converted, 14,529 scavengers rehabilitated and scavenging was eliminated from 40 towns.

16.7.2. The Protection of Civil Rights Act, 1955 and the Scheduled Castes and the Scheduled Tribes

(Prevention of Atrocities) Act, 1989 are the two important legislations to deal with untouchability offences and check commission of crimes on Scheduled Castes and Scheduled Tribes. Fiftyseven special courts for trial of offences under the Protection of Civil Rights Act have been set up in eight States. Similarly, for implementation of the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act, State Governments and Union Territory Administrations have specified existing District and Sessions Courts as special courts for trial of offences under this Act. Exclusive special courts have also been set up in Rajasthan and Andhra Pradesh. Monetary relief and rehabilitation assistance were given to the victims of atrocities. Schemes to encourage inter-caste marriages and legal aid were implemented. Programmes were developed through the media, both formal and non-formal, against the evil practice of untouchability.

16.8. Details of outlays and expenditure for Special Component Plan/Tribal Sub-Plan and Backward Classes Sector during the Seventh Plan are given in Table 2.

423

Table - 2

(Rs. in crores)

		Seventh Plan	
Sl. No.	Item	Outlay	Expenditure
A.	Scheduled Castes		
1.	Flow from States Plan to SCP*	7388.76	7081.67
2.	Special Central Assistance	930.00	876.00
B.	Scheduled Tribes		
1.	Flow from States Plan to TSP*	6216.76	7076.81
2.	Special Central Assistance	756.00	858.55
C.	Backward Classes Sector SCs/STs/OBCs		
1.	Centre/CSS	281.22	378.24@
2.	States Sector	1239.33	1438.06

* include outlay/expnd. under backward classes sector

@ excluding share capital contribution of Rs. 50 crores to National Scheduled Caste and Scheduled Tribe Finance and Development Corporation.

◆ Current Status

16.9. A very large number of Scheduled Castes and Scheduled Tribes continue to be socially and educationally backward and are languishing at the bottom of the social and economic pyramid. In rural areas, in 1987-88, the percentage of Scheduled Caste population below the poverty line was 44.7 and of Scheduled Tribe population 52.6, as compared to the All-India percentage of 33.4. The comparative picture in the incidence of poverty during the period 1977-78 to 1987-88 is given below:

424

Table - 3

(In percentage)

Year	Total Population	Sch. Castes	Sch. Tribes
1977-78	51.2	64.6	72.4
1983-84	40.4	53.1	58.4
1987-88	33.4	44.7	52.6

16.10. Thus, while there has been a reduction in the percentage of population below the poverty line in the case of both Scheduled Castes and Scheduled Tribes, the incidence of poverty is still very high. Most of the Scheduled Caste and Scheduled Tribe families do not own land or other productive assets. They constitute bulk of agricultural landless workers, construction workers and workers in the unorganised sector. They suffer from long periods of unemployment and under-employment. They are also handicapped due to non-enforcement of protective laws such as the Minimum Wages Act and Prevention of Land Alienation Acts. Inequality and exploitation of Scheduled Castes and Scheduled Tribes, particularly in the rural areas, whether in the form of bonded labour or in the other forms, both latent and manifest, still continue. Poverty, ignorance, lack of options in employment opportunities and non-existence of organisations which can fight for their rights, facilitate the continuance of age old exploitation. Scheduled Caste and Scheduled Tribe families have often not been able to derive the full benefit of development programmes. Wrong identification of beneficiaries, poor selection of projects, unrealistic and simplistic assumptions in regard to their viability, administrative costs, and leakages have been other problems which have been further compounded by a largely unresponsive administrative structure.

16.11. Dwindling resource base of the tribal people in the shape of loss of land, restriction on access to forest produce, and lack of opportunities for reasonable wage employment and usurious money lending have caused hardships to tribal people. Consequently, development inputs for the benefit of these people have had little impact. Significantly, development processes have interfered in many cases with traditional tribal institutional structure and ethos and have produced negative results. These were the contributory factors for dissatisfaction amongst tribal people and simmering unrest in some tribal areas.

16.12. The literacy rate amongst Scheduled Castes and Scheduled Tribes has no doubt increased over the years but the levels are still very low. The gap in literacy between Scheduled Castes, Scheduled Tribes and the rest of the population has been increasing, as is evident from the following data:

Table - 4

All India literacy rate of Scheduled Castes and Scheduled Tribes

Year	Sched- uled Castes	Sched- uled Tribes	Rest of the popula- tion	Gap between rest of the population and	
				Scheduled Castes	Scheduled Tribes
1961	10.27	8.53	27.86	17.59	19.33
1971	14.67	11.30	33.80	19.13	22.50
1981	21.38	16.35	41.22	19.84	24.87

425

16.13. Variation in literacy rates among the different castes and the different tribes is also fairly pronounced. Among certain Scheduled Caste and Scheduled Tribe communities, the percentage of literacy in 1981 was below five per cent. There is also wide inter-State variation in literacy levels of Scheduled Castes and Scheduled Tribes. For instance, in the case of Scheduled Castes, Kerala, according to the 1981 Census, had a literacy rate of 55.96 per cent, while Bihar had only 10.40 per cent. Likewise, in the case of Scheduled Tribes, Manipur had a literacy rate of 39.74 per cent while Andhra Pradesh had only 7.82 per cent. Among females, in both the categories, literacy rate is very low. In the case of Scheduled Castes it was 10.93 per cent and for Scheduled Tribes 8.04 per cent, in 1981.

16.14. A large number of Scheduled Caste and Scheduled Tribe children discontinue their studies prematurely before completing the level for which they were enrolled. The dropout rate in 1986-87 for classes I-V was 50.79 in the case of Scheduled Castes, and 66.12 in the case of Scheduled Tribes. In classes I to VIII, the dropout rates were as high as 69.15 per cent and 80.19 per cent respectively.

16.15. Untouchability stands abolished by virtue of Article 17 of the Constitution and its practice in any form is punishable. But social discrimination against Scheduled Castes still lingers in many parts of the country. It is a matter of concern that in spite of legal measures in the form of Protection of Civil Rights Act 1955, and the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989, 76,478 cases of atrocities against persons belonging to Scheduled Castes and 17,101 cases against Scheduled Tribes were reported between 1986 and 1990. Of these, 3,328 cases were of murder, 5,339 of rape and 4,325 of arson.

16.16. The development process in many tribal areas, instead of providing succour, has been instrumental in causing numerous disadvantages, prominent among them being displacement and loss of land, the tribal's main resource base. Notwithstanding the fact that the State Governments have enacted laws/regulations to control/prohibit transfer of land to non-tribals, land alienation still continues.



◆ SPECIAL AREA DEVELOPMENT PROGRAMM

◆ I. Hill Areas Development Programme (HADP):

◆ Problems of Hill Areas:

17.1 The crucial environmental problems of the hills are deforestation and soil erosion, both leading to the drying up of water sources, flash floods, decline in the yield of food and cash crops, fodder, fuel and other minor forest produce. Poverty in the hills is directly related to shortages of materials for basic subsistence, specially where, under the traditional land and water management systems, the capacity of land to support the population has already exceeded.

17.2 In may hill areas, intensive human and livestock pressures along with indiscriminate felling of trees fro commercial purposes have already led to loss of soil and rapid depletion and destruction of forest cover. In addition to this, water retention capacity and productivity of land have been adversely affected. These factors have impaired the ecology significantly, resulting in difficult economic condition fr the hill people. Traditional agricultural practices, especially shifting cultivation, have also contributed to the destruc- tion of forests and soil erosion. Seemingly harmless activity as prolonged grazing by livestock, especially goats and sheep, have further exposed many hill areas to serious ecological degradation. Development activities hke construction of buildings, roads, dams, large and medium industries and mining etc., have aggravated environ- mental problems.

17.3 Consequently, perennial sources of water and small streams have dried up in many areas. Therefore, the major challenge is to devise suitable location-specific solution, so as to reverse the process and ensure sustainable development of the growing population and ecology of the hill areas.

17.4 The responsibility for balanced social and economic development of the hill areas rests primarily with the concerned State Governments.

17.5 The hill areas covered under the HADP were the areas identified in 1965 by a Committee of the National Development Council (NDC) and those recommended by the High Level Committee for WEstern Ghats in 1972. The HADP would continue to be implemented during the Eighth Plan, only in those areas where it is already under operation. The Hill Areas are broadly classified as follows:

(i) Special Category States: These are Jammu & Kashmir; Himachal Pradesh; Sikkim; Manipur; Meghalaya; Nagaland; Tripura; Arunachal Pradesh; Mizoram; and Assam. These are by and large hilly and self-contained politico-administrative entities and have their own State Plans to take care of their special economic, social and environmental needs. These States receive Central financial assistance on 90% grant and 10% loan basis, as compared to 30% grant and 70% loan to the general category SStates. prior to 1991-92, Jammu & Kashmir and Assam received Central financial assistance on 30 per cent grant and 70 per cent loan basis.

(ii) The Designated Hill Areas,(DHA):

Special central financial assistance is given for these areas to supplement the resources of the concerned States. The Designated Hill Areas are of two categories: (a) Districts and (b) Talukas. In

the first category are two Districts of Assam, one of Tamil Nadu, eight of Uttar Pradesh, and one of West Bengal. Special Central financial assistance and the funds allocated by the concerned State Governments for the hill Districts of the State (excepting the Nilgiris District of Tamil Nadu where SCA is directed towards special schemes) are pooled for formulating suitable sub-plans of the hill areas with focus on the HADP objectives. In the second category are 163 Talukas in the Western Ghats Region in five States, i.e., Maharashtra; Kerala; Karnataka; Tamil Nadu and Goa. For want of separate flow of State resources at the Taluka level, SCA is mostly used for schemes relating to conservation of soil and water, afforestation, horticultural development and the like schemes.

431

17.6 During the Eighth Plan, efforts will be made to extend the sub-plan approach to as many Talukas of the Western Ghats designated Talukas and the Nilgiris District, as feasible.

17.7 The area and population of the States, the Districts and the Talukas covered under the HADP, are detailed in Table 17.1

Review and Adjustment of HADP

17.8 Although the HADP made a beginning during the Fifth Plan, it evolved to the present state only during the Seventh Plan. Initially, the programme was beneficiary-oriented. In the Sixth Plan ecological development was emphasised but the general tenor did not differ significantly from the sectoral approach in State Plan. Emphasis on eco-restoration, eco-preservation and eco-development was not adequate. During the Seventh Plan, harmonious social and economic growth, and development of infrastructure, reconstruction of ecology were emphasised.

17.9 The general approach to the development of the Western Ghats areas during the Seventh Plan was integrated development on compact watershed basis, where activities like water and soil conservation, agriculture, minor irrigation, horticulture, pasture development and afforestation, etc., were taken.

17.10 During the last three Five Year Plans, substantial effort and resources were channelled for the development of infrastructure. However, corresponding growth in the productive sectors of most of the hill economies has not kept pace. During the Eighth Plan, attention will have to be focussed on this, especially, in modernising the agricultural practices and small scale industries at household, cottage and village levels. To achieve this, involvement of the people, would be of paramount importance. Actual basic needs of the people have to be met through improved management of their land and water resources.

Objective

17.11 Socio-economic development of the hills has to take place in harmony with ecological development. Programmes promoting basic life support systems with sustainable use of resources of the hills are to be aimed at.

Approach and Strategy

17.12 The following will be the approach and strategy to hill areas development planning:

i) Intensive efforts would be necessary at the implementation level to halt the process of degradation of the hills and improve productivity of land:

ii) Innovative approaches of family planning and welfare to contain the population growth to sustainable levels have to be adopted;

iii) Financial and physical monitoring of the HADP by the State Governments would help improve implementation of various programmes;

iv) Afforestation programme may be popularised through village authorities, schools and other local organisations, groups and clubs. Private nurseries, especially, of multi-purpose trees which yield benefits like fodder leaves, edible fruits or leaves or flowers, seeds, leaves of commercial value can be encouraged;

v) Application of scientific inputs to agriculture and allied sectors, including identification of crops suitable for the agro-climatic zones, multi-purpose species of trees and bushes to meet requirements of the people from a well-developed small land area are of special importance. This approach is expected to spare considerable areas for permanent greening programmes, like social forestry or horticultural and serve the long-term objectives of enhancing production on sustainable basis;

vi) Appropriate technologies to bring about localised self-sufficiency and generate alternative means of livelihood,

432

as opposed to heavy dependence on forests, and livestock rearing, can be encouraged;

vii) Use of appropriate technologies to upgrade the traditional productive systems like agricultural operations, livestock rearing, arts and crafts, household and cottage industries, etc., and to reduce drudgery of women in fetching water, fuel-wood, fodder and other demanding daily domestic chores needs to be encouraged on priority. The technologies have to be need-based, more productive, efficient, low-cost, and ecologically sustainable;

viii) Extension services should enlighten and educate people as how to enhance productivity of both cultivated and community land on sustainable basis in the context of increasing human and livestock pressures;

ix) Consolidation of small and scattered land holding would help in improving water and land management and ultimately, productivity of the limited land assets of the hills;

x) In many hill areas, land assets are held as common or community property. In such areas, people do not make permanent investments and several other problems also originate from this. To overcome these, local communities have to evolve suitable models of land management that would invite permanent investment and ensure both optimal returns and ecological safety and development;

xi) The State Governments may take a fresh look at their Plan and non-Plan Schemes, forest policies, the land tenure systems, land and water use policies and realign them to eradicate practices destructive to ecology and environment;

xii) In order to reduce pressure on land, quality of livestock, including goats, sheep, pigs and poultry birds has to be improved and their numbers reduced. There is an urgent need for relating livestock population to the bearing capacity of available land. Scrub animals could be systematically culled out. The livestock and cattle improvement programmes need to be integrated with fodder and cattle-feed development, stall feeding and scientific grazing. The land and livestock systems have to improve rapidly;

xiii) The productivity of pastures and grazing areas needs to be restored and enhanced. The effort

should be to meet the requirements of food, fuel-wood, timber and fodder through scientific utilisation of scarce hill resources on sustainable basis from the least land area;

xiv) Development of non-conventional energy and use of non-wood based sources of energy could be encouraged;

xv) Development of watersheds that can meet water requirement of the people and conserve water and soil resources of the area can be taken up for integrated development. For this, multi-disciplinary approach is considered most appropriate for creating conditions conducive to development of natural and human resources;

xvi) Food security has to be ensured on top most priority. Development of horticulture, sericulture, sericulture and plantation, especially, cash crops having low volume, light weight, high value and long shelf-life, could play an important role in generating employment opportunities, higher incomes and ecologically sound development in hilly areas;

xvii) Area specific marketing infrastructure, especially for perishable produce and its processing, storage and packaging may be set up where such surpluses are imminent or evident;

xviii) At the household level, kitchen gardens can be popularised to supplement and enrich the diet of hill people;

xix) Wherever transport linkages have been established and local cultivation of foodgrains is not advantageous, strong Public Distribution System could be extended, provided other adequate income generating avenues exist;

xx) To reduce the use of wood for packaging of horticultural produce, suitable non-wood based packaging materials such as plastics could be increasingly used on a viable basis;

xxi) Incentives that would encourage formation of large viable hill villages might be built into the development

433

effort, so that the overhead input costs to reach amenities and services to them, could be reduced;

xxii) Many hill areas seem to be especially suited to industries that require pollution-free atmosphere, cool climate, and precision skills like electronics, watch-making, optical glasses, sericulture, etc. A number of cottage industries like carpet weaving, handlooms, handicrafts and other village and household based small-scale industries can be encouraged. Due to higher transportation costs in these areas, industries which reduce weight and volume, but add value and increase shelf-life to the locally available raw materials will be advantageous. Large and medium industries may not generally be considered suitable except under favourable circumstances;

xxiii) Rubber plantations have proved successful in certain areas. Wherever degraded tree free land could become available and where rubber plantations could thrive, these could be encouraged.

xxiv) Development of sericulture has good potential in hill areas. A systematic programme of planting feedstock trees for silkworms on all spare patches of land can be taken up. Development of sericulture can provide employment to educated and skilled workers and generate value-adding activities and bring in foreign exchange. However, the programme will call for right quality of graine, prompt payment in cash for the cocoons and primary processing activities at local levels;

xxv) Tourism can be organised as an industry, with due care taken to avoid exploitative use of scarce

local resources, especially, water and fuel-wood;

xxvi) Location specific suitable code of conduct for tourists may be evolved so as to maintain the surroundings clean and disease free, protect local ecology and respect local traditions, culture and heritage;

xxvii) Special care needs to be taken to ensure that hill roads are constructed as per traffic needs, scientific design and specifications suited to hill areas, so that the loose soil is contained, proper drainage system is developed and chances of land slides minimised. In such hill areas where the population density is low and the villages are small and scattered over long distances, porter or pony tracks can be built and properly maintained. Road construction should be completed in all respects without delays;

xxviii) Mining can be carried out but with adequate safeguards in favour of ecology during and after the mining operations;

xxix) Resources should not be thinly spread on a large number of projects and schemes. The priority for such continuing and spill-over schemes, projects and programmes which do not benefit people in improving their quality of life or are destructive to ecology, can be brought down or terminated;

xxx) Shifting cultivation, called 'jhum' is mainly practised in the North Eastern Region for production of food. The continuation of 'jhum' cultivation reflects the inadequate attention paid to the development of agriculture. Improvement in agricultural practice and inputs, development of land for permanent cultivation, increase in 'jhum' land productivity and lengthening of 'jhum' cycle, will help in blunting the destructive edge of 'jhum' cultivation. Modern agricultural inputs and settled cultivation should reach the jhum land for permanent cultivation, will be worthwhile. In comparatively isolated areas, permanent cultivation on scientific lines for localised self-sufficiency in food seems to be a strong viable solution to the problem of 'jhum' cultivation and to stop food air-dropping operations which are undertaken in certain hills on regular basis. Simultaneously, development of location specific alternative income generating occupations can continue;

xxxii) Media support for transfer of suitable modern agriculture technology and its extension need to be given. A separate special programme at about 1800 or 1900 hours needs to be telecast and broadcast for the hill people who usually go to sleep early;

xxxiii) Some of the voluntary organisations doing commendable work in the hills can be encouraged, especially, those engaged in improving the ecological system besides economic and social conditions of the people;

434

xxxiiii) People have to be made aware of the far reaching implications of environmental degradation and their active participation has to be sought for reconstruction of ecology. Environmental aspects can be suitably woven into the curriculum of primary and high school classes;

xxxv) Regeneration and development of the hill environment cannot be achieved without willing and active cooperation of the people. It will be forthcoming, only if, the benefits from improved land, water and forests resources go directly and equitably to the people themselves;





◆ SCIENCE AND TECHNOLOGY

◆ Preamble

18.1 Science and Technology (S&T) has made a phenomenal impact the world over in shaping the lifestyle of the common man. If India has to really forge ahead in the coming decade, S&T must play a pivotal role in all the important tasks that lie ahead of us. Hence, the deployment of S&T as an effective instrument of growth and change becomes an imperative strategy. In order to derive maximum output from meagre resources, S&T and the associated methodology must be brought to the main theme of economic planning in the agricultural, industrial and services sectors. In this planning exercise, we are endeavouring not only to plan for S&T but also for integrating S&T in the economic planning.

18.2 Globalisation of business and of R&D are noteworthy developments, Meaningful partnerships on the international plane in the areas of mutual global interests are on the anvil. The S&T strategies will have to be suitably moulded to meet these realities.

18.3 Some of the old problems remain. This decade will pose further new challenges. The resource crunch, the balance of payment as well as the shortage of foreign exchange are hard realities. Liberalisation in technology transfer and trade has been intensified. Resources such as energy, are in severe shortage. The increasing unemployment and continuing poverty constitute a threatening scenario. Improving living conditions of our population, especially in the rural; areas, is a challenge demanding greater attention. These are national priorities which would make increasing demands on the S&T inputs in planning. Thus, S&T activities can no longer remain peripheral to our economic planning.

18.4 How then to produce more from less? There are indeed ways through which it may be possible to achieve this. Conservation measures in every single endeavour, ranging from conservation of energy to conservation of forests have to be given high priority. Indeed, conservation of everything - firm "oil to soil" is one along which S&T will have to drive our action plans. Consolidation of existing position in different sectors through in-depth reviews and purposeful modernisation of the manufacturing industry for higher quality and productivity acquire significance. Commitment to excellence in everything we do has to become an essential ingredient if our endeavours have to yield results commensurate with our needs. Quality improvement in our products and related efforts would increase the demand for S&T, not only in concepts and design but right through production, testing, packaging, transportation of goods and post-sale activities. These would, in turn, create greater employment opportunities. Above all, it is imperative that we spread the culture of scientific processes amongst the entire population before the end of this century. Such a spread is essential to increase the quality of life.

18.5 Some of the ideas briefly outlined above provide the motivation and the basis for the S&T plans of the Eighth Plan described in the following sections.

◆ Policy Framework and Approach to Science & Technology

◆ Approach

18.6 The changing global and national scenario is bound to make greater demands on S&T. Our policy framework and approach to S&T planning has to be geared to face this demand. Science and Technology would also have to encompass major strategies towards agricultural and industrial development and this has to take into account the overall objectives of the new industrial and trade policies, besides the changing international situation. The Government policy framework will continue to encompass encouragement of entrepreneurship, development of indigenous technology through investment in R&D, bringing in new technology etc.

18.7 There has been significant growth in our capability as also our accomplishments in several high technology areas such as nuclear and space science and technology, electronics and defence research and development. Many new

444

programmes and initiatives are envisaged in these, so as to ensure (i) growth in these strategic and vital sectors; (ii) operationalisation of projects or programmes that have been successfully demonstrated; (iii) transfer of technology to other sectors, particularly in the broader production sector. There have also been significant developments and achievements in S&T related to the sectors with large social implications such as in agriculture. Efforts have been mounted for developing newly emerging key areas e.g. microelectronics, informatics/telematics, biotechnology, new materials, renewable energy sources, ocean sciences and several areas of basic research. A large base has been created in the areas of biological and biological and industrial research which will be consolidated, expended and utilized. Consistent with this need for capability building, there has been a corresponding increase in the Government S&T expenditure excluding Defence in the successive plan period as shown in Annexure 18.1. Annexure 18.2 gives the outlay and expenditure, during the Seventh Plan, for the various components of the S&T sector. It will be seen that the total S&T outlay forms about 2.26% of the total public sector outlay. The S&T expenditure has been steadily increasing and reaching a level of 1.12% of GNP at the end of the Seventh Plan. There has been a tendency to regard science and technology as a separate and compartmentalised activity, to be carried out in universities, in research laboratories and in large specialised scientific institutions. It is not generally realised that science and technology should be an integral and essential part of all sectors of our national activity. The results of S&T are yet to be felt in terms of a major impact on the economic development, improvement in the quality of life of our people and for the availability of better goods and services etc. During the coming years it is to be ensured that the efforts in science and technology are not restricted to laboratories and academic institutions but percolate to the grassroot levels so that science, technology and innovations increasingly become part of the life of our people. For this, appropriate mechanisms and management practices would need to be introduced.

Policy

18.8 In order to maximise returns from the investments in science and technology, it is necessary that policies covering S&T, industry, finance and agriculture must be meaningfully intermeshed. The recent Industrial Policy has reserved only very few industries for the public sector, reduced the sectors where industrial licensing was earlier necessary, liberalised the procedures relating to technology acquisition and investment, removed the restrictions on large companies and redefined the goals of the public sector undertakings. For this, the technology development must take place in a competitive environment and the policy for industrial research and development should be appropriately reoriented. In the formulation of future policy for the industrial R & D, the spirit and guidelines of the New Industrial Policy must be followed. In consonance with the agricultural policy, the S&T inputs must be able to provide the ever-increasing food requirements of our growing population. The S&T agencies would be directed not only to develop capabilities in their specialised areas but also to interact with the various developmental sectors, industries, institutions set upon by the farmers and those providing services to promote the utilisation of their expertise.

National laboratories/centres under the S&T agencies should make their facilities available to the scientists from the agricultural and industries sectors and provide services to the university system and evolve collaborative programmes with them. The socio-economic sectors/ministries and States, therefore, must lay a greater emphasis on the S&T content in their programmes and place their crucial demands on the S&T agencies.

18.9 The following paragraphs highlight the importance of some of the activities planned:

(a) Science and Technology for accruing benefits to the people

18.10 Priority must be given to utilising S&T in enhancing the pattern of utilisation of all our resources including the natural resources so that large sections of our society could ultimately benefit from the applications of S&T. Efficient management of land, water, and energy resources through S&T would result in significant benefits to the people.

18.11 The large infrastructure of S&T has potential of contributing significantly towards to removal of poverty. For this purpose, the establishment of appropriate "Problem Referral and Data/Information Network", consisting of linked units from the village through district and State to the national level is essential. This would help in optimising the S&T resource utilisation and in sharing the experiences. The existing Government programmes for poverty alleviation will have to utilise the S&T inputs significantly. Development models based on

445

optimising the total employment at the local level, based on all available resources, would be prepared. The S&T sector must develop innovative and cost effective techniques and technologies for the storage and processing of, and value addition to, the local resources in the decentralised sector. National level S&T efforts should devote a part of the manpower and budgetary resources directly on the R&D efforts related to measures for alleviation of poverty.

18.12 The strategy for using S&T inputs should be based on total integration of the various components of the related policies. For this, the involvement and participation of the target groups and also of the voluntary organizations would be very essential. There is a need for taking up specific activities for the benefit of the different target groups in the society who have so far been denied the benefit of S&T, for example the weaker sections, tribal population and women. It would be the endeavour of the scientific agencies and departments to direct specific programmes, whenever possible, so that these target groups derive maximum benefit. Mechanisms should be devised and implemented to facilitate trained and skilled personnel from the science departments and scientific organisations to actually work with these sectors of our society (rural, tribal areas etc.) and involve them in micro-level planning, relevant to their needs. The trained persons must develop means to get a proper feed-back from weaker sections regarding their problems. Specific programmes must be worked out to ensure that these sections and particularly the women are benefitted so that better working conditions, improved environment and better employment opportunities are given to them to improve their economic status, besides health care, nutrition, pre-natal and post-natal care for the women and children. New areas of research and technological development to improve the quality of these sections are to be identified for water management, sericulture, post-harvest technology and food processing and implemented. Scientific agencies and departments must give adequate facilities and freedom, recognition and rewards to young women scientists and encourage them more and more to pursue science as a career. The large potential of retired scientists should be effectively utilised for the integrated rural and tribal development programmes and in the related S&T activities.

(b) Integration of S&T in the socio-economic sectors

18.13 Science and technology must use new innovations, new approaches and new technologies in such a way that it becomes an integral part of all sectors of national activity and particularly of the major socio-economic sectors, such as agriculture, chemicals, coal, construction, education, employment, various sectors of engineering, energy production and its use, fertilisers, health, population control, rural development and communication. It is necessary for every one concerned with the socio-economic ministry to draw out a perspective plan for the next 10-15 years with clear objectives and targets, and then identify specific science and technology inputs required to achieve them. For this purpose, it would be necessary to start "think tanks" in the form of a Science and Technology Advisory Committees (STAC) in different sectors. These committees should not merely clear a few R&D proposals but should plan an overall S&T perspective for that sector. Proper status should be given to these Advisory Committees. For example, the Committee should be able to report to the concerned Minister directly. Clear-cut demands must be put forward by them on the existing S&T sector, including the educational and research institutions, in the form of time-bound, need-based projects. There should also be an interactive mechanism to ensure that these demands are fulfilled. Some of the arrangements for this may have to be formalised in the form of contracts. The linkage between the S&T infrastructure and the economic ministries must be strengthened so that the use of S&T becomes inevitable. The user economic ministries should earmark their S&T budgets and must accept responsibility for an effective use of S&T in their sectors not merely in terms of expenditure but in terms of their full utilisation. The system should also encourage the academic community and the S&T agencies to take up challenging tasks to socio-economic problems which would be assigned to them by the economic ministries.

(c) Technology Missions

18.14 The implementation of National Technology Missions and science and technology projects in a mission mode, for evolving new management structures with much closer linkages between, and better interaction and coordination of, many departments/agencies, and ensuring large scale, time-bound tangible application of S&T, is important. Accordingly, a few more projects on a selective basis should be taken up in important sectors of the economy.

446

(d) Research and Development in Industry

18.15 Since independence considerable effort has been made to build a strong base for industrial and technological development in the country. Substantial investments have been made over the last four decades in building R&D institutions in the country to meet the requirements of the industry. The support to the industry for establishing a strong R&D base was given by providing incentive through tax concessions of various types. However, the industry has not responded adequately to make substantial investment on R&D for their own utilisation and instead has gone for the import of technology to meet their growing demand.

18.16 Significant inputs of S&T are needed in various socio-economic sectors, with R&D carried out and promoted in the concerned industry. The absence of design and engineering capabilities, the lack of linkages with and the demand from the production system, continued foreign assistance in basic engineering activities/product design and consultancy etc. have been the main constraints in the promotion of indigenous technology.

18.17 Mobility of scientists and technologists between the academic institutions, Government laboratories and industry has been emphasised repeatedly but it still largely remains unfulfilled. There are many barriers in promoting mobility and those arising from wrong administrative approaches and cadre structures can be rectified with minor modifications in procedure.

18.18 For the industries, the absorption and application of science and technology is inevitable. therefore, industrial enterprises must be encouraged to support rapid absorption of technologies and their adaptation to suit varying needs of the Indian environment. This will lead to gradual introduction in the market of new or modified products that can secure their share in the world markets.

18.19 Industrial infrastructure specially in older industries needs to be improved quickly by revamping and modernisation. Modernisation will have to be given priority over new investments. Textiles, jute, sugar, leather, mining, plantation crops, processed export food and spices etc. require modernisation and substantial S&T inputs.

18.20 While individual industries should continue to pursue their competitive roles, they should also form consortia, as and when necessary, to capitalise on their collective strength to ensure synergism and develop a team of small vendors around them.

18.21 The possibility of joint management of few educational programmes by the industry should be explored to facilitate the orientation of the educational sector to promote industrial growth.

18.22 There have been numerous achievements at the level of the national laboratories. However, these achievements have not been commercialised because of the absence of design and engineering capabilities and lack of linkages with the production system. Our national S&T institutions will therefore have to play an increasing role in moulding the technology and adapting and interfacing it with the existing systems. A judicious mix of the indigenous and imported technology would be necessary. The Indian industry needs a technological thrust for modernisation so that it achieves self-reliance. This would imply a much greater emphasis on innovation through in house research and development by the industry. Major efforts are required to ensure that the technology status of the local units is brought to the level of international standards so its products are of international standards. Thus, we must ensure that quality products are produced for internal consumption as well as for export.

18.23 During the Eighth Plan a major thrust would be made on supporting and strengthening the pilot plant investigations and activities in the industry. For this, major investments should be expected from the industry through soft loans. Venture capital/risk financing companies have a crucial role to play in this endeavour. Similarly, the establishment of independent pilot plant centres as a cooperative venture of several connected industries would also be a possible option. Also, a few design centres should be established with the Government support and through incentives provided by the industries.

18.24 There is a lot of production technology in use in the small scale and village industry sector, which provides significant and gainful employment and helps decentralised operations. Such industries with their technologies must be nurtured and supported.

447



(e) Science and Technology Education

18.25 The National Policy on Education (NPE) has been reviewed recently and a programme of education in the Eighth Plan is being sharpened. The Eighth Plan must recognise that there can be no excellence in science and technology without excellence in the S&T education. A significant portion of our support for science, therefore, must go to educational institutions. More importantly, adequate investment should be made for S&T related activities in the education institutions so that these could contribute to their maximum to national development.

18.26 In the absence of adequate information on manpower requirement, it would be difficult to indicate in reliable terms the technical manpower requirement. The establishment of Technology Information Forecasting and Assessment Council (TIFAC) is an important development, and beside the evaluation of the existing technology and the preparation of technology forecast, it could also include manpower forecasting.

18.27 Many talented Indian engineers and scientists are now residing abroad and they are engaged in a wide range of highly sophisticated technological activities. Some of them are working in institutions of excellence, sophisticated industries or in new and emerging areas of science. In the last decade many non-resident Indians (NRI) have shown interest in involving themselves actively in the industrial development of India. This interest is due to several factors in addition to desire to return to India. They have acquired a high degree of technological expertise, have an in-depth experience in matters closely related to industry and commerce and have also acquired sizeable resources. Thus they would like to gainfully invest their skill and resources in their motherland.





◆ PLAN IMPLEMENTATION AND EVALUATION

◆ Introduction

19.1 The success of a plan lies in the effectiveness with which the projects and programmes are executed and the efficiency and productivity levels at which various enterprises operate. The nature and problems of implementation of large investment projects, which are mostly in the infrastructure and industry sector, differ from those of development programmes which are mostly in the field of agriculture, rural development and other social sectors. While sector specific implementation problems are broadly covered in the respective chapters, the focus in this Chapter is on some of the common and general steps to be taken to improve efficiency in the process of formulation, implementation, monitoring and evaluation of projects and programmes.

◆ Implementation of Projects

19.2 Delays in project implementation not only affect their contributions to the economic growth and result in the wastage of scarce resources but also lead to a reduction in the employment potential to be generated on the completion of these projects. The timely completion of large investment projects, particularly in the infrastructure sector, is important for improving the production performance of many other sectors. A large proportion of public sector investment on projects in the Eighth Plan will be for the development of physical and social infrastructure. In the interest of overall growth and international competitiveness, it is necessary to minimise the time and cost over-run of the projects and programmes.

19.3 As on 1st January 1992, there were 307 Central sector projects, each costing Rs. 20 crores or more with total anticipated cost of Rs. 94,500 crores, which were being monitored by the Ministry of Programme Implementation. Of these, 201 projects had cost over-run with respect to the original estimates and 165 projects, to the extent of 35% in aggregate, with respect to latest approved cost. As many as 189 projects had time over-run with respect to their original schedule and 182 projects had time-over-run even with respect to the latest approved schedule. Thus, about two-thirds of the major projects under implementation are facing the problems of time and cost over-run. The status of State projects, mostly in power and irrigation sectors was generally worse.

19.4 The factors responsible for time and cost over-runs are mainly:

- (a) Inadequate investigations and project formulation Frequent changes in scope and revision of drawings due to inadequate project preparation;
- (b) Delay in clearances from various regulatory agencies;
- (c) Delay in land acquisition;
- (d) Delay in activities such as supply of equipment by suppliers;
- (e) Inadequate release of funds;

(f) Management problems such as personnel, labour and contractor disputes, mismatch of equipment, etc.; and

(g) Unforeseeable reasons such as adverse geo-mining conditions, natural calamities, etc.

❖ Inadequate Project Formulation

19.5 Often projects are found to have been poorly formulated because of inadequate field investigation, lack of adequate data, inadequate analysis of inadequate attention to environment, forest and rehabilitation aspects. Time and cost over-runs inherently get built into a poorly formulated project from the beginning, if the project parameters are not properly determined or time and cost understated and the project, during implementation, runs into problems many of which could have been foreseen and avoided. As a result, the scope of work, equipment requirement quantum of construction work, location and other parameters, also change. The introduction of two stage clearance procedure introduced in 1985 for the Central sector projects costing Rs. 20 crores or more in some of the important sectors was meant primarily to improve the quality of project formulation so that after the first stage clearance, the project authorities could take up detailed investigations and analysis, obtain necessary clearances such as environment and forests, get budgetary quotations and then submit a properly formulated project

472

with reasonably firm physical and financial so that later the changes in scope and design would be minimum. However, in practice, these procedures have been adequately followed in preparing the projects.

19.6 During the Eighth Plan, it is proposed to enforce two-stage approval procedure, issue clear and sector specific guidelines for project feasibility studies, strengthen the project appraisal mechanism and take up only those projects which have been properly investigated and formulated.

❖ Investment Approval of Projects

19.7 The approval procedures are often long drawn and take considerable time. In the Eighth Plan, it is proposed to identify all new projects and programmes which would be taken up during each year and work out their detailed time schedules, including their approvals by various Government agencies, and from the forest and environment point of view. These schedules should take into account the required time for each agency and also the fact that some of these clearances can be processed simultaneously rather than sequentially. Even after the investment clearance, there are a large number of clearances often as many as 50 which a public sector project many have to seek from Government and other authorities at various levels. During the Eighth Plan, it is proposed to streamline the clearance procedures. With two-stage approval procedure, it is possible that some of these clearance, such as for land acquisition, could be processed simultaneously while the detailed feasibility report is being prepared and some funds could also be committed for acquisition of land, technology and knowhow.

19.8 It is also proposed to enhance the limit for delegation of powers and streamline investment approval procedures. In order to give more autonomy to public sector enterprises, powers to sanction new investments upto Rs. 50 crores and replacements upto Rs. 100 crores, provided there is provision in the Plan, have been delegated to those Central enterprises which have gross block of Rs. 200 crores and above and which have signed a Memorandum of Understanding (MOU) with the government. The Public Investment Board has been reconstituted. Revised guidelines for the preparation of detailed feasibility reports mentioned earlier are also expected to facilitate quicker and better appraisal by providing all the required information at one place. A Data Bank on projects

appraised in the past is being developed in the Planning Commission which is expected to help in improving the appraisal of projects. The criteria and parameters to be used for appraisal are also being re-examined. In addition, it is intended to streamline the investment approval procedures and minimise the delays in the system.

◆ Availability of Funds

19.9 There is little merit in starting a number of projects without the requisite financial resources in sight. An important step in the Eighth Plan will be to attach first priority to the completion of on-going projects which have made significant progress in implementation and only after meeting their requirements any commitments for new projects will be made. This will ensure accrual of benefits from the investments.

19.10 As far as possible, the funding pattern of the projects would need to be specified. In some sectors, such as Railways, Irrigation, etc, where there are more sanctioned projects than can be fully implemented due to the resource constraints, a strict prioritisation will have to be done for selecting the projects which can be funded fully for early completion. There is need to keep a shelf of projects ready. On the basis of past experience, it seems likely that the cost of some projects included in the Plan might increase beyond the estimates. It would be necessary, either to find more resources for them or drop them depending on their priority, economic viability and their overall social costs and benefits. Such adjustments will continue to be made at the time of the formulation of annual plans.

◆ Planning of Implementation and Management

19.11 In many cases, implementation of projects is initiated without full and detailed planning, covering the physical work effort, time required for various activities, matching of the input and equipment requirements with the availability constraints, linkages with other projects/activities, etc. There are only a few projects which have clear resource-based PERT or CPM charts specifying different areas of activity, their time phasing, the precise responsibility for different work items and the monitoring system. Inadequate time is often provided for essential preliminary activities like design, technology collaboration, calling for tenders and their evaluation. There is also unrealistic assumption as to the time required for all clearances, placement of orders, deliveries by

473

suppliers, transportation, erection and testing. In the Eighth Plan, it is proposed to ensure detailed and realistic planning for these aspects so as to help in anticipating various problems and making provision for necessary corrective action.

19.12 Effective project management, including monitoring and corrective action in time will be encouraged through incentives, rewards, recognition, etc. Use of consultants for both planning and supervision of implementation as well as monitoring will need to be encouraged so as to help the project managers to improve efficiency, effectiveness and quality of implementation. The project manager will be given full autonomy and be accountable for proper project implementation and his commitment ensured through a system of incentives and disincentives.

◆ Time and Cost Over-runs

19.13 There are a few elements of cost over-run, such as fluctuation in foreign exchange rates, changes in statutory duties or price rise due to inflation, that may be considered to be beyond the control of the project authorities. It is proposed that during the Eighth Plan, cost over-runs due to these factors should be separated and for these, the project authorities may not be required to go to

the Government or the approving authorities for revised approval. However, any other cost over-run which may be due to delay, changes in scope and physical quantities of work, initial understatement of cost, all of which are generally within the control of project authorities, may have to be fully explained in the revised cost estimates and responsibility fixed for the same before the revised cost is approved by the Government. Similarly, in the case of the over-run, if there is any delay because of Government decisions or circumstances beyond the control of project management, such as natural calamities, this should also be separated, while the other delays which are normally within the control of the project authorities, including those due to their consultants, suppliers, contractors, would need to be suitably explained in the same manner as cost over-run.

◆ Ex-Post Evaluation of Projects

19.14 It is proposed to undertake case studies of some selected projects which have been completed without delay and within cost and those which have suffered time and cost over-runs. The results of these evaluation studies are to be utilised for improving the formulation, appraisal, planning and implementation of projects in future.

Efficiency in Operation

19.15 While efficiency during implementation/construction of projects lies in minimising the time and cost overruns and completion of projects as per specifications, the efficiency of operation relates to the achievement of the physical targets of production of goods and services of quality with minimum cost of operation. Efficiency of operation should inter alia help to generate the desired financial surplus which can then be invested in other projects/development programmes. The main areas for operational efficiency would be as follows:

- i. More effective labour participation in management, training of workers, improvement in working conditions in order to improve the productivity of the workers significantly;
- ii. Maximising the utilisation of the existing capacity through not only proper upkeep and preventive maintenance but also the optimum deployment of equipment. In this context, in some projects, debottlenecking schemes may be taken up for increasing capacity utilisation. In many public sector undertakings there may be a mismatch of capacity between different plants or sections and some minor adjustments may be needed in such cases in some sections or progress. Necessary studies will be undertaken to maximise utilisation of all equipment through suitable reorganisations;
- iii. Minimising energy consumption, which is high in almost all the sectors. Significant reduction in energy consumption will automatically lead to cost reduction. To introduce changes in technology to remove bottlenecks may call for adjustments in equipment;
- iv. Review of consumption of other inputs per unit of output besides reduction in the rate of rejections in the engineering industries, better by-product utilisation in chemical industries and similar improvements;
- v. Laying down of targets specifically for efficiency measures in respect of use of energy and other major

474

inputs, machine use and plant-use. Certain broad efficiency parameters will be constantly watched for each industry and a more detailed system of efficiency monitoring will be introduced in request of selected projects.

- vi. Apart from the reduction of direction production cost by various measures mentioned earlier, the burden of overheads also needs to be reduced.
- vii. Adoption of proper inventory management system, as many a enter- prises, particularly in the service sector, carry excessive invento- ries which lock up resources;
- viii. Increasing use of management techniques such as value analysis, maintenance planning, standard costing, budgetory control, etc., for improving the physical performance and reducing costs.

◆ Management Consultancy Development

19.16 Many public sector organisations, including public utilities, have already set up efficiency and productivity improvement norms and in-house management consultancy units. During the Seventh Plan, the in-house management consultancy units set up in three State Electrici- ty Boards, i.e., U.P., M.P. and Tamil Nadu, on a pilot basis, have demonstrated the usefulness of such services in identifying and analy- sing management problems besides serving as an effective in-house problem solving mechanism and creating better efficiency environment in the respective organisations. Following the encouraging results, three more in-house management consultancy groups have been estab- lished in Punjab State Electricity Board and A.P and Maharashtra State Road Transport Corporations. Similar in-house services can be estab- lished by large public utilities which require management improvement. These effects towards inhouse problem solving and efficiency improve- ment will be encouraged. In addition, the management consultancy profession will need to be developed with adequate training and other inputs, so as to provide required inputs for improving management of projects and programmes at all levels. Voluntary professional bodies like the Institute of Management Consultants of India (IMCI) can play a useful role in the orderly development of management consultancy profession in the country.

◆ Implementation of Programmes

19.17 A majority of development programmes in sectors such as agricul- ture, rural development, social welfare, health and education, etc. involve inputs in the form of manpower, implements, credit, etc. apart from some construction of buildings etc. Most of these programmes are people/beneficiary oriented and involve efforts at local/areas levels for effective implementation without leakages in the delivery system.

19.18 The main deficiencies in the implementation of these programmes have been:

- i. Wrong selection of beneficiaries/type of assistance, without con- sidering their needs, capabilities and skills;
- ii. Lack of flexibility, Straight - Jacket guidelines issued centrally often ignore local needs, situations and variations;
- iii. Inadequate delivery mechanism, pilferages, malpractices etc.
- iv. Lack of coordinated approach, with many sectoral organisations working independently for different components of the programmes.
- v. Lack of commitment on the part of agencies/agents responsible for the delivery of the programmes.

19.19 During the Eighth Plan, it is proposed to initiate of steps to overcome these deficiencies and to ensure effective implementation of the programmes, achievement of targets and realisation of

intended benefits by the beneficiaries. Some of these are as follows:

475

- i. Strengthening the people's bodies at local levels, i.e., District Boards and Gram Panchayats.
- ii. Integrated area development approach by bringing about a convergence of all the sectoral agencies concerned at micro-level.
- iii. Involvement of beneficiaries in the implementation of the programmes through organisation of beneficiaries and/or Panchayats.
- iv. Introducing flexibility in the programmes by giving more autonomy to the local bodies and Panchayats to plan according to the needs and resources available at the local area level.
- v. Handing over the management and supervision of local service centres like health centres, schools, etc., to District Boards and Panchayats.
- vi. Greater involvement of voluntary agencies who have the abilities to demonstrate and innovate, provide technology and training and act as support mechanism to local level institutions.
- vii. A concerted effort to involve and train officials as well as non-officials, not only to bring about required skills for planning and implementation but also to inculcate required attitudes and impart necessary knowledge about the management of programmes at local levels.
- ix. Devising effective system of monitoring and evaluation which monitors the programmes more in terms of ultimate benefits than of expenditure incurred or inputs used. For example, the ultimate benefits of the family welfare programme is reduction in birth rate, while the targetting and monitoring is done in terms of couple protection rate. This needs to change.
- x. Introduction of better delivery system through self-managed organisations.

Project and Programme Sustainability

19.20 In addition to effect implementation of the projects and programmes, it is also necessary to make adequate provision for ensuring their sustainability so that the intended benefits in the form of goods and services and coverage of beneficiaries are in fact generated with required quality, various assets created are adequately maintained and the anticipated life of the projects and programmes is achieved. To ensure proper sustainability of projects and programmes, following aspects may be considered:

- i. The project/programme design should include the parameters which bring out clearly as to how the project output in the form of goods and services will be sustained during its operation, how various assets will be maintained and quality ensured. The project/programme costs should include both the capital components as well as operating and maintenance components required for sustaining the output.



NIEPA DC



D11593

LIBRARY & DOCUMENTATION CENTRE
National Institute of Educational
Planning and Administration,
17-B, Netaji Park, New Delhi-110016

New Delhi-110016

Doc No.

D-11593

17-09-2002