



DRAFT
FIVE-YEAR PLAN
1980-85

TAMIL NADU

NIEPA DC



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STATE PLANNING COMMISSION
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Part 1

A PREVIEW OF THE ECONOMY

THE SIXTH FIVE YEAR PLAN OF TAMIL NADU 1980-85.

THE PERSPECTIVE.

Planning for the development of Tamil Nadu in the last three decade has resulted in some noteworthy achievements. Since 1960-61 State income has increased by 58 per cent at constant prices and foodgrains production by 40 per cent in physical terms ; industrial income increased by more than 6½ times. Output of electric power in million units increased from 632 in 1950-51 to 5,543 in 1980-81, a fifteen-fold increase. These are achievements which undoubtedly have added to the material wellbeing of the people. But the success or otherwise of planning has to be judged not so much in terms of the country's progress, as in terms of the peoples progress ; for it is obvious that there is no meaning in economic development unless there is a development of the people at the individual level as well as at the Community and State level.

However, the benefits of development have not stepped down to the masses. Undoubtedly the administrators have become plan conscious and the functioning of almost every department of the State has been attuned to the requirements of planned development. But this cannot be said of the people in general. They have not become plan conscious to any appreciable extent and their enthusiasm in planned effort of the State has not been fully awakened.

This attitudinal change is something which has to be achieved in the course of the next two or three plans. The Sixth Five-Year Plan which is launched now marks a definite landmark, perhaps a turning point, in so far as it is conceived and shaped by a Government based on the spontaneous co-operation of the masses and dedicated to the welfare of the poor. With this end in view, the present plan intends taking definite and purposeful steps towards making the planning really broad based. Special efforts will be made to establish a closer rapport between the Government and the planning agencies on the one hand and the people, particularly the rural masses, on the other. This can be done by setting up planning units in charge of groups of blocks. These planning units will represent the needs and problems of the blocks to the planning body which in turn would seek out means of formulating proposals to solve the problems and eradicate the evils. These proposals will be incorporated in the planned programmes under the different heads of development. Simultaneously, the local agencies or planning units will keep a close watch over the implementation of the schemes and keep the Government and the planning body informed about the shortfalls and inadequacies in implementation. This is of the greatest importance because it is now becoming more and more obvious that the best laid plans 'go awry' because of failure at the execution stage. Apart from supervision of implementation at the block or village level by local planning units, it would be necessary to organize a monitoring and evaluation machinery using sophisticated techniques to be introduced in atleast some of the sectors.

Another problem which has been thrown up in recent years is the increasing need for better mobilisation of the State's real and financial resources. The problem has to be tackled at two ends firstly, the need for more and more financial resources be kept within limits. Attention should be diverted more to achieving the physical target (which of course should be fixed at a reasonable level) by streamlining the procedure of executing the project, avoiding wastage of time and energy and physical resources and concentrating more on results than on spendings. In short the plan should be achievement oriented. There is ample evidence to show that there is substantial underutilisation of capital capacity in many sectors. In view of the financial constraints it is of the greatest importance to devote special attention to the better utilisation of existing capital capacity before going in for an additional capital installation—be it the setting up of a machinery or constructing a new building. When capital is so scarce, it is only prudence to ensure that each rupee is made to go as far as possible.

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On the other hand, it is equally important to take special steps for better mobilization of resources. It involves streamlining the tax machinery and administration, closing the loopholes in tax collection, exploiting the scope for new taxes, and adding to the rates of existing taxes. One important source is public enterprises—power industry, transport undertakings etc. These are public utilities, but they are of a commercial nature and should be organized and operated in such a manner that they are made at least to pay their way. In the context of a rapidly worsening inflationary situation the responsibility for increased mobilisation becomes all the greater.

Taking stock of the past trends and stretching one's vision over the next two decades, it is possible to visualise certain broad trends in development. The population of the State would increase from the present 476 lakhs (1980) to about 546 lakhs in 1985 and 672 lakhs in 2000 A. D. Correspondingly the density per sq. km. would become 517 (2000 A.D.) instead of the present 366. The number of students coming out successful in the S.S.L.C. examination would increase from 89423 in 1977-78 to 165000 in 1985 and 425000 in 2000. This would aggravate the problem of providing employment to the educated. It is necessary even at this stage to give serious thought to the need for matching demand and supply. New courses are to be started and employment oriented schemes of educational reform are to be implemented which would keep the supply and demand for educated personnel more or less in balance. Growth of population and industrialisation would lead to increased concentration of population in urban centres. And this combined with growing reliance on nuclear energy and the development of new sophisticated chemical and engineering industries would bring to the forefront the problem of ecological balance and environmental pollution. Adequate means of controlling this growing menace are to be found in time. There are also indicators that the pressure on transport facilities both rail and road—between cities and towns will mount up fast as the 20th century draws to its close.

Visualizing the future is obviously the role of economic planning and it may be hoped that thrust laid on many of these problems and the implementation of the various schemes in the plan will go a long way towards the eradication of many of the major socio economic evils that beset it now.

PART I—A PREVIEW OF THE ECONOMY

CHAPTER 1.

A REVIEW OF OVERALL DEVELOPMENT OF THE STATE SINCE 1960-61.

Income and Production :

overall development of the State since 1960-61.

1.0. For making an objective assessment of the achievements and failures of planning we have to rely on statistical indicators which reflect the general trend but do not give any idea of the factors behind these trends. Keeping this limitation in mind it is however possible to make a review of the

1.1. Obviously, the most reliable indicator of economic progress is the growth of income. Figures showing growth of State income and Per Capita Income in the years 1970-71 to 1978-79 at current and constant prices are given in the Table 1.I below :

TABLE 1.I.

Net State Domestic Product and Per Capita Income at Current and Constant Prices

Year.	State Income.		Per Capita Income.	
	At constant prices (1970-71).	At current prices	At constant prices (1970-71).	At current prices
(1)	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)		(IN RUPEES.)	
1970-71	2,42,072	2,42,072	595	595
1971-72	2,54,538	2,76,966	613	667
1972-73	2,55,659	2,92,481	607	695
1973-74	2,67,510	3,54,375	626	830
1974-75	2,32,490	3,79,343	536	874
1975-76	2,69,100	3,90,966	612	889
1976-77	2,70,320	4,24,116	606	950
1977-78	2,97,826	4,66,990	657	1,031
1978-79	3,22,398	5,28,112	702	1,151

1.2. At current prices, the annual average compound growth rate of State Income from 1970-71 to 1978-79 was 10.3 per cent. But, estimated at constant (1970-71) prices the rate for the period 1970-71 to 1978-79 was 3.6 per cent.

1.3. The aggregate State Income data prepared by the Directorate of Statistics, of the State Government is made up of 5 major components— (i) Primary Sector, (ii) Secondary Sector, (iii) Transport, Communication and Trade (iv)

Finance and Real Estate and (v) Community and Personal Services. These in turn are further divided into 13 sub-heads. The relative significance of these sectors may be observed from the State Income Figures (quick estimates) for the year 1978-79 furnished in the following Table 1.II. A comparison of these with the corresponding figures relating to 1970-71 brings out the changes in the composition of State Income resulting from the growth of the economy.

TABLE 1.II.

Net State Domestic Product and its Composition in 1970-71 and 1978-79 (Q.E.)

(Current Prices.)

<i>Items.</i>	1970-71	<i>Percentage of total.</i>	1978-79 (Q.E.)	<i>Percentage of total.</i>
(1)	(2)	(3)	(4)	(5)
	(RS. IN LAKHS.)		(RS. IN LAKHS.)	
1 Agriculture	94,983	39.24	1,62,781	330.82
2 Forestry and logging	816	0.34	2,299	0.44
3 Fishing	1,955	0.81	4,095	0.77
4 Mining and Quarrying	1,286	0.53	1,840	0.35
(i) Sub-total Primary	99,040	40.92	1,71,015	32.38
5. Manufacturing—				
5.1 Registered	26,462	10.93	86,961	16.46
5.2 Unregistered	19,409	8.01	36,910	6.99
6 Construction	21,315	5.09	38,958	7.38
7 Electricity, Gas and Water Supply	3,749	1.55	7,867	1.49
(ii) Sub-total Secondary	61,935	25.58	1,70,696	32.32
8 Transport and Communication—				
8.1 Railways	2,908	1.20	5,008	0.95
8.2 Transport by other means	7,832	3.23	23,519	4.45
8.3 Communication	2,531	1.04	7,037	1.33
9 Trade, Storage, Hotels and Restaurants	32,969	13.62	75,499	14.30
(iii) Sub-total—Transport, Communication/ Trade.	46,230	19.09	1,11,063	21.03
10 Banking and Insurance	5,068	2.09	19,242	3.64
11 Real Estate and Ownership of dwellings	8,003	3.31	14,926	2.83
(iv) Sub-total—Finance and Real Estate	13,071	5.40	34,168	6.47
12 Public Administration	7,937	3.28	19,868	3.76
13 Other Services	13,858	5.73	21,302	4.04
(v) Sub-total—Community and Personal Services.	21,796	9.01	41,170	7.80
14. Total—Net State Domestic Product at Factor cost	2,42,072	100.00	5,28,112	1100.00

1.4. The Net State Domestic Product (quick estimates) in 1978-79 was Rs. 5281.12 crores. To this, the Primary Sector contributed Rs. 1,710.15 crores or 32.3 percent and the Secondary sector, Rs. 1,706.95 crores or 32.32 per cent. The primary sector and secondary sector together account for 64.70 per cent of the state income. Normally, in a growing economy, the income generated in all the sectors increases in absolute terms but their contribution as a proportion of the total State income varies over time. In general, the relative share of the primary sector decreases while that of the secondary and tertiary sectors increases. Thus in Tamil Nadu, the Agricultural Sector accounted for 39.24 percent of the State income and the Industrial sector for 18.94 per cent in 1970-71. In 1978-79, the share of the first declined to 30.82 per cent and that of the latter increased to 23.45 per cent.

1.5. The State income figures measure the value added. The real progress of a sector is better reflected in its gross output figures. Since

the agricultural sector is by far the most important of the sectors contributing to State income and since it provides the basic necessities of life for the people, it is worth while to examine a little more closely the trends in income of this sector as well as changes in the output of individual items.

1.6. Income from the agricultural sector (i.e. value added) increased from Rs. 6,580 crores in 1960-61 to Rs. 26,132 crores in 1975-76. This represents an increase by four times in 16 years (at current prices). In the same period, total production increased by about 36 per cent. This increase however was not steady. There was a decline in 1965-66 and also in 1974-75 but in all the other years there was a rise. This trend is reflected in the general indices of production. The following figures in Table 1. III relating to production of different groups of agricultural commodities and the gross output of the same and improvement in yield per hectare illustrate the progress made in the last 19 years in the agricultural sector.

TABLE I.III.
Production of Principal crops and yield per hectare 1960-61 to 1978-79.

Item.	1960-61		1965-66		1970-71		1975-76	
	Production in '000 tonnes.	Yield/ hectare (in Kg.).	Production in '000 tonnes.	Yield/ hectare (in Kg.).	Production in '000 tonnes.	Yield/ hectare (in Kg.).	Production in '000 tonnes.	Yield/ hectare (in Kg.).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	3,359	1,413	3,524	1,409	5,007	1,900	5,203	2,029
Cholam	631	816	513	675	543	732	766	876
Cumbu	301	616	235	588	312	658	330	733
Ragi	360	989	292	889	334	1,180	481	1,503
Other Cereals	435	..	366	..	377	..	328	..
(a) Total Cereals.. .. .	5,286	..	4,930	..	6,573	..	7,058	..
Bengalgram	1	544	1	543	2	543	4	563
Redgram	26	453	22	456	29	461	42	519
Other pulses	82	..	79	..	102	..	81	..
(b) Total pulses	109	..	102	..	133	..	127	..
Total foodgrains (a) + (b)	5,395	..	5,032	..	6,706	..	7,185	..
Sugarcane (gur)	686	8,454	955	7 363	1,074	9,430	1,312	10,224
Chillies	102	1,376	73	1,425	121	1,454	139	1,701
Potatoes	81	7,707	57	6,917	86	7,382	144	14,065
Onions	181	12,566	199	12,511	129	12,863	..	..
Cotton (lint).. .. .	374†	167	301†	169	323†	196	253†	207
Groundnut (unshelled)	1 057	1,217	823	860	989	1,004	1,053	1,127
Gingelly	42	326	38	327	43	323	31	316
Castor	5	417	4	421	4	415	4	391
Tobacco	29	1,450	17	1,417	16	1,499	19	1,405

TABLE I III (contd)

Item.	1976-77		1977-78		1978-79*		Percentage increase in yield per hectare 1978-79 Compared with 1960-61.
	Production in '000 tonnes.	Yield/hectare (in Kg.).	Production in '000 tonnes.	Yield/hectare (in Kg.).	Production in '000 tonnes.	Yield/hectare (in Kg.).	
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Rice	4,215	1,846	5,705	2,050	6,107	2,251	59.3
Cholam	794	943	719	958	685	982	20.3
Cumbu	461	1,010	374	857	408	943	53.1
Ragi	340	1,170	410	1,411	446	1,524	54.1
Other Cereals	308	716	326	741	344	754	..
(a) Total cereals	6,160	1,413	7,554	1,600	8,012	1,731	..
Bengalgram	7	575	3	588	5	590	8.5
Redgram	43	510	38	466	49	460	1.5
Other pulses	127	283	155	313	168	286	..
(b) Total pulses	177	323	186	337	222	316	..
Total foodgrains (a)+(b)	6,337	1,291	7,750	1,461	8,233	1,545	..
Sugarcane (gur)	1,636	10,591	1,651	9,866	1,879	10,942	29.4
Chillies .. .. .	..	..	..	..	..	..	..
Potatoes .. .. .	..	..	..	..	..	..	..
Onions .. .. .	..	..	..	..	..	..	..
Cotton (lint).. .. .	347†	246	538†	282	496†	257	53.9
Groundnut (unshelled)	785	882	1,150	1,242	1,146	1,158	(-)4.8
Gingelly	39	345	55	337	61	332	1.8
Castor	1	398	4	411	5	408	(-)2.2

*Final Fore cast estimates.

†Bales of 170 Kgs. Lint.

1.7. It may be seen from Table 1-III that production of all categories of agricultural goods increased appreciably. The total production of cereals in 1960-61 was 52.86 lakh tonnes; it increased to 80.12 lakh tonnes in 1978-79. As regards commercial crops, there is an increase in the production of sugarcane (gur) from 6.86 lakh tonnes in 1960-61 to 18.79 lakh tonnes in 1978-79. Production of cotton (lint) however increased from 3.74 lakh bales to 4.96 lakh bales. In the case of oil seeds, a general increase in production may be observed between the two years mentioned above.

1.8. This increase in production has been due more to improved productivity than to increase in the acreage under cultivation. Between 1960-61 and 1978-79, the percentage increase in the yield per hectare was 59.3 per cent in the case of rice and 54.1 per cent in the case of ragi. Sugarcane showed an increase of 29.4 per cent. The yield of cotton per hectare increased between these two points of time by 54 per cent. In the case of oil seeds like groundnut and castor, there is a decline both in total production as well as in yield per hectare.

Economic Overheads :

1.9 Among the economic overheads contributing to development, the most important are :

- (a) Irrigation;
- (b) Power; and
- (c) Roads.

Irrigation :

1.10 The major problem which agriculture faces in Tamil Nadu is the shortage of water. The average rainfall in Tamil Nadu has varied in the years 1958-59 to 1978-79 between the low of 647.4 mm. in 1974-75 and the high of 1200.4 mm. in 1977-78. Among the districts, Coimbatore gets the lowest rainfall (below 800 mm.), while Kanyakumari and the Nilgiris get the highest (1400 mm. and above).

1.11 Because of low rain fall, agriculture in Tamil Nadu depends greatly on irrigation. Table 1-IV shows the extension of area under irrigation (sourcewise) since 1950-51 :

TABLE 1.IV
AREA IRRIGATED (SOURCE-WISE) IN TAMIL NADU.

<i>Net area irrigated by.</i>	1950-51		1960-61		1970-71		1974-75		1976-77		1977-78	
	<i>in '000 hectares.</i>	<i>percentage to total.</i>	<i>in '000 hectares.</i>	<i>percentage to total.</i>	<i>in '000 hectares.</i>	<i>percentage to total.</i>	<i>in '000 hectares.</i>	<i>percentage to total.</i>	<i>in '000 hectares.</i>	<i>percentage to total.</i>	<i>in '000 hectares.</i>	<i>percentage to total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Government Canals ..	786	42.37	880	35.74	883	34.07	886	36.34	676	29.01	925	32.61
2. Private Canals ..	2	0.11	2	0.08	1	0.04	1	0.04	1	0.04	1	0.04
3. Tanks	565	30.46	936	38.02	898	34.64	594	24.37	800	34.34	910	32.05
4. Wells (including tube wells).	426	22.96	598	24.29	775	29.90	924	37.90	825	35.41	958	33.78
5. Other sources ..	76	4.10	46	1.87	35	1.35	33	1.35	28	1.20	42	1.48
Total ..	1,855	100.00	2,462	100.00	2,592	100.00	2,438	100.00	2,330	100.00	2,836	100.00

1.12. It is seen that there has not been much increase in the area under irrigation since 1960-61. Tank irrigation shows a sharp decline in 1974-'75. This was because of drought condition in the previous two years. The area under tank irrigation reached a high level of 9.49 lakh hectares in 1972-73 and was 9.30 lakh hectares in 1973-74. Well irrigation covered 4.26 lakh hectares in 1950-'51 but rose rapidly to 9.58 lakh hectares in 1977-78, an increase of 125 per cent.

1.13. As regards land utilisation, total geographical area according to village papers was 129.40 lakh hectares in 1950-51, 130.05 lakh hectares in 1970-71 and 129.99 lakh hectares in 1977-78. The net area sown increased from 59.97 lakh hectares in 1960-61 to 63.48 lakh hectares in 1971-72, but declined to 55.53 lakh hectares in 1974-75 and rose to 62.95 lakh hectares in 1977-78.

1.14. Of the area under principal crops irrigated in Tamil Nadu, rice accounts for more than two thirds.

1.15. The cropping pattern in the State has not changed to any noticeable extent in the last 28 years. Of the total area under cultivation,

food crops accounted for 73.1 per cent in 1950-51, and increased to 76.9 per cent in 1977-78. Rice has taken up about half the total area under food crops. The area under non-food crops was 15.87 lakh hectares in 1950-51 and 18.15 lakh hectares in 1977-78, i.e. 26.9 per cent of the total area under cultivation in 1951 and 23.3 per cent in 1977-78.

Power Generation :

1.16 Power forms the basic infrastructure for the industries. Besides, electricity has also been increasingly utilised in Tamil Nadu for irrigation purposes. In view of limited hydro resources, Tamil Nadu has come to rely increasingly on thermal power. The figures given in table 1-V below relating to power generation and consumption illustrate the progress made by the State in the last 19 years in this direction. It is seen that between 1960-61 and 1978-79 the installed capacity increased from 571 MW to 2,719 MW or by a little more than five times and the output by less than five times (from 2,238 m.u. to 10,511 m.u.), while the consumption went up from 1,765 m.u. to 8,144 m.u. or by about 4.6 times. The consumption per head was 60 units in 1960-61 and it increased to 224 units in 1978-79.

TABLE 1-V.
Development of power generation and consumption

Year.	Generation.		
	Installed* capacity (MW).	Output+ (m.u.)	Consump- tion. (m.u.)
(1)	(2)	(3)	(4)
1960-61 ..	571	2,238	1,765
1961-62 ..	560	2,551	2,022
1962-63 ..	660	2,841	2,273
1963-64 ..	815	3,129	2,542
1964-65 ..	945	3,572	2,876
1965-66 ..	1,370	4,041	3,286
1966-67 ..	1,470	4,103	3,360
1967-68 ..	1,470	4,857	3,937
1968-69 ..	1,570	5,260	4,247
1969-70 ..	1,720	5,597	4,532
1970-71 ..	1,965	6,181	6,057
1971-72 ..	2,075	6,812	5,380
1972-73 ..	2,171	6,971	5,371
1973-74 ..	2,254	7,105	5,355
1974-75 ..	2,254	7,380	5,645
1975-76 ..	2,364	8,106	6,268
1976-77 ..	2,364	8,350	6,485
1977-78 ..	2,424	9,453	7,437
1978-79 ..	2,719	10,511	8,144

* includes Neyveli Thermal.

+ includes Electricity purchased by Electricity Board.

1.17. As regards use of electric power for agricultural purposes, the following figures relating to the number of pumpsets energised

and the number of towns, villages and hamlets electrified illustrate the progress made.

Year.	Number of pumpsets energised.	Number of towns and villages electrified.	Number of hamlets electrified.
(1)	(2)	(3)	(4)
1961	1,17,695	5,668	5,092
1966	2,56,594	9,388	12,749
1971	5,29,932	11,714	30,299
1976	7,42,746	15,948	47,200
1977	7,73,702	15,955	47,319
1978	8,09,606	15,961	47,378

1.18. As on 31st March 1978, out of the 63,759 villages and hamlets in the State, as many as 63,339 or 97.3 per cent of the total were electrified. Similarly, of the estimated total number of 12 lakh wells, agricultural pumpsets were energised in 8.10 lakhs or 67 per cent of the wells.

Roads :

1.19 In the construction of roads also (another important item of economic infrastructure)

there has been noticeable improvement. The total length of roads in Tamil Nadu in 1961 was 44,019 kms. of which 33,061 kms. or 75 per cent were surfaced and 10,958 kms. or 25 per cent were unsurfaced but motorable. The total road length increased to 98,271 kms. in 1978 made up of 63,217 kms. (64 per cent) surfaced and 35,054 kms. (36 per cent) unsurfaced (vide Table 1. VI. below):—

TABLE 1. VI.

Length of roads by surface as on March 31st of each year

(in kilometers).

Year.	Surfaced Roads.				Unsurfaced motorable.	Total road length (5+6).
	Cement concrete.	Bituminous.	Water bound macadem.	Total.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1961	859	13,958	18,244	33,061	10,958	44,019
1966	1,040	18,224	24,861	44,125	21,442	65,567
1971	1,196	25,713	23,298	50,207	23,957	74,164
1976	1,134	33,513	26,833	61,480	34,054	95,534
1977	1,134	34,454	26,821	62,409	34,554	96,963
1978	1,134	35,595	26,488	63,217	35,054	98,271

Social Development—Education :

1.20. The two major components of social infrastructure are Education and Public Health. The advance made in the educational field is

reflected in the number of school going children and the number of educational institutions. The achievement in school education is reflected in the figures shown in Table 1·VII below: —

TABLE 1·VII.

Year.	Percentage of pupils to the total population in the age group.		
	6—11	11—14	14—17
(1)	(2)	(3)	(4)
1960-61	70.3	32.6	15.3
1965-66	88.1	47.3	29.7
1970-71	94.1	55.1	35.3
1975-76	90.0	52.0	33.0
1976-77	91.7	54.4	34.1
1977-78	93.4	56.8	33.4
1978-79	94.3	58.3	38.4*

* Relates to age group 14-16.

1.21. The total number of primary schools in the State in 1978-79 was 33,130 as against 23,785 in 1960-61 representing an increase of 40 per cent in the nineteen year period. The number of pupils in the primary and middle schools of the State increased from 28,87,538 in 1960-61 to 78,23,000 in 1978-79 or by 175 per cent.

institutions, providing health facilities increased from 1,385 in 1969 to 1,500 in 1978 (i.e. 4.0 per cent increase). Correspondingly, the number of beds in private hospitals, and Government hospitals, including primary health centres increased from 36,922 in 1969 to 43,226 in 1978 or by 17 per cent and the number of doctors from 3,114 in 1969 to 3,555 in 1978 or by 14.2 per cent.

1.22. The impressive increase in the number of schools and in the number of pupils, however, hides a disappointing feature in school education, namely, the large number of drop-outs.

Public Health :

1.23. An idea of the progress made in providing public facilities can be had from the figures relating to number of hospitals, dispensaries, number of doctors, etc., available in the State in the last few years. Primary Health Centres increased from 343 in 1969 to 383 in 1978—a 9 per cent increase. In the same period, the number of private non-aided hospitals and dispensaries increased from 63 to 107 or by 70 per cent. In all, including hospitals and dispensaries, the

Demographic trends and Unemployment:

1.24. The population of Tamil Nadu which was 333 lakhs in 1960-61 increased to 409 lakhs in 1970-71. It is estimated at 470 lakhs in the year 1978-79. This means that population increased at the rate of 2.1 per cent in the inter census period 1960-70 and at the rate of 1.7 per cent since then. The birth rate per 1,000 of estimated mid-year population was 26.7 in 1960-61, 27.2 in 1970-71 and 21.3 in 1977-78. In fact, the birth rate shows an increase up to 1969-70, when it reached 28.7 and then a steady decline. As against this, the death rate shows a rather slow decline between 1960-61 and 1970-71 and thereafter a rather appreciable downward trend. This is brought out in the following table 1·VIII:—

TABLE I. VIII.

<i>Year.</i>	<i>Population in lakhs.</i>	<i>Birth rate (Per 1,000 of estimated mid-year Population).</i>	<i>Death rate (Per 1,000 of estimated mid-year Population).</i>	<i>Infant mortality (Per 1,000 of live births).</i>
(1)	(2)	(3)	(4)	(5)
1960-61	333	26.7	12.1	..
1961-62	341	26.7	13.3	89.5
1962-63	348	25.3	11.3	82.9
1963-64	356	25.2	11.3	80.7
1964-65	363	25.4	10.8	71.7
1965-66	371	26.6	10.5	66.0
1966-67	378	26.5	11.0	67.8
1967-68	386	26.4	10.1	62.0
1968-69	393	28.1	10.4	61.3
1969-70	401	28.7	11.4	62.5
1970-71	409	27.2	10.5	61.4
1971-72	416	25.3	8.7	54.9
1972-73	424	24.4	8.4	55.4
1973-74	432	23.4	8.2	49.5
1974-75	445	22.2	7.8	46.7
1975-76	451	22.9	8.3	46.6
1976-77	458	22.6	8.0	47.6
1977-78	464	21.3	7.2	43.9

NOTE.—These figures are evidently lower than those recorded by the census authority and reflect only partial registration of births and deaths.

1.25. The density of population in Tamil Nadu was 317 per sq. km. in 1970-71. It is now estimated at 361 for 1978-79. In this respect Tamil Nadu is among the States which have a density higher than the national average. But employment opportunities have not kept pace with the growth in population with the result that the number of people unemployed has been increasing steadily. According to the estimates made by the Director of Employment and Training, Madras, the number of persons employed in the public and private sectors was 13,22,400 in 1964, 15,12,000 in 1970 and 18,01,600 as on March, 1978. This gives an annual increase of 2.3 per cent and 2.2 per cent compared with the rate of growth of population of 2.1 per cent and 1.7 per cent.

1.26. It should, however, be noted that the estimates about unemployment are not quite accurate. The equivalent of unemployment expressed in person days has been worked out by the Union Planning Commission in number of persons as 22.5 lakhs for Tamil Nadu. Allowing for an annual rate of growth as observed in the past two years, the corresponding figure for 1978-79 works out to 26.0 lakhs. This total will be 13.9 per cent of the labour force of the State or 5.6 per cent of its population.

1.27. It is worth observing that in the matter of unemployment the position of Tamil Nadu is worse than that of other States. It is found from the Draft Five-Year Plan, 1978-83, of the Government of India that while Tamil Nadu accounts for 8.6 per cent of the total labour force of the country, the share of the State in the total all-India unemployment is 12.63 per cent. This is the highest figure for the States—Andhra Pradesh coming next with 12.49 per cent and Maharashtra with 11.93 per cent. Expressed as a percentage of the Labour force, the figure for Tamil Nadu seems, however, moderate, Kerala being in the worst position with more than 25 per cent where as in Tamil Nadu it is 12 per cent.

1.28. Of particular significance to Tamil Nadu is the fact that the problem of educated unemployed is becoming serious in the State and the number of women seeking jobs is also rapidly going up. Between 1973 and 1979 while the total number of applicants on the live register of the employment exchanges in Tamil Nadu increased from 5.89 to 9.90 lakhs or by 68 per cent the number of educated people in the registers went up by 68 per cent or in absolute terms from 2.86 lakhs in 1973 to 4.80 lakhs in 1979.

1.29. Even among the educated unemployed, there is a rapid deterioration in the case of graduates and post-graduates as compared with the S.S.L.C. certificate holders. From the data supplied by the Director of Employment and Training, Madras, it is seen that while between 1970 and 1979 job seekers of the category of the S.S.L.C. or its equivalent increased from 1,44,009 to 3,13,569 or by 118 per cent, the number of graduates seeking employment in the same period increased from 19,938 to 85,676 or by more than four times and post-graduates from 1,881 to 10,834 or by more than five times in 1979.

Unemployment among Women :

1.30. With urbanisation and spread of education the size of the female work force has also increased in the State. However, various factors operate against their recruitment training and employment in a good number of jobs. The number of women applicants on the live registers of employment exchanges by the end of 1979 was 2.11 lakhs.. This underlines the need for taking early measures to expand the employment opportunities for women.

CHAPTER 2.

REVIEW OF THE FIFTH FIVE YEAR PLAN 1974-79.

2.0. The implementation of the various programmes of the Fifth Five Year Plan resulted in substantial progress in the various fields of activity. There were, however, some shortfalls partly due to natural calamities. The record during the Plan period may be briefly reviewed.

2.1. The final figure relating to the size of the State's Fifth Plan 1974-79 was fixed at Rs. 1,122 crores in October 1976. The State had earlier proposed an outlay of Rs. 1,234.35 crores for the Fifth Plan. The expenditure during 1974-79 was Rs. 1,116 crores.

2.2. The details of outlay under the different sectors are presented in the table 2-III appended to the chapter. It is seen that of the total outlay of Rs. 1,165.10 crores, 33 per cent is on power development. The total outlay on five heads i.e. Power, Agriculture, Transport and Tourism, Water Supply and Sewerage and Irrigation add up to Rs. 781.9 crores or about two-thirds of the total expenditure during 1974-79. The total outlay falls short of the outlay proposed by the State in respect of the sectors Animal Husbandry, Fisheries, Irrigation, Education and Public Health and Nutrition. On the other hand, in respect of sectors like Power, Agriculture, Industries and Welfare of Scheduled Castes and Scheduled Tribes, the actual expenditure has exceeded the targetted outlay.

Performance against Physical Targets—

Irrigation:

2.3. The Plan proposed to implement one major scheme viz. improvements to Periyar System and fifteen medium irrigation projects during 1974-79. These schemes were expected to give assured irrigation facilities to 21.69 thousand hectares (0.86 thousand hectares of new irrigation potential and 10.83 thousand hectares of stabilisation) by the end of the Fifth Plan. Work on improvement to Periyar irrigation system at a total cost of Rs. 41.00 crores with financial assistance from the World Bank was taken up in 1976 and is in progress. Six of the fifteen medium projects proposed, have been completed and the rest are nearing completion. As a result of the works completed—both spillover and fifth plan schemes—by the end of 1977-78, it is estimated that the extension of area under irrigation would be 48.50 thousand hectares. Thus gross irrigated area increased from 36.74 lakh hectares in 1973-74 (last year of the Fourth Five Year Plan) to 37.29 lakh hectares in 1977-78.

Power:

2.4. Five hydro-electric schemes, two thermal schemes (Ennore extension and Tuticorin) and Kalpakkam Atomic Power Plant were expected to create an additional generation capacity of 935 MW. by the end of the Fifth Plan (i.e. 1978-79). However, the actual addition at the end of the Fifth Plan was 465 MW. consisting of Ennore

thermal extension (110 MW.) and one unit of Kundah Hydro Electric Scheme (60 MW.), the Suruliar Hydro Electric Scheme (35 MW), the second unit of Kundah Hydro Electric Scheme (50 MW.) and the first unit of Tuticorin Thermal Scheme (210 MW.). Thus by the end of 1979 the total addition was 465 MW, resulting from the completion of the State Schemes. This leaves a shortfall of 470 MW, which is due to the delay in the commissioning of Kalpakkam Atomic Power Plant. The two units of Kalpakkam project are now expected to be commissioned during the Sixth Plan. Under rural electrification as on 31st March 1980, 63,428 villages and hamlets were electrified and 8.87 lakh pumpsets were energised.

Agriculture—Crop Production:

2.5. To meet the increasing demand for food-grains, the Fifth Plan set the target of achieving 90.50 lakh tonnes of food-grains production by the end of 1978-79 as against the achievement of 72.99 lakh tonnes in 1973-74. The production of rice, the major staple food of the people in the State was proposed to be stepped up to 67 lakh tonnes from the base level production of 56 lakh tonnes in 1973-74. In respect of pulses, an important protective food, production was far less than the requirements. Hence, the Plan laid special emphasis on increasing pulses production from 1.97 lakh tonnes in 1973-74 to 3.5 lakh tonnes by 1978-79. Regarding commercial crops, it was proposed to increase the production of sugarcane (gur) to 14.60 lakh tonnes, cotton to 4.5 lakh bales and groundnut to 13.00 lakh tonnes by the end of Plan compared with 11.00 lakh tonnes, 3.38 lakh bales and 10.39 lakh tonnes respectively in 1973-74. As means to achieve these targets, the Agricultural Department relied on expanding the area under high yielding varieties, increasing the fertiliser consumption, stepping up the distribution of quality seeds and multiple cropping.

2.6. The actual foodgrains production by 1978-79 was 82.33 lakh tonnes, of which the production of rice was 61.07 lakh tonnes, and pulses 2.22 lakh tonnes. The production of sugarcane was 18.79 lakh tonnes; cotton 4.96 lakh bales; and groundnut 11.46 lakh tonnes, during the same period.

Animal Husbandry and Dairy Development:

2.7. The Plan envisaged establishment of four Intensive Cattle Development Projects and 40 Key Village Centres. Also, opening of 25 veterinary hospitals and 250 veterinary dispensaries was proposed. Milk production was to be raised to 12.60 lakh tonnes from 10.26 lakh tonnes in 1973-74. The Poultry Development Programme aimed at increasing egg production to 630 million from 500 million in 1973-74.

2.8. During the first four years of the Plan, Intensive Cattle Development Project came into operation in four places and 36 blocks were covered under Key Village Schemes. Though the shortfall under the latter schemes is only marginal, there is a rather big gap between target and achievement as regards opening of veterinary dispensaries (100 against 250 for the five years) and hospitals (10 against 25 for the five years).

Forestry:

2.9. The Fifth Plan proposed to raise plantation of quick growing species over an area of 18,000 hectares. Economic plantation (for industrial and commercial use) was to be raised in an area of 19,800 hectares. The Plan laid considerable emphasis on farm forestry and fuel wood plantation and a target of 56,000 hectares was fixed for this scheme. The achievement in respect of coverage of area during the Plan for 1974-79 for the above three major schemes was 14,645 hectares, 14,526 hectares and 59,853 hectares, respectively. Excepting the plantation of quick growing species schemes, which shows a significant shortfall, the progress under the other schemes appears quite encouraging and the Fifth Plan targets are most likely to be achieved by the end of 1978-79.

Fisheries:

2.10. The Plan laid stress on exploiting the vast marine fishery resources through accelerating the pace of mechanisation of boats and by improving the productivity in the inland fisheries. Marine fish production which was 2.24 lakh tonnes in 1973-74 was targetted to reach 4.00 lakh tonnes by 1978-79 and inland fish production from 1.50 lakh tonnes to 2.30 lakh tonnes. It was proposed to achieve these targets through introduction of 50 fishing trawlers and 1,000 mechanised boats. To facilitate the landing of fishing vessels, construction of a major fishing harbour and improvement of landing facilities in four centres were contemplated. The Plan also envisaged setting up of 10 cold storages and 10 ice plants.

2.11. The progress made during the four years 1974-78, does not however, present an encouraging picture. Only four deep-sea trawlers were put into operation in 1976-77, two by the Fisheries Development Corporation and two by private sector. About 500 mechanised boats were added during the four years. Fifteen ice plants and four cold storage centres have been set up so far. Work on Tuticorin fishing harbour was completed and landing facilities in a number of centres are being improved.

2.12. Marine fish production in 1978-79 was estimated at 2.10 lakh tonnes. The shortfall was mainly due to slow pace of mechanisation of fishing vessels and inability to introduce an adequate number of trawlers. The inland fish production in 1978-79 was estimated at 1.50 lakh tonnes as against the target of 2.30 lakh tonnes fixed for 1978-79.

Industries:

2.13. The Plan proposed to step up the activities of promotional agencies like SIPCOT, SIDCO and TIIC for achieving rapid industrialisation of the State. The Tamil Nadu Industrial Development Corporation which had received industrial licence/letters of intent for more than 30 industrial projects as at the end of 1974-75, had proposed to implement them either on its own or in association with private entrepreneurs under the joint sector concept. Fourteen projects sponsored by TIDCO have already been commissioned and have started production; 9 projects are under implementation. Proposals relating to 12 industrial projects are under the active consideration of TIDCO.

2.14. SIPCOT disbursed term loans to the tune of Rs. 6.28 crores during 1974-79 and Sales Tax loan of Rs. 4.72 crores in the same period. SIPCOT is developing industrial complexes at Ranipet in North Arcot district and Hosur in Dharmapuri district and allots developed land for the setting up of industries. TIIC which extends financial assistance to the small and medium industries disbursed a total of Rs. 42.56 crores during the four year period. Textiles, leather and leather products, chemicals and food manufacturing industries were the major beneficiaries accounting for about 50 per cent of the total disbursement by the TIIC. During the Plan 1974-79, 237 factory sheds and 900 tiny sector sheds were constructed by SIDCO.

2.15. Appreciable progress was made in the industrial sector of the State during the Fifth Plan period. There were in 1973, 6,816 factories employing 4,53,000 workers. In 1979, the number of factories increased to 9,139 and the number of workers to 5,73,000. Another indicator of industrial progress is the quantum of electric power consumed by the industries. In 1972-73, industries accounted for the consumption of 2,463 million units. In 1979-80, it rose to 3,732 million units, i.e., an increase of 52 per cent. The figures in the following table 2.I present an overall view of the performance of select industries.

TABLE 2-I.

Production in Select Industries.

<i>Industries.</i>	<i>Unit.</i>	1973.	1979.	<i>Percentage increase 1979 over 1973.</i>
(1)	(2)	(3)	(4)	(5)
I. Basic Goods—				
Cement	000 tonnes.	2,275	3,250	42.8
Caustic soda	Do.	91	90	(—) 0.01
Mixed fertilisers and Superphosphate ..	Do.	224	939	319.1
Electricity	m.u.	6,701	9,385	40.1
II. Capital Goods—				
Automobiles and automobile bodies, manufactured and assembled.	Nos.	9,178	12,194	32.8
Diesel engines	00 Nos.	554	546	(—) 0.02
Power transformers	000 KVA	1,191	609	(—) 0.49
Electric motors	00 Nos.	1,159	1,711	47.6
III Intermediate Goods—				
Cotton yarn	000 tonnes	163	202	23.9
Tyres	000 Nos.	4,973	5,736	15.3
Camel back	tonnes	2,900	2,059	(—) 0.29
IV Consumer Goods—				
Cotton woven piece goods	Million metres.	134	142	5.09
Tea	00 tonnes.	450	867	92.6
Sugar	000 tonnes	352	430	22.1
Bicycles	000 Nos.	381	394	3.5
Safety matches	Lakh gross boxes.	397	1,106	178.5
Motor Cycle	00 Nos.	133	204	53.3
Wheat products	000 tonnes	124	309	149.
Hydro generated oil	tonnes	7,852	18,210	131.9
Jerda	tonnes	7,323	10,596	44.6

2.16. Leaving out the industries under the direct management and control of the Central Government, the major industries in the State and private sector in Tamil Nadu are cotton textiles, sugar, cement and fertilizer. Their performance in the Fifth Plan period is briefly reviewed below.

Cotton Textile Industry :

2.17. The steep increase in the prices of cotton since 1976 resulted in heavy losses for the cotton textile industry. However, the import of adequate quantities of cotton and viscose fibres and certain concessions by way of relief of excise duty and subsidy for production of controlled cloth enabled the mills to reduce their losses to a certain extent. The Government of Tamil Nadu also constituted an Expert Committee to study the problems of the spinning mills in the State.

2.18. The total installed spindleage in the State had increased from 44.22 lakhs in August, 1974 to 45.54 lakhs in August, 1976 while the number of looms had increased from 9,590 in August, 1974 to 9,740 in August, 1975 and decreased to 9,490 in August, 1976.

2.19. The production of cotton yarn in 1973 was 62.7 million kgs. in the State accounting for 16.2 per cent of the total production in India. In

1976, yarn production in the State had increased to 200.9 million kgs. or 20.9 per cent of the 1005.9 million kgs. of yarn produced in the whole country. There was a corresponding increase in the production of cloth also from 134.3 million metres in 1973 to 162.7 million metres in 1976. The share of cloth production in the State went up from 3.2 per cent of production in India to 4.2 per cent in the same period.

Sugar Industry :

2.20. There are 20 sugar mills in the State with 9 of them in the private sector, 9 in the co-operative sector and 2 in the public sector. The installed crushing capacity is 40,100 tonnes per day of which 39 per cent is in the Co-operative sector. The sugar industry recorded a very satisfactory performance during the Fourth Five Year Plan period. Sugar production had increased from 2.88 lakh tonnes in 1969-70 to 4.43 lakh tonnes in 1973-74. But during 1975-76, due to unprecedented drought prevalent in the State, the quantity of sugarcane crushed came down to about 40 per cent of that in 1973-74. Simultaneously, the quantity of sugar produced also decreased to 1.80 lakh tonnes. The position improved in 1976-77 when total production reached 3.22 lakh tonnes. This was increased to 9.91 lakh tonnes in 1978-79 as detailed in the table 2-II below :

TABLE 2.II.

Year.	Quantity of sugarcane crushed.				Quantity of Sugar produced.			
	Co-operative sector.	Public sector.	Private sector.	Total.	Co-operative sector.	Public sector.	Private sector.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(LAKH TONNES.)				(LAKH TONNES.)			
1969-70 ..	12.69	..	23.87	36.56	1.01	..	1.87	2.83
1973-74 ..	19.76	..	33.11	52.87	1.73	..	2.70	4.43
1974-75 ..	14.71	..	30.85	45.56	1.31	..	2.54	3.85
1975-76 ..	7.34	..	12.35	19.69	0.69	..	1.11	1.80
1976-77 ..	14.86	0.40	22.65	37.91	1.33	0.04	1.85	3.22
1977-78 ..	23.35	3.60	27.71	54.66	2.08	0.33	2.27	4.68
1978-79 ..	24.27	3.71	29.70	57.68	2.13	0.34	2.44	4.91

2.21. Two sugar mills in the co-operative sector and two mills in the public sector, each with a capacity of 1,250-tcd (tonnes of cane per day) commenced trial crushing during 1975-76. A second unit in the public sector with a capacity of 1,250-tcd made trial crushing in February 1978. The capacity of 5 co-operative sugar factories was expanded and the total capacity had increased from 6,250 tcd to 9,750 tcd during 1977-78. The work on setting up of a sugar factory in the co-operative sector in South Arcot district is in progress.

Cement Industry :

2.22. During 1973-76 there was no net addition either to the number of cement factories in the State or to the total installed capacity. However, due to considerable improvements in capacity utilisation, cement production in the State had increased from 22.8 lakhs tonnes in 1973 to 32.5 lakh tonnes in 1979 as shown below :

Year.	Installed capacity.	Production.	Capacity utilisation.
(1)	(2)	(3)	(4)
	(LAKH TONNES)		(PER CENT)
1973	34.1	22.8	66.8
1974	34.1	23.6	69.2
1975	34.1	26.1	76.5
1976	34.1	33.0	96.8
1977	36.2	32.2	88.8
1978	36.2	33.1	91.4
1979	36.2	32.5	89.8

The easy availability of raw materials and uninterrupted supply of power are the major contributing factors for the significant improvement in capacity utilisation. During 1977, due to the expansion programme of a private factory, there was an increase of 0.20 lakh tonnes in the installed capacity. One new unit with a capacity of 5 lakh tonnes per year is being set up in the public sector at Ariyalur in Tiruchirappalli district and this unit has started functioning from 1st August 1979.

Fertiliser Industry :

2.23. There are 9 fertiliser plants in the State with 6 units in private sector, 2 units in public sector and one unit in joint sector. The total production capacity is 520,000 tonnes of nitrogen, 212,000 tonnes of phosphate and 152,000 tonnes of sulphuric acid.

2.24. Fertiliser production in the State increased from 1.93 lakh tonnes in 1974-75 to 4.18 lakh tonnes in 1976-77. The capacity

utilisation which was 49 per cent in the case of production of nitrogenous fertilisers during 1974-75 increased to 71 per cent in 1977-78 and in the case of phosphatic fertilisers from 40 per cent to 70 per cent of installed capacity.

Development of Infrastructures—

Roads and Road Transport :

2.25. Improvement of communication facilities in rural areas by building all weather roads was given importance in the Fifth Plan. The Plan proposed to increase the length of surfaced roads by 10,900 Kms. The rural roads programme envisaged construction of 3,600 kms of roads of this class. The physical achievements in respect of State Highways, major district roads and village roads upto the end of 1977-78 have exceeded the targets fixed for Fifth-Plan. The State Government has been continuing the policy of progressive nationalisation of road transport. To provide efficient service to the public, nine Corporations have been formed at the regional level. The percentage of nationalisation which was 46.7 during 1974-75 has increased to 53.6 during 1978-79 in a span of 5 years. The total strength of the fleet has increased from 4,252 in 1974-75 to 5,482 by the end of 1978-79. Out of 12,239 village panchayats in the State 8,034 are already served by bus transport and 968 can readily be served by buses as the approach roads are in motorable condition.

Education :

2.26. The Plan has laid stress on qualitative improvement of the education system apart from expansion of educational facilities. An additional 6.83 lakh pupils in the age group 6-11 were enrolled in schools during 1978-79. In 1978-79, out of 64.95 lakh children in the age group 6-11, 61.21 lakhs were attending school which gives an enrolment percentage of 94.25. The corresponding percentage for 1973-74 was 90.2. Similarly in the age group 11-14, the percentage of enrolment has increased from 52.3 per cent to 58.25 per cent. There has been only a marginal increase in the enrolment of pupils in the age group 14-17. 10,000 teachers' posts earlier created were regularised under the 'Half a million jobs programme'. Every year about 3,100 secondary grade teachers are being appointed against normal vacancies.

2.27. In regard to secondary education, 235 high schools were opened during the four years and the number of teachers increased from 65,959 in 1973-74 to 75,136 by 1978-79. Ten new colleges were opened and the number of students in the colleges increased from 1.95 lakhs to 2.01 lakhs in the same period.

Health :

2.28. The Fifth Plan aimed at providing improved health facilities in rural areas. The district headquarters hospitals and taluk headquarters

hospitals were proposed to be equipped with more speciality departments. Construction of buildings for primary health centres and introduction of mobile units were contemplated to ensure efficient health service in rural areas. Special attention was given to the development of indigenous systems of medicine. As a result of expansion of health facilities over the years, the mortality rate has declined from 10.5 per 1,000 in 1965 to 7.2 in 1978. In the same period, infant mortality rate came down from 66.0 per 1,000 live births to 43.9. Due to efficient implementation of family welfare programmes, the birth rate has come down to 21.3 per 1,000 from 25.3 in 1971-72.

Housing :

2.29 To improve the housing facilities in the State, the Plan proposed to construct 1,800 units under low income housing scheme and 900 units under the middle income housing scheme. The achievement in the four years in respect of these two schemes has exceeded the target. Though the plan aimed at assisting 12,250 persons under the village housing scheme, only about 3,000 persons were helped. However, the State has achieved a major breakthrough in the provision of housing facilities to the Scheduled Castes. The Harijan Housing and Development Corporation, set up in February 1974 has constructed a record number of 35,343 houses till the end of 1978-79 for Harijans and 34,940 house-sites were allotted to beneficiaries. It was proposed to acquire 7,500 acres during the Plan period for developing house sites. Here again there is a shortfall—the achievement being only 870 acres—one of the reasons being procedural delay in land acquisition.

Water Supply :

2.30 Priority was accorded to Water Supply and Sewerage schemes and the Plan aimed at improving the drinking water supply position in both urban and rural areas through implementation of systematic programmes of action. At the commencement of the Plan it was estimated that 4,916 villages and hamlets were in the scarcity area, and that water supply was inadequate in 11,814 villages and hamlets. Water supply schemes were implemented on a priority basis for the former two categories. A detailed survey of rural areas with habitation as the unit of the survey was conducted in November 1976 to identify the chronic water scarcity areas and steps taken to provide water supply to those habitations which are badly in need.

Rural employment :

2.31 (i) Employment Guarantee Scheme.—Employment is intimately connected with the wider issues of Poverty and inequality. The Government of Tamil Nadu are concerned with the improvement of the living conditions of its rural population, through creation of employment for unskilled labourers in the rural areas so that no person suffers for want of employment and also

create facilities for them to improve their skills to make them self-employed in due course. Accordingly, the Government implemented the Employment Guarantee Scheme in the rural areas of Tamil Nadu from September 1979. Under this scheme, registration of all able bodied persons above the age of 18 was started on 5th September 1979 in the rural areas. Employment is guaranteed within 30 days of registration normally within the district. Payment of wages will be on the basis of outturn of work and at least 50 per cent of the payment will be in the form of foodgrains. The beneficiaries under the SFDA, DPAP and IRDP, however, are excluded from the purview of this scheme. During the year 1979-80, 3,37,120 persons registered their names for employment with the Panchayat Unions, (about 15 per cent of them have withdrawn registration since they were not willing to do manual work), out of which 1,86,052 persons were provided with employment. Large number of registrations were noted in South Arcot district followed by North Arcot and Tiruchirappalli districts.

(ii) *Food for Work Programme.*—The food for work programme was implemented in Tamil Nadu as a Centrally Sponsored Scheme from April 1979 onwards. Under this scheme, it is proposed to generate additional gainful employment to large number of unemployed and underemployed persons in the rural areas and improve their income and nutritional level by utilising the surplus food grains. Under this programme, works like laying of new roads, and improving existing ones, putting up buildings and repairing old ones intended for public purposes like schools, maternity centres and rural godowns, desilting irrigation tanks and channels, tree planting, soil conservation, etc, are being taken up in the State. Payment of wages will be on the outturn of work and at least 50 per cent of the payment will be in the form of food grains. At the end of 31st March 1980, 42,390 works were taken up and 32,904 works have been completed. The value of works completed is Rs. 9.20 crores 50,636 metric tonnes of food grains had been used, and Rs. 126.50 lakhs had been disbursed as cash component. The number of workers benefited is 23.05 lakhs.

Analysis of constraints and shortfalls :

2.32. The preponderance of the primary sector in the economic structure, excess population depending on agriculture, poor endowment of natural resources, inadequacy of water and shortage of power have been some of the major constraints faced by the State in going ahead with schemes of economic development. The per capita availability of cultivated land in the State is one of the lowest in the country. Excepting the iron ore and bauxite occurrence in Salem district and lignite in Neyveli, the State is not endowed with any major minerals of economic significance.

2.33. Though more than 45 per cent of the cultivated area gets irrigation facilities, the periodical failure of monsoon, generally in a cycle of five

years, affects the growth of the agricultural sector. The State has practically exploited the entire surface water potential and a good portion of the ground water. Any further extension of irrigation on a large scale is possible only with the help of the neighbouring State of Kerala by diverting the west flowing rivers, and by linking Godawari and Krishna with Cauvery with the help of Andhra Pradesh. Another distressing aspect of the farm front is the ever increasing cost of cultivation and the difficulties experienced by the farmers in getting adequate returns for their effort.

2.34. The State's power generation capacity largely depends on its hydro resources. Poor storage in the reservoirs in times of failure of monsoon results in the decline of power generation. In such a situation, the State was forced to impose power cuts ranging from 40 to 75 per cent in the past few years. The restriction on power supply directly affects industrial production and employment.

Impact of Natural Calamities :

2.35. Natural calamities of varying magnitude are not an uncommon feature in most of the Indian States but Tamil Nadu had to face the combined onslaught of a severe drought and unprecedented floods in three out of the four years of the Plan. During 1974-75, the very first year of the Plan, rainfall was as low as 177.5 mm. in the North East monsoon period against the normal level of 449.7 mm. The State had not faced such a precarious situation in the preceding hundred years. The districts of Pudukottai, Ramanathapuram, Tiruchirappalli, Madurai and Tirunelveli were in the grip of a severe drought owing to the failure of the monsoon with the result that more than 3,500 villages had to be notified as drought affected. Government implemented labour intensive schemes to afford employment opportunities for the people in affected areas. The implementation of Drought Prone Area Programme in Ramanathapuram

and Dharmapuri districts helped to mitigate the suffering of the people to a great extent.

2.36. During 1975-76, Madras City and Chingleput district witnessed an unprecedented flood. Heavy downpour in a short span of time and its concentration in a small area filled up the large number of tanks and many of them breached which led to a serious situation. The floods caused severe damage to the irrigation system in Chingleput district and affected the crop prospects. Building and machinery in a number of industrial units in Ambattur-Padi area were badly damaged by the floods.

2.37. Thanjavur, South Arcot, Tiruchirappalli and Pudukottai districts had to face the fury of nature during 1977-78. The severe cyclonic storm that hit the coastal district of Thanjavur, left behind a trail of destruction and misery. Houses, property, standing crops in thousands of acres and coconut plantations were badly damaged. Tiruchirappalli urban area and Dindigul taluk in Madurai district were affected by the unprecedented floods. For the State as a whole, it is estimated that about 4.47 lakh acres of standing paddy crops were affected resulting in the loss of 2 lakh tonnes of paddy production. More than 21,000 heads of cattle worth about Rs. 2 crores were lost. Besides 4.4 lakh houses and 5,800 kilometres of roads were either destroyed or damaged. In all, the estimated loss in terms of value is about Rs. 200 crores.

2.38. Such recurrent natural calamities put a severe strain on the resources of the State. Massive relief operations had to be initiated on a war-footing to reduce the sufferings of the people. Though the Union Government came to the rescue of the State, yet the brunt of the burden had to be borne by the State exchequer. During 1977-78 an amount of Rs. 36.56 crores was spent on flood and cyclone relief under the Annual Plan. This forms 12.3 per cent of the State's Annual Plan outlay (1977-78).

TABLE 2—III.

Progress of Fifth Plan Outlay.

<i>Serial number and Sector.</i>	<i>Fifth Plan provision 1974-79.</i>	<i>Expenditure in 1974-79.</i>	<i>Difference between (2) and (3).</i>
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
1 Agriculture including Minor Irrigation, Soil Conservation, Area Development and Food. ..	6,670	8,245	+1,575
2 Animal Husbandry and Dairy Development ..	1,249	983	—266
3 Fisheries	1,342	754	—588
4 Forests and Cinchona	1,048	1,129	+81
5 Community Development including Rural Development Project.	1,900	2,047	+147
6 Co-operation	3,148	4,338	+1,190
7 Irrigation	9,056	8,400	—656
8 Power	33,481	38,255	+4,774
9 Large Industry and Mining	3,799	4,292	+493
10 Village and Small Industries	2,337	2,862	+525
11 Transport and Communication including Tourism and Inland Waterways.	9,192	12,768	+3,576
12 Education including Technical Education, Art and Culture.	5,002	4,792	—210
13 Medical and Public Health	2,963	2,457	—506
14 Water Supply and Sewerage	10,855	10,526	—329
15 Housing and Urban Development	6,773	7,865	+1,092
16 Welfare of Scheduled Castes and Scheduled Tribes and Backward Classes.	3,940	4,643	+703
17 Nutrition	654	280	—374
18 Social Welfare, Labour Welfare and other Social and Economic Services.	1,109	1,000	—109
19 Miscellaneous including I and P	724	874	+150
Total	1,12,232*	1,16,510	+11,268

*This includes an additional outlay of Rs. 6,990 lakhs approved in the meeting of the N.D.C.

CHAPTER 3.

BENCH MARK DATA AS ON 1st APRIL 1979.

5.0. It would facilitate a clearer understanding of the significance of the development programmes for the five years 1980-85 if an overall picture of the socio-economic conditions of the State on the eve of the Plan is provided. For this purpose statistical data relating to (1) Agriculture and Prod-

uction, (2) Socio-economic conditions, (3) Employment Situation and (4) Per capita yield from State revenue are furnished in the four Tables 3-I, 3-II, 3-III and 3-IV given below. These figures present a bird's eye view of the State's position.

TABLE 3-I.
Agriculture and Production.

(1)	(2)	(1)	(2)
(1) Cropped area (lakh hectares) (1977-1978)		Cotton (lint)	257
Single	59.90	Groundnut (unshelled)	1,158
Multiple	12.50	(3) Fertiliser consumption (kgs. per hectare) (1977-1978)—	
(2) Average yield of main crops (1978-1979) (kgs. per hectare)—		Nitrogen	40.1
Rice	2,251	Phosphorus	10.9
Cholam	982	Potash	13.6
Cumbu	943	(4) Per capita availability per annum (1977-1978)—	
Ragi	1,524	Foodgrains (Kgs.)	177
Bengalgram	590	Cloth (metres) (1978-1979)	14
Redgram	460	(5) Electricity—Installed Capacity as on 31st March 1979(MW)	2,719
Other pulses	286	Under construction (MW)	1,295
Sugarcane (gur)	10,942		

TABLE 3-II.
Socio-Economic Indicators (1978-1979).

(1)	(2)	(1)	(2)
1 Rural roads : kms. per 100 sq. k.m. of rural area (1-4-1979).	60.7	4 Number of middle schools per 100 school going children (1978-1979).	0.34
2 Percentage of School going Children in the age group of 6-11 years (1978-1979).	94.25	5 Number of high and higher secondary schools per 100 school going Children (1978-1979).	0.49
Percentage of school going children in the age group of 11-14 years (1978-1979)	58.25	6 Percentage of literacy as per 1971 Census.	39.46
3 Number of Primary schools per 100 school going children (1978-1979)	0.45	7 Number of hospitals per lakh of population (1975-1976)	1

TABLE 3-II—*contd.*
Socio-Economic Indicators (1978-79)—*contd.*

(1)	(2)	(1)	(2)
8 Number of dispensaries per lakh of population (1977-1978)	3	15 Number of commercial vehicles per lakh of urban population.	40.4
9 Number of Hospital beds per lakh of population (1977-1978)	87	16 Birth rate per thousand population (1977-78.)	21.3
10 Percentage of habitations covered by drinking water supply.	69.90	17 Infant mortality rate per thousand live births (1977-78.)	44
11 Percentage of towns covered by protected drinking water supply.	27.39	18 Proportion of people below poverty line (August 1976.)	<i>per cent.</i>
12 Number of persons per bank branch (December 1977)	17,000	(a) in rural areas	52.52
13 Per capita bank deposits Rs. 259.54 (December 1976.)		(b) in urban areas	55.02
14 Number of radio sets per lakh of population (1976.)	3,855	(c) State as a whole	53.28

TABLE 3.III.
The Employment Situation.

(1)	(2)	Sector.	As on 31st March 1980.
		(1)	(2)
1 Estimated size of population (lakhs) 1980.	476	4 Construction	60.6
Estimated size of labour force (lakhs) 1980.	190	5 Electricity, Gas, water and Sanitary services.	84.7
2 Employment in public and private sectors (Number of persons employed in '000's.)		6 Trade and Commerce	74.2
		7 Transport, Storage and Communications.	229.7
		8 Services :	
		(i) Finance Insurance, real estate and business services.	100.3
		(ii) Community, Social and personal services.	690.8
		Total ..	1,865.7
Sector.	As on 31st March 1980		
(1)	(2)		
1 Agriculture, live-stock, forestry, fishing, etc.	94.8		
2 Mining and quarrying	31.0		
3 Manufacturing	499.6		

TABLE 3- IV.

Per Capita Yield from State Revenue.

	1974-75 <i>Accounts.</i>	1979-80 <i>Budget Estimate.</i>			
(1)	(2)	(3)	(1)	(2)	(3)
(IN RUPEES.)					
(a) Share from Central Taxes (includes Income Tax, Estate Duties and Union Excises.)	22-38	56-33	(ii) Registration fees.	0-98	1-09
			(3) Taxes on commodities and Services.	62-95	81-50
b) State Taxes	70-31	91-42	Total—Tax Revenue ..	92-69	147-75
(1) Taxes on income and property.	1-40	3-07	(c) Non-Tax Revenue ..	26-97	33-04
(i) Agricultural income Tax.	0-49	1-38	(i) Grants in aid from the Centre.	6-24	13-75
(ii) Land Revenue ..	0-40	1-01	(ii) Other receipts ..	20-73	19-29
(iii) Urban land Tax	0-51	0-68	Total receipts on Revenue accounts	119-66	180-79
(2) Taxes on property—	5-96	6-85	NOTE.—Estimates of mid-year population as furnished by the Registrar-General of India had been used for working out the per capita figures.		
(i) Stamp duties ..	4-98	5-79			

CHAPTER 4.
APPROACH TO THE SIXTH FIVE YEAR PLAN.

4.0. The growth of income, sectoral and aggregate in the years of 1974-79 is shown in the Table 4. I below:—

TABLE 4. I

STATE INCOME AT CURRENT PRICES.

Sector.	1974-75.	1978-79.	Percentage increase of Col. 3 over Col. 2.	Annual rate of growth. %
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS).				
1 Agriculture	1,33,470	1,62,781	21.9	5.11
2 Forestry and logging	1,483	2,299	55.0	11.6
3 Fishing	2,932	4,095	39.6	8.7
4 Mining and Quarrying	2,064	1,840	(—) 10.9	(—) 2.8
Sub-Total—Primary	1,39,949	1,71,015	22.2	5.2
5-1 Manufacturing (Registered)	53,613	86,961	62.2	12.8
5-2 Manufacturing (un-Registered)	30,887	36,910	19.5	4.6
6 Construction	18,901	38,958	106.1	19.8
7 Electricity, Gas and Water supply	6,135	7,867	28.2	6.4
Sub-Total—Secondary	1,09,536	1,70,696	55.8	11.7
8-1 Railways	3,499	5,008	43.1	9.3
8-2 Transport by other means and storage	16,211	23,519	45.0	9.7
8-3 Communication	3,645	7,037	93.0	18.0
9 Trade, Hotels and Restaurants	53,093	75,499	42.2	9.11
10 Banking and Insurance	11,360	19,242	69.3	14.11
11 Real Estate and Ownership of dwellings and Business Services.	10,331	14,926	44.4	9.6
12 Public Administration	13,182	19,868	50.7	10.8
13 Other Services	18,537	21,302	14.9	3.5
Sub-Total—Tertiary	1,29,858	1,86,401	43.5	9.4
14 N.S.D.P. at Factor Cost	3,79,343	5,28,112	39.2	8.5
Estimated Population (in lakhs)	434	459	5.7	1.4
Per capita (in Rupees)	874	1,151	31.6	7.1

Source.—Department of Statistics, Government of Tamil Nadu.

4.1. It may be seen from the table that of the different sectors of the economy, the primary sector registered an average annual increase of 5.2 per cent, the secondary sector 11.7 per cent and the tertiary sector 9.4 per cent.

4.2. In absolute terms, aggregate state income increased from Rs. 3,79,343 lakhs to Rs. 5,28,112 lakhs. This increase was made possible by the investment made in the public sector under the Plan and also in the private sector. The Public sector investment is made up of state investment as well as central investment. Roughly, State investment forms 40 per cent of the total investment under the Plan, Central Sector 20 per cent and Private Sector 40 per cent. The Plan outlay in the Six years, 1974-80, is seen to be — Rs. 1,512.53 crores. If this is 40 per cent of the total investment, the aggregate investment including the State sector, Central sector and the Private sector will be of the order of Rs. 3,781.33 crores.

4.3. Since the income increase i.e., income of 1979-80 minus income of 1973-74 is Rs. 2,186.27 crores and since investment in this period is of the order of Rs. 3,781.33 crores, the capital-output ratio, in very general terms, works out to 1.73:1. If the same ratio is applied to the expected investment in the Sixth Plan period (i.e. State investment and the expected Central Sector and Private Sector investment) the income growth in the Sixth Plan period will be of the order of Rs. 4,335.26 crores. On the other hand, given the desired income growth, the investment required can be worked out.

4.4. It is proposed to achieve an annual income growth rate of 4 and half to 5 per cent in the case of Agriculture and 8 and half per cent in the case of major and minor manufacturing industries. The overall growth rate envisaged is 5 per cent. In absolute terms this will mean an increase of Rs. 1,582.10 crores. Applying the capital-output ratio arrived at earlier, the investment required will be of the order of Rs. 2,738.76 crores.

Pattern of Income growth desired :

4.5. The objective is to achieve better distribution of wealth and income in the Sixth Plan period. If the rates of growth of income envisaged, for the agricultural sector (5 per cent) and for the Industries sector (8 and half per cent) are applied to the income of the two sectors in the year 1979-80, the income which these sectors will generate in 1984-85 will be Rs. 2,183.51 crores and Rs. 2,024.64 crores respectively.

Investment Pattern :

4.6. The investment pattern is so designed as to achieve the following objectives :

Better distribution of wealth and income :

As in the case of the country as a whole, it is likely that in the last 10 years or so, the disparity

in the distribution of wealth and income in the State has widened. The primary objective of the Plan should therefore be to narrow down this difference. At present the number of people below poverty line in Tamil Nadu is nearly the highest among the States. According to latest estimates, the percentage of people living below poverty line in the rural areas is 62.98 per cent and in the urban areas 52.22 per cent. This proportion has to be reduced and the status of the State should be raised atleast to the medium level.

Eradication of unemployment :—

4.7. An earnest attempt should be made to reduce the level of unemployment in the State. It is estimated that at present the level of unemployment in the State is 16.1 per cent as against the country's average of 8.5 per cent. This again, is among the highest in the States of India. It should be the purpose of the Plan to design employment oriented schemes to the extent possible with a view to reduce the number of unemployed people in the State. It is therefore proposed to give priority to small industries, and labour-intensive industries particularly in the rural areas. For this purpose, if necessary, subsidies will be granted and credit facilities and marketing facilities will have to be arranged for.

4.8. Thirdly, the Minimum Needs Programme should be given greater emphasis. This would cover special programmes for weaker sections of the community ; provision of opportunities for gainful employment ; schemes for the benefit of small and marginal farmers, artisans, land less labourers, the urban poor and the physically and mentally handicapped and the educated unemployed. It would also lay stress on social welfare measures, food production, integrated rural development, supply of safe drinking water, elementary education, health schemes, special programmes for scheduled castes, scheduled tribes, weaker sections and backward areas, special projects for hill areas, desert areas and effective measures to control the evil of wind erosion and to prevent ecological and environmental deterioration.

4.9. As has been suggested by the Union Planning Commission, in choosing the investment pattern, due attention will be given to finish the projects which have already been started. The emphasis will be on the better utilisation of existing capital capacity rather than on the creation of new capital.

4.10. Special emphasis will be laid on Power development. This is in view of the fact that power development is of basic importance for building up the industrial sector of the State's economy. Accordingly, the investment envisaged for Power development is quite high absorbing more than 45 percentage of the total investment. The need for this huge investment is fully justifiable in view of the fact that the potential sources of supply of power are very limited in the State and we have to go in for big Thermal Schemes and also Nuclear Schemes.

4.11. An earnest attempt should be made to achieve population stabilisation. The growth rate of population in the State now is 1.4 per cent which means an increase of 6 lakhs of people in absolute terms on the average every year. It is highly desirable to reduce the rate of growth to 1.0 per cent. Family welfare and Family Planning Schemes will therefore have to be intensified in the Sixth Plan.

Monitoring and Evaluation :

4.12. Evaluation of Plan projects is of the utmost importance to ensure the optimum utilisation of the capital resources already created. Monitoring and Evaluation will have to be done on scientific, upto date lines. It is suggested that monitoring by means of the PERT chart has to be introduced atleast in the case of a few selected sectors in the course of the Sixth Five Year Plan.

Emphasis on Block Development :

4.13. There are at present 376 blocks in the State of Tamil Nadu. One of the main objectives in the Sixth Plan is to make the Plan broad based. Preliminary work for this purpose will be started in the course of the Sixth Plan. It will not be possible to prepare independent plans for all the 376 blocks and then fuse them all together so as to constitute the State Plan. The better method will be to set up agencies for each group of blocks—10 or 20— and then make

this unit responsible for the welfare measure of each block. These units will supply the Planning Commission with details regarding the needs and problems of each block. A cell will be created in the State Planning Commission which will be in charge of these groups of blocks. The needs and problems of the blocks will be noted ; measures to solve the problems will be found, the cost of these schemes will be estimated and these schemes for the betterment of the blocks and the solution of specific problems will be incorporated at the relevant places in the State Plan. These programmes would then meet two requirements at the same time— meet the specific problems at the block level— control of diseases, water-supply, roads facilities etc.,—and at the same time the Programmes undertaken for the Blocks will be included in the State Plan also. To that extent the State Plan will be broad based in the real sense of the term.

4.14. In the ultimate analysis, economic transformation of this State as well as India as a whole depends on the awakening of the masses. Welfare measures listed above and intended specifically for the benefit of the poor will, on implementation, go a long way towards eradication of poverty and unemployment of the masses and creating in them the enthusiasm for material advancement and development. In short, the masses will be awakened to the need for economic progress.

CHAPTER 5.

FINANCIAL RESOURCES FOR THE SIXTH FIVE YEAR PLAN.

5.0. It is envisaged that the size of the Sixth Plan will be of the order of Rs. 4,000 crores. This figure has been arrived at after taking into account the following factors :—

(i) The annual rate of increase in Plan size over the past few years.

(ii) The population of Tamil Nadu as a proportion of the total population of India.

(iii) The desired per capita outlay on the Sixth Plan. (Should be about the average for all the States).

(iv) The desired income growth in absolute terms over the Five Year period ; estimate the investment required in order to achieve the income growth (by applying the overall capital-output ratio).

(v) The inflationary factor.

5.1. The details of the financial resources which would be available for financing the Plan of this size are given in the Statement below :

Resources for the Sixth Five Year Plan 1980-81 to 1984-85.

Sources.	1980-81 latest figure available.	1981-82.	1982-83.	1983-84.	1984-85.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN CRORES.)						
Balance from current revenues ..	63.66	70.94	71.66	76.27	82.21	364.74
Open Market Loans	14.36	15.80	17.38	19.11	21.02	87.67
Small Savings	39.60	41.58	43.65	45.84	48.13	218.80
Provident Fund	15.25	14.98	16.77	17.75	20.94	85.69
Miscellaneous Capital Receipts (Net)	4.22	(—)31.34	(—)25.89	(—)34.69	(—)30.15	(—)117.85
Additional Mobilization	14.00	15.26	16.63	18.12	19.75	83.76
Life Insurance Corporation of India.	4.50	4.95	5.45	6.00	6.60	27.50
Reserve Bank of India	2.00	2.20	2.42	2.66	2.93	19.21
Reserve .. .. .	..	..	..	..	..	..
Opening Balance	(—) 2.36	..	..	..	..	(—)2.36
Central Assistance	142.13	120.33	126.42	72.28	72.28	533.44
Total ..	297.35	254.70	270.49	223.34	243.71	1,293.60
<i>Electricity Board—</i>						
Contribution	(—)10.18	(—)1.71	(—)1.55	(—)1.49	(—)1.29	(—)6.22
Life Insurance Corporation of India.	9.57	10.53	11.58	12.74	14.01	58.43
Rural Electricity Corporation ..	2.93	3.22	3.54	3.84	4.28	17.86
Open market loans	24.20	26.62	29.28	32.21	35.43	147.74
Total—Electricity Board ..	36.52	38.66	42.85	47.35	52.43	217.81

Sources:	(1)	1980-81 (2)	1981-82 (3)	1982-83 (4)	1983-84 (5)	1984-85 (6)	Total. (7)
<i>Transport Corporation—</i>							
Contribution		(—) 3.56	(—) 9.23	(—) 11.32	(—) 17.65	(—) 24.57	(—) 66.33
L.I.C.		1.80	1.98	2.18	2.40	2.64	11.00
Total—Transport Corpn. ..		(—) 1.76	(—) 7.25	(—) 9.14	(—) 15.25	(—) 21.93	(—) 55.33
<i>Other Items—</i>							
Water supply L.I.C. Loan ..		9.26	10.19	11.21	12.33	13.56	56.55
Corporation/TIDCO/Housing Board/Madras Metropolitan Water Supply and Sewerage Board.		3.66	4.02	4.42	4.86	5.35	22.31
Open Market loans contribution.	3.00	3.00	3.00	3.00	12.00
Total		12.92	17.21	18.63	20.19	21.91	90.86
Grand Total		345.04	303.32	326.83	275.63	296.12	1,546.94

5.2. According to the above statement, the total amount mobilisable is Rs. 1,546.94 crores, made up of as follows :—

(1) State's Resources : Rs. 1,293.60 crores (83.62 per cent)

(2) Electricity Board contribution : Rs. 217.81 crores (14.08 per cent)

(3) Transport Corporation contribution : Rs. (—) 55.33 crores (—3.57 per cent)

(4) Other Items : Rs. 90.86 crores (5.87 per cent)

It is clear that the main sources from which additional collection can be expected are Open Market loans, Small Savings, Provident Fund, Additional Mobilisation, Central Assistance and Electricity Board. Of these, collections from Small savings and Provident Fund are more or less pre-determined and cannot be changed by any State policy measures. Transport Corporation shows a deficit but it should be possible to turn it into an attractive positive figure. The scope for additional collections from the above sources will be briefly indicated.

(1) *Central Assistance :*

5.3. If the Plan is to be of the order of Rs. 4,000 crores, the Central assistance of Rs. 533.44 crores will amount to only about 13.4 per cent of the total. It may be observed that Central assistance was as high as 54.57 per cent in the III Plan, 48.41 per cent in the Annual Plans (1966-69) and 38.89 per cent in the IV Plan. It came down to 26.42 per cent in the V Plan. Further, among the States the share of Tamil Nadu in central assistance as a per cent of the total made available for all the States has also steadily come down (from 10.8 per cent in the I Plan to 4.1 per cent in the V Five Year Plan). It is true that Central assistance as a proportion of the total plan outlay has decreased in all the economically advanced States. But considering the per capita income of Tamil Nadu and other factors, this State cannot be considered as one among the economically foremost. According to recent estimates, the per capita income of Tamil Nadu is Rs. 967 as against the national average of Rs. 1,092 and the State's rank among the 22 States is 9.* The percentage of unemployment in Tamil Nadu is 16.1 (1977-78) which is the second highest among all the States and appre-

* Commerce, Bombay, July 12, 1980, Union Budget 1980-81, Table I, P. 49.

ciably above the country's average of 8.5 per cent. A high proportion of people in Tamil Nadu are below the poverty line. Defining poverty line as represented by an income of Rs. 65 per capita per month at 1977-78 prices for rural areas and Rs. 75 for urban population, it is seen that Tamil Nadu has the second highest percentage figures for both rural and urban population.** In view of these factors, it is reasonable to expect that central assistance for the new VI Five Year Plan of Tamil Nadu 1980-81—1984-85 will be 1/3rd of the total outlay on the Plan i.e. about Rs. 1,300 crores.

(2) Internal Market Borrowing :

5.4. It is estimated that open market loans would contribute Rs. 87.67 crores in the VI Plan. The State's internal market borrowings (net), amounted to Rs. 59.84 crores in the IV Five Year plan period and Rs. 67.94 crores in the next five years 1974-75 to 1978-79. An upper limit is fixed with regard to the State's open market borrowing by the Union Government and the Reserve Bank of India. In fixing this limit, the Union Government takes into consideration the commitments of the State Governments in respect of repayment of loans floated earlier and also the net amount that will be available for the State Governments for financing their current expenditure programme. It should be remembered that the total borrowings from the State are shared between the Union Government and the State Government. The larger the borrowings of the former, the smaller the borrowings of the latter. In fact, the States' share has decreased from 44.7 per cent in the IV Plan period to 33.5 per cent in the V Plan period and 18.4 per cent in the VI Plan 1978-83@. This means that unless the ceiling for the States' open market borrowing is fixed a little liberally, collection from this source is likely to dwindle to a small amount.

(3) Additional Resources Mobilisation :

5.5. Between 1970-71 and 1976-77 additional resources mobilisation in Tamil Nadu as a percentage of total tax and non-tax revenue amounted to 9.64 per cent which was among the few highest in India. However, in later years the position deteriorated.

In the matter of taxation, this State has possibly reached its limits ; and it is difficult to think of any substantial addition to tax resources being made by the introduction of new taxes or by raising the rates of existing taxes. However, the possibility of increasing the collections even under the existing system by more efficient tax administration, by closing the loopholes of tax evasion and by preventing avoidance of tax payments has to be explored.

5.6. There is scope for improvement in management and earning capacity of public undertakings. Thus in the case of Electricity undertakings with the upward revision of the rates (discriminatingly) and better operation and by avoiding wastages and losses it would be possible to increase the returns on capital investment sufficiently high so as to make a substantial contribution to the State's resources. Similarly, in the case of transport undertakings, there is scope for increasing the revenue by revising the tariff rates (which has already been effected) and by more efficient operation and by reducing the operating expenses.

5.7. Even with all these measures, and even after taking into account the possibility of getting an extra central devolution and an additional amount by way of the consignment sales tax proposed now, there will still be a substantial gap between the targetted outlay on the Plan and the foreseeable size of resources.

** Statement made by the Prime Minister at the Lok Sabha, March 12, 1980, Quoted in "Indian Express" dated March 13, 1980.

@ "Plan Finances in a Federal Economy" by D. T. Lakdawala. (Yojana, Bombay 16th May 1979, P. 12).

Part II

SECTORAL PLANS

A. PRIMARY SECTOR

PART II—SECTORAL PLANS.

A. PRIMARY SECTOR.

CHAPTER 6.

AGRICULTURE AND MINOR IRRIGATION.

6.0. Agriculture is a basic sector of the State's economy and contributes in several ways to the State's economic progress. As in the rest of the country, the share of agricultural income to total income is by far the largest (30.82 per cent during the year 1978-79) in Tamil Nadu. In 1975-76 the primary sector (Agriculture and allied activities) accounted for 30.54 per cent of the State income. According to the 1971 Census, 69.7 per cent of the population lives in rural areas and 61.7 per cent of the total working force are engaged in agriculture (cultivators and agricultural labourers put together.)

Progress made under the Fifth Plan period 1974-75 to 1978-79:—

6.1. The production target of 90.50 lakh tonnes under food grains comprising of 67.00 lakh tonnes of rice, 20.00 lakh tonnes of millets and 3.50 lakh tonnes of pulses was formulated during the Fifth Plan period. Under Oil seeds, a target of 15.16 lakh tonnes, under Sugarcane (Gur) 14.50 lakh tonnes and under Cotton 4.50 lakh bales were envisaged. Against this target, the production of total foodgrains was 82.33 lakh tonnes with rice reaching 61.07 lakh tonnes, millets 19.04 lakh tonnes and pulses 2.22 lakh tonnes (provisional). Under Oil seeds, the achievement was 12.42 lakh tonnes (provisional). Under Sugarcane (Gur) and Cotton, the achievements were 18.79 lakh tonnes and 4.96 lakh bales (all provisional) respectively.

PROGRESS MADE DURING 1979-80.

Foodgrains—

	(LAKH TONNES.)
Rice	62.29
Millets	19.03
Pulses	2.60
TOTAL	83.92

Oil Seeds	14.03
Sugarcane (Gur)	20.16

	LAKH BALES.
Cotton	4.69

Review of performance—

6.2. A close review of annual production reveals that the foodgrains production has been fluctuating according to the seasonal conditions. During 1974-75, the foodgrains achievement has come

down to 47.98 lakh tonnes. Again in 1976-77, the production was 63.37 lakh tonnes. The production was low during these two years due to the reason that in 1974-75 it was a drought period and in 1976-77 it was a period of heavy floods. Similarly, in oil seeds the production during 1974-75 and 1976-77 was less.

6.3. During the Fifth Plan period, there was no substantial increase either in the extension of area or substantial increase in the area irrigated. Under these circumstances, the important strategy for increasing production was mainly like popularisation of high yielding varieties, stepping up of fertilizers consumption, increased plant production activity, etc.

Proposal for the Sixth Plan.—

6.4. The Sixth plan proposal envisages a total foodgrains production of 104.80 lakhs tonnes comprising of rice 72.00 lakh tonnes, millets 27.05 lakh tonnes and pulses 5.81 lakh tonnes. Under Sugarcane (Gur), Oil seeds and Cotton, the target proposed is 24.84 lakh tonnes, 18.58 lakh tonnes and 5.40 lakh bales respectively. For achieving this increased production, the main thrust is through increased spread of high yielding varieties, increased utilization of fertilizers, organised pest control etc. The marginal increase in the area cultivated is also taken into account. Similarly, in the Pulses crops, the increased production is aimed through higher coverage coupled with increasing productivity. The production of Oil seeds is proposed to be stepped up by intensifying the extension activities through formation of a separate Directorate of Oil Seeds. Increasing the production of cotton is envisaged through higher coverage. Besides the above said specific strategy, the other extension activities would be intensified to increase the production under all the crops cultivated.

6.5. Though there is a marginal increase under 'net area sown' and 'net area irrigated', the percentage of net area sown has been fluctuating between 40 and 45 per cent for several years past, obviously depending upon the fluctuation in monsoon rains. The poor groundwater position and the limited availability of electricity for agricultural purposes remains unchanged. The cultivation of crops depends upon the monsoon.

6.6. During the Sixth Plan period also, these conditions continue to influence the crop production. However, the various improved production techniques will be disseminated to the different level farmers in order to reach a new high in productivity.

6.7. In the teeth of raising cost of inputs, the farmers will be trained in the balanced adoption of remunerative cropping techniques.

6.8. (i) With a view to make the existing Agricultural Extension Services function more efficiently, educate farmers and create better results, a new system of Agricultural Extension viz., the Training and Visit System has been proposed to be implemented.

6.8 (ii) A time has come when Agriculture cannot be viewed as "crops" alone, but has to go hand in hand with Animal Husbandry, Fisheries, etc. Then it becomes necessary to adopt a Programming Approach for optional Combinations. A Pilot Project for this purpose has been included in the plan.

TABLE 6-I.

CROP PRODUCTION—ACHIEVEMENTS AND TARGETS.

Serial number.	Items.	Production Achievement. 1979-80.	Proposed Target for 1984-85.
(1)	(2)	(3)	(4)
I. Food grains.			
1.	Rice	62.29	72.00
2.	Millets—		
	(i) Maize	0.24	0.55
	(ii) Jowar	6.95	10.00
	(iii) Bajra	4.56	7.00
	(iv) Ragi	4.35	7.00
3.	Other cereals—	2.93	2.50
	Total Millets—	19.03	27.05
4.	Pulses	2.60	5.81
	Total Foodgrains	83.92	104.86
II.	Sugarcane (Gur)—	20.16	24.84
III. Oil seeds—			
1.	Ground nut	10.43	16.00
2.	Gingelly	0.52	1.00
3.	Castor	0.04	0.08
4.	Sunflower	0.25	1.50
	Total Oilseeds	11.24	18.58
IV.	Cotton (lakh Bales)	4.69	5.40
	Coconut (in crores)	116	153.40

TABLE 6-II.

AREA UNDER DIFFERENT CROPS—ACHIEVEMENTS AND TARGETS.

Serial number.	Items.	Achievement.— 1979-80	Proposed Target for 1984-85.
(1)	(2)	(3)	(4)
(IN LAKH HECTARES.)			
I. Food grains—			
1.	Rice	28.51	26.50
2.	Millets :—		
	(i) Maize	0.22	0.50
	(ii) Jowar	7.15	8.30
	(iii) Bajra	4.14	4.80
	(iv) Ragi	2.87	3.50
3.	Other cereals..	3.90	3.00
4.	Pulses	7.01	15.50
	Total	53.80	62.10
II.	Sugarcane	1.65	1.80
III. Oil seeds—			
1.	Groundnut	10.00	11.65
2.	Gingelly	1.42	1.60
3.	Castor.. ..	0.11	0.15
4.	Sunflower	0.30	1.75
	Total	11.83	15.75
IV.	Cotton	3.00	3.70
V.	Coconut	1.23	1.52

Horticulture.

6.9. The State is gifted with good scope for Horticultural Development. About 6.6 lakh hectares are cultivated with various Horticultural crops. A separate Department of Horticulture and Plantation Crops was created in 1979 to give greater impetus to the development of these crops. The present level of production of the following Horticultural crops viz.,

Fruits	6.13 lakh tonnes
Cashew	0.10 lakh tonnes
Chillies	0.83 lakh tonnes
and Tapioca	16.83 lakh tonnes

is proposed to be increased at the end of the VI Plan to:

Fruits	21.93 lakh tonnes
Cashew	7.94 lakh tonnes
Chillies	0.92 lakh tonnes
Tapioca	19.20 lakh tonnes

To facilitate the increased production, infrastructure facilities like the Nurseries, Orchards, Seed production Centres etc., will be increased. Apart from the above it is proposed to take up a cashew development project to further extend the area under cashew by 20,000 hectares at a cost of Rs. 840 lakhs.

TABLE 6. HI.

HORTICULTURE

Present level and Projected growth in area and Production under Major fruits, vegetables and other Horticultural crops at the end of the Sixth five year plan.

Serial number.	Item.	Area in lakhs hectares.		Production in lakhs tonnes.	
		Present level 1978-79	Projection at the end of Plan.	Present level 1978-79	Projection at the end of Plan.
(1)	(2)	(3)	(4)	(5)	(6)
I. Fruits :					
1.	Banana	0.56	0.62	12.31	14.38
2.	Mango	0.35	0.43	5.33	6.80
3.	Citrus	0.04	0.06	0.46	0.62
4.	Other fruits	0.17	0.21	0.10	0.13
	Total	1.12	1.32	18.20	21.93
II. Vegetables :					
1.	Potato	0.11	0.13	0.83	1.04
2.	Sweet Potato	0.06	0.08	0.55	0.80
3.	Onion	0.26	0.32	2.75	3.52
4.	Other Vegetable.. .. .	0.40	0.47	2.00	2.58
	Total	0.83	1.00	6.13	7.94
	Total of Fruits and Vegetables	1.95	2.32	24.33	29.87
III. Others :					
1.	Cashew	0.94	1.14	0.10	0.13
2.	Chillies	1.08	1.15	0.83	0.92
3.	Tapioca	0.54	0.60	16.83	19.20

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Seed Certification—

6.10. Use of quality seeds is the most vital aspect in increasing agricultural production. In this context the importance of certified seeds has been realised by the farmers. The certification agency can ensure quality in the seeds.

The quantity of seeds distributed during 1979-80 and the quantity of seeds proposed to be distributed in 1984-85 by the Agriculture Department are as follows :—

TABLE 6 IV.

DISTRIBUTION OF SEEDS (TONNES.)

Serial number and Crop.	Achievement, 1979-80	Proposed target for 1984-85.
(1)	(2)	(3)
I. Paddy	7,970	13,500
II. Millets;—		
(a) Cholam	68	161
(b) Ragi	156	200
(c) Hybrid Cholam	193	162
(d) Hybrid Cumbu	315	400
(e) Hybrid Maize	165	210
III. Pulses	2,099	2,600
IV. Oil seeds—		
(a) Groundnut	2,076	4,660
(b) Gingelly	34	50
(c) Castor	16.7	30
(d) Sunflower	378	900
V. Cotton	774	1,550

6.11. In addition, the agencies like National Seeds Corporation, Co-operative Institutions and also several private seed growers have also entered the seed production trade in a big way. Sometimes unscrupulous seed traders exploit the farmers due to want of adequate supervision by seed certification staff. In order to meet the increased tempo of work, the Department of seed certification needs to be strengthened by providing adequate staff both at the field level and also at the level of the Directorate of Seed Certification, during the Plan period.

Agricultural Marketing—

6.12. Organised Marketing of Agricultural produces creates a great impact in the Agricultural production programmes. Exploitation of farmers by middle-men is said to be the major bottleneck

for the farmer in his endeavour to get profitable price for his produce. Besides establishing sufficient number of organised market yards, facilities for proper storage arrangements for advancing credits, transport facilities etc., have to be provided. The other activity viz., grading under Agmark and quality control ensures availability of unadulterated consumer goods in the market.

Agricultural University—

6.13. The Tamil Nadu Agricultural University has proposed to develop Research, Education and Extension programmes to meet their new challenges of the Eighties by focusing their research on the following areas which will ultimately increase the capacity of Agricultural system and meet the needs of the growing economy.

(i) Crop improvement through genetic manipulation for providing potential for higher productivity and stability. Special emphasis will be on crops like oilseeds, pulses, rice, sugarcane and cotton.

(ii) Resource use and management techniques to improve resource productivity. Special emphasis will be on soil and water management, and development of human resources. Systems approach, integrating crop, animal, forestry and fishery activities will be specified.

(iii) Horticultural research in improving quality and nutrition of food through developing fruits and vegetables.

(iv) Integrated pest and disease control system with twin objectives of minimizing crop losses and cost of chemicals.

(v) Investment in minor irrigation systems should also be developed along organisation modes to fit in the local conditions for efficient management of water. To support this, basic, applied and operational research work must be taken up.

(vi) To develop techniques for post-harvest, processing storage and package of all commodities.

(vii) To study, analyse and formulate alternative market strategies in terms of market structure, pricing and distribution of all commodities.

(viii) To study in depth socio-economic and institutional constraints for developing agricultural system and to identify and test alternative forms of organisations for efficient operation of the system and to develop management strategies for efficient use of energy and related inputs used in production.

6.14. The University has strengthened its research system and organisation during the past three years and has programmed for intensive work to tackle not only the ongoing but also the

upcoming problems in agriculture. The centre for Agricultural and Rural Development Studies, the School of Genetics and the Advanced Centre in Agricultural Microbiology are getting into wider areas of research needed for formulating development planning, policies and strategies. A few more units such as Centre for Integrated Plant Protection, Soil Health Management, Crop System, Human Ecology and Development, Energy systems and Management, Water Technology Centre, Processing and Storage and others are proposed to be developed during the Sixth Plan period. In addition, a few research-stations for intensive work on fruits and plantation crops, social forestry are proposed. Rural Observatories to monitor, assemble and analyse socio-economic changes and formulate development strategies and policy alternatives will also be established.

6.17. The achievement made during the year 1979—80 is as follows—

Serial number	Name of the scheme	Number.	Area irrigated (in hectares).
(1)	(2)	(3)	(4)
1	Private Tube wells	4,921	39,368
2	Filter Point Tube wells	2,733	10,932
3	Deepening of wells	2,807	2,246
4	Boring in wells	2,668	2,134
	Total ..		54,680

6.18. The following targets have been proposed for the Sixth Five Year Plan period 1980—85.

Serial number.	Name of the scheme.	Total number proposed in the Sixth Plan (1980—85).	Area irrigated in Hectares.	Additional production in tonnes.
(1)	(2)	(3)	(4)	(5)
1	Private tube wells scheme	23,600	1,88,800	2,36,000
2	Boring in wells scheme	11,850	9,480	1,185
3	Deepening of wells	14,300	1,144	1,430
4	Filter point tube wells	14,200	56,800	71,000
	Total ..		2,56,224	3,09,615

6.19. The Public Works Department undertakes the Special Minor Irrigation Works and Desilting-cum-Reclamation works. The Special Minor Irrigation Programmes aim at tapping the flash flows in minor rivers and jungle streams by forming new tanks, construction of Anaicuts, excavation of supply channels, conversion of existing mud 'kondams' into Masonry weirs and formation of ponds for raising the ground water table in

MINOR IRRIGATION.
6.15. The major source of irrigation in the State is wells. Wells (Tube wells and ordinary wells) irrigate 33.78 per cent of the total net area irrigated.

6.16. Under Minor Irrigation the following schemes operated by the Agricultural Department help the farmers in improving the ground water supply.

- (i) Private Tube wells.
- (ii) Boring in wells.
- (iii) Deepening of wells.
- (iv) Filter point tubewells.

order to bring under cultivation new ayacut besides bridging the gap, stabilising the existing ayacut, etc. Under Desilting-cum-Reclamation Programme, the lost capacity of the tank due to silting is regained partly or fully by raising the full tank level of the tank and also by desilting the tank bed, the silt being deposited on the fore-shore lands which are thus reclaimed.

6.20. At the commencement of the Sixth Plan 129 schemes under S.M.I.P. and 11 D.C.R. Schemes valued at Rs. 430 lakhs were in progress. They are targetted to be completed during the Sixth Plan period. 384 schemes under special Minor Irrigation Programme and 97 schemes under Desilting-cum-Reclamation Programme of a total value of Rs. 1,346 lakhs are under investigation. On completion of the investigation, new schemes will also be taken up in a phased programme in the Sixth Plan, thus creating a potential of 17,000 hectares of irrigated area under Minor Irrigation Schemes. (P.W.D.)

GROUND WATER.

6.21. There is urgent need to take care of the developing needs of agriculture by going in for full scale development of ground water sources, since surface water resources have been almost exhausted. The on-going schemes, Ground Water survey in Tamil Nadu and development of the Water Institute, Adyar, are implemented. Ground Water survey is of great importance for assessing the availability of ground water resources for its regulation and future harnessing in the State. Development of the Water Institute established with U.N.D.P. assistance to study water resources problems, has assumed importance in the context of the need to utilise the water resources available to realise full benefits.

6.22. Under new schemes, Pollution studies, artificial recharge and consultancy services for farmers are the important programmes envisaged.

SOIL AND WATER CONSERVATION.

6.23. The Soil Conservation Scheme intended to protect the land from hazards of soil erosion by water and wind and also to conserve the required soil moisture in the land in order to increase yield, is implemented, by executing works such as contour bunding, bench terracing, laying contour stone walls, gully control, water management, land shaping, pipe laying and construction of percolation ponds.

6.24. The following achievements were made during 1979-80—

<i>Name of Schemes.</i>	<i>Achievement in hectares.</i>
(1)	(2)
1. Soil and Water conservation in hills and plains including wind swept areas.	47,742
2. Drought Prone Area Programme.	7,941
3. Ravine Control and reclamation.	226
4. Soil and Water Management in command area of Sathanur Reservoir Project.	452
5. Soil conservation in River valley projects—Kundha and Lower Bhavani.	1,125
6. Wind Swept area—Tirunelveli..	2,102

6.25. Besides continuing the above, new schemes have also been proposed during the Sixth Plan period for the purpose of infusing better soil management and economic and efficient water utilization techniques which will result in increased intensity of cropping and higher yields. In particular considering the importance of water Management, schemes have been added, for the Periyar-Vaigai Basin (where the main channels are already being modernised by P.W.D.), and for the major Irrigation Tanks and the Irrigated River Commands.

AREA DEVELOPMENT.

Small Farmers Development Agency:

6.26. The Small Farmers Development Agencies aim at improving the economic condition of the small and marginal farmers and agricultural labourers by adopting the improved technologies in Agriculture, Animal Husbandry, Dairying, Poultry keeping etc. Besides providing exclusive technical assistance, the farmers are given loan and subsidy for the purchase of various inputs and infrastructure. The agencies are in operation in 167 Blocks in the 13 districts in Tamil Nadu. (excluding Madras, Ramanathapuram and Dharmapuri.)

6.27. As against the release of Rs. 314.98 lakhs towards subsidy, the expenditure incurred on the Programme during 1979-80 is Rs.309.28 lakhs.

Integrated Rural Development Programme:

6.28. The Integrated Rural Development Programme introduced by the Government of India from the year 1978-79 is intended to provide full employment and better standards of living to the weaker sections of the society consisting of small and marginal farmers, share croppers, agricultural labourers, rural artisans and persons belonging to scheduled castes and scheduled tribes through productive programmes within a definite time frame in selected blocks. The Government of India allotted 161 blocks for this programme of which 30 blocks have been selected from Drought Prone Area Programme areas, 100 blocks from Small Farmers Development Agency areas and 31 blocks where these two said schemes are not functioning. In similar area 26 additional blocks have also been allotted during 1979-80 and 25 additional blocks during 1980-81.

6.29. As against the release of Rs. 676.25 lakhs towards subsidy the expenditure incurred on the programme during 1979-80 is Rs. 697.99 lakhs.

Drought Prone Areas Programme:

6.30. The Drought Prone Area Programme is implemented in Ramanathapuram and Dharmapuri districts with the object of developing the chronically drought affected areas and to mitigate the impact of drought conditions on the people in these areas particularly the weaker sections by improving the rural economy by undertaking various schemes in Agriculture, Irrigation, Animal Husbandry, Forestry, Fisheries, Co-operation, etc.

6.31. In the Sixth Plan, it is proposed to implement the Integrated Rural Development Schemes in all the 376 Blocks at a total cost of Rs. 96.65 crores for 5 years. The Drought Prone Area Programme is proposed to be implemented in 32 Blocks in Ramanathapuram district and in 16 Blocks in Dharmapuri district at a total cost of Rs. 36.60 crores for the five years.

6.32. Further with a view to uplift the weaker sections of the people like the tribals and other backward and economically poor people living in hill areas, schemes are also implemented under Agriculture Programme.

TABLE 6—V.

ABSTRACT.

SIXTH-FIVE YEAR PLAN 1980-85.

Details of Financial outlays proposed for various heads of development.

Serial number and name of the Scheme.	Total outlay proposed for 1980-85	(1)	(2)
	(RUPEES IN CRORES.)		
<i>I. Agriculture.—</i>			
1. Agriculture—			
(a) Existing Schemes	74.12		
(b) Proposed Schemes	66.19		
Total	140.31		
2. Horticulture—			
(a) Existing Schemes	22.96		
(b) Proposed Schemes	31.96		
Total	54.92		
3. Seed Certification			
	1.71		
4. Agricultural Marketing			
	15.41		
5. Agricultural University			
	15.00		
6. Sewage Development			
	5.64		
7. IRDP and DPAP			
	66.62		
Total—I. Agriculture	299.61		
<i>II. Minor Irrigation—</i>			
(a) Existing Schemes	14.12		
(b) Proposed Schemes	24.57		
Total—II. Minor Irrigation	38.69		
<i>III. Soil Conservation</i>			
	20.10		
<i>IV. Area Development</i>			
	16.28		

TABLE 6—VI.

AGRICULTURE.

SIXTH FIVE-YEAR PLAN 1980—85.

Scheme-wise break-up of Financial outlay of Existing Schemes.

Serial number and Name of the Scheme.	Outlay for 1980-85.			
	Revenue.	Capital.	Loan.	Total.
	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)			
<i>I. Land Utilisation—</i>				
1. Buildings	0.42	24.75	..	25.17
2. Intensive Cultivation in select areas	178.33	..	..	178.33
3. Intensive Agricultural District Programme	1.10	..	..	1.10
Total	179.85	24.75	..	204.60

Serial number and Name of the Scheme.	Outlay for 1980-1985.			
	Revenue.	Capital.	Loan.	Total.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS.)				
<i>II. Area Development—</i>				
Integrated Dryland Agricultural Development Project.	72.65	..	..	72.65
Total ..	72.65	..	..	72.65
<i>III. Crop Production.—</i>				
1. Strengthening of Regional and District Staff.	24.83	..	..	24.83
2. H.Y.V. Programme	21.38	..	..	21.38
3. Sugarcane Development	41.01	..	..	41.01
4. Cotton Development	346.07	..	..	346.07
5. Integrated Coconut Development	183.75	..	..	183.75
6 Increasing the production of Oilseeds ..	858.76	0.06	..	858.82
7 Tobacco Development	0.68	..	..	0.68
8 Production and distribution of TXD Coconut.	33.05	..	..	33.05
9 Scheme for Production of Nuclear Poly. Hedrosis for control of prodemia in Cotton Crops.	2.15	..	..	2.15
10 Intensive Cotton Development Programme...	200.86	..	..	200.86
11 Intensive Oilseeds Development Programme	76.64	..	..	76.64
12 Dwarf and Tail Hybrid Coconut seedlings ..	14.09	..	..	14.09
13 Sunflower Development	35.17	..	..	35.17
14 Coconut Development in Thanjavur ..	9.09	..	..	9.09
15 Pulses Demonstration	43.58	..	..	43.58
16 Opening of Oilseeds Centres .. .. .	..	12.00	..	12.00
17 Development of Coconut at Danishpet ..	..	3.30	..	3.30
Total ..	1,891.11	15.36	..	1,906.47

Serial number and Name of the Scheme.	Outlay for 1980-1985.			
	Revenue	Capital.	Loan.	Total.
	(2)	(3)	(4)	(5)
(1)				
	(RUPEES IN LAKHS.)			
IV. Seed Production:—				
1 State Seed Farms	62.56	4.52	..	67.08
2 Procurement and Distribution of Paddy Seeds	1,278.30	..	..	1,278.30
3 Multiplication and Distribution of Pulses seeds	742.39	0.03	..	742.42
4 Multiplication and Distribution of Paddy and other seeds.	..	0.06	..	0.06
5 Seed Processing Unit	7.05	3.63	..	10.68
6 Independent Seed Inspectorate	3.84	..	..	3.84
7 Seed Testing Labs .. .. .	..	0.05	..	0.05
8 Sugarcane Seed Multiplication	23.91	..	..	23.91
9 Assistance to State Farm Corporation ..	..	0.05	..	0.05
10 Crash Programme for development of coconut seedlings.	327.60	..	..	327.60
Total	2,445.65	8.34	..	2,453.99
V. Manures and Fertilisers:—				
1 Production and Distribution of G.M. Seeds	86.00	..	..	86.00
2 Biological control Lab.	4.64	..	..	4.64
3 Production and Distribution of Blue Green Algae.	0.05	..	..	0.05
4 Preparation and Distribution of Micro Nutrients.	136.19	..	..	136.19
Total	226.88	..	..	226.88
VI. Plant Protection:—				
1 Crop and Plant Protection	1,950.75	..	..	1,950.75
2 Mass Ground Spraying	249.00	..	..	249.00
3 Parasite Breeding Centres	14.72	..	..	14.72
4 Pesticides Testing Labs.	15.32	0.02	..	15.34
5 Brown Plant Hopper	50.00	..	..	50.00
Total	2,278.79	0.02	..	2,278.81

TABLE 6.—VI—cont.

Serial number and Name of the Scheme.	Outlay for 1980-1985.			
	Revenue.	Capital.	Loan.	Total.
(1)	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)			
VII. Research and Education :—				
1 Agricultural Schools .. .. .	..	0.05	..	0.05
2 Crop Substitution Studies	0.05	..	..	0.05
3 Banana Research Station .. .. .	..	0.02	..	0.02
4 Establishment of Nematode Pests of Field Crops.	19.54	..	..	19.54
5 Multicrop Research Station .. .. .	..	0.05	..	0.05
6 Crop Protection Research	0.05	..	..	0.05
7 Studies on Wilt and Button Shedding in Coconut.	4.72	..	..	4.72
8 Development of Breeders seeds of Millets ..	4.85	..	..	4.85
9 Improvement of Sunflower at Tiruvannamalai	3.62	..	..	3.62
10 Production of Breeders seeds in Paddy at Aduthurai.	9.34	..	..	9.34
11 Scheme for Screening and Isolation of superior varieties of Sorghum for Makkottai and Thalaivirichan tracts of Tamil Nadu.	10.45	..	..	10.45
12 Adaptive Research-cum-Demonstration Centre.	14.49	..	..	14.49
13 Farmers Training Centre	119.12	..	..	119.12
14 Documentary films on Agricultural subjects	9.60	..	..	9.60
15 Agricultural Information Service	3.00	..	..	3.00
Total	<u>198.83</u>	<u>0.12</u>	<u>..</u>	<u>198.95</u>
VIII. Mechanisation :—				
1 Tractor Hiring Scheme	66.18	2.86	0.30	69.34
Total	<u>66.18</u>	<u>2.86</u>	<u>0.30</u>	<u>69.34</u>
ALL EXISTING SCHEMES TOTAL ..	<u>7,359.94</u>	<u>51.45</u>	<u>0.30</u>	<u>7,411.69</u>

TABLE 6. VII.
AGRICULTURE.

SIXTH FIVE-YEAR PLAN 1980-1985.

SCHEMEWISE BREAK-UP OF FINANCIAL OUTLAY.

PROPOSED SCHEMES.

Serial number and Name of the Scheme.	Outlay for 1980-1985.			
	Revenue.	Capital.	Loan.	Total.
(1)	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)			
I. Land Utilisation :—				
1 Reorganisation of Agricultural extension set-up.	1,853.83	684.00	..	2,537.83
2 Construction of Building Complexes ..	..	260.00	..	260.00
3 Pilot Project for optimisation of Resources use for Farm Development.	23.52	..	..	23.52
4 Schemes for improving assesment of Area and Productivity of crops.	320.67	..	..	320.67
5 Establishment of Soil Testing Laboratories and 8 Mobile soil Testing Laboratories in the State and equipping for Micro-nutrient analysis.	112.70	6.00	..	118.70
6 On Farm Development Programme in Irrigated command Areas.	35.00	..	40.75	75.75
7 Vaigai-Periyar on Farm Development Programme.	72.00	..	110.50	182.50
8 Command Area Development Programme under Major Irrigation Tanks.	55.00	..	120.00	175.00
Total ..	2,472.72	950.00	271.25	3,693.97
II. Crop Production :—				
1 Increasing the Production of Gingelly in Tamil Nadu.	16.70	..	..	16.70
2 Intensive Coconut Scheme in Tamil Nadu ..	182.43	..	..	182.43
3 Supply of Quality Coconut seedlings and rejuvenation of existing coconut seedlings in urban areas.	106.69	..	..	106.69
4 Scheme for strengthening the Sugarcane Seed Multiplication Programme in Tamil Nadu.	471.67	..	..	471.67
5 Integrated Cotton Development Scheme in Thanjavur district.	12.07	..	..	12.07
6 Integrated Cotton Development Scheme in Dharmapuri district.	16.88	..	..	16.88
7 Integrated Cotton Development Scheme in South Arcot district.	16.88	..	..	16.88
Total ..	618.65	..	..	618.65

Serial number and Name of the Scheme.	Outlay for 1980-1985.			
	Revenue.	Capital.	Loan.	Total.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS.)				
III. Seed Production: —				
1 Increasing the irrigation facilities in State Seed Farms.	..	12.00	..	12.00
2 Strengthening of Seed Processing Unit ..	125.00	75.00	..	200.00
3 Pulses—Construction of godowns and drying yards.	17.98	14.85	..	32.83
4 Production of Breeders Seed on G. Nut. ..	39.84	14.65	..	54.49
5 Establishment of Foundation Seed Production Centres in Ground nut.	103.45	..	..	103.45
6 Long term production of DXT hybrid Coconut seedlings.	10.76	16.00	..	26.76
7 Production of Breeders I and II Cotton Seeds in Vaigai Farm.	53.83	30.70	..	84.53
8 Starting of new State Seed Farms ..	92.20	186.28	..	278.48
9 Temperature and Humidity controlled godown for storing breeders and foundation seeds.	3.96	14.90	..	18.86
Total ..	<u>447.02</u>	<u>364.38</u>	<u>..</u>	<u>811.40</u>
IV. Manures and Fertilizers:—				
1. Strengthening of quality control work on fertilizer.	9.76	..	..	9.76
2. Increasing the production of Bacterial culture in the existing laboratories.	16.90	2.00	..	18.90
3. Scheme for intensification of Blue Green algae production in Tamil Nadu.	19.24	6.00	..	25.24
4. Multiplication of Blue Green algae.	8.00	..	..	8.00
5. Establishment of Central Laboratories in the State.	24.65	1.50	..	26.15
Total ..	<u>78.55</u>	<u>9.50</u>	<u>..</u>	<u>88.05</u>
V. Plant protection—				
1. Establishment of Fertilizers Testing Laboratories and Pesticides Testing laboratories.	60.00	10.00	..	70.00
2. Strengthening of Plant Protection Service in Tamil Nadu.	280.00	20.00	..	300.00
3. Programme for Pests and Diseases surveillance.	334.65	..	..	334.65
4. Scheme for starting 9 new main parasite Breeding Centres for Sugarcane.	6.57	..	..	6.57
5. Enforcement of Insecticides Act 1968	121.64	..	..	121.64
6. Training of Teachers in Plant Protection.	6.00	..	..	6.00
Total ..	<u>808.86</u>	<u>30.00</u>	<u>..</u>	<u>838.86</u>

Serial Number and Name of the Scheme.	Outlay for 1980-1985			
	Revenue.	Capital.	Loan.	Total.
(1)	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)			
<i>VI. Research and Education—</i>				
1 Training of staff engaged in Seed Production, Processing, Storage and transporting.	4.60	..	..	4.60
2 Strengthening of Agricultural information Press	41.90	2.25	..	44.15
3 Schemes to set up a Film Laboratory at the Directorate	4.27	..	..	4.27
4 Setting up permanent exhibition for Information Centre	36.20	14.00	..	50.20
Total ..	86.97	16.25	..	103.22
 <i>VII. Mechanisation—</i>				
1 Establishment of Full fledged Tractor workshop	70.00	16.38	..	86.38
2 Procurement of new bulldozers .. .. .	..	300.00	..	300.00
3 Procurement of diesel tankers for transporting fuel oil	4.00	21.60	..	25.60
4 Propaganda and publicity of agricultural engineering activities	41.50	..	..	41.50
5 Establishment of Agricultural Engineering Training Centre	6.56	5.00	..	11.56
Total ..	122.06	342.98	..	265.04
 ALL PROPOSED SCHEMES—TOTAL ..	 4,634.83	 1,713.11	 271.25	 6,619.19

TABLE 6 VIII.

HORTICULTURE

Sixth Five Year-Plan 1980-85.

SCHEMEWISE BREAK-UP OF FINANCIAL OUTLAY.

STATE PLAN—EXISTING SCHEMES.

*Serial number and name of the Programme.**Outlay for
1980-85.*

(1)

(2)

(RUPEES IN LAKHS.)

I. Land utilisation—

1 Nilgiris Agricultural Development Project	86.74
2 Horticultural Schemes under I.T.D.P.	886.40
3 Scheme for establishing Mahathma Gandhi Rural Orchard at Vallatirakottai..	101.39
4 Scheme for Development Cashew in Tamil Nadu	52.70
Total ..	<u>1,127.23</u>

II. Crop production—

1 Scheme for establishment of Elite Banana Garden	30.13
2 Development of Potato in Kodaikanal and Hosur	55.31
3 Expansion and multiplication of Tapioca	10.05
4 Production and Expansion of 'Kew' variety of Pineapple	9.85
5 Establishment of Tropical fruit Farm, Kanyakumari	25.33
6 Development of Spices	8.14
7 Scheme for production of Banana	26.64
8. Scheme for the opening of Horticultural Depots at Adyar, Vyasarpadi and Vada- palani in the city of Madras and Schemes for strengthening of Horticultural Development and vegetable cultivation in Madras City	19.05
Total ..	<u>184.50</u>

III. Seeds—

1. Scheme for Potato Seed multiplication-cum-Demonstration farm at Hosur taluk in Dharmapuri district	49.01
2. Establishment of vegetable seed production centres in plains (Irungur, Palur and Marunkulam	6.05
Total ..	<u>55.06</u>

CENTRALLY SPONSORED SCHEME.

I. Land utilisation—

1. Drought Prone Area Programme	262.61
Total ..	<u>262.61</u>

II. Crop production—

1. Development of Mandarin orange in Lower Palanis of Kodaikanal taluk in Madurai District under Western Ghat Development Programme	7.98
2. Scheme for the Development of Sub-tropical Fruits and spices under Western Ghat Development Programme	60.13
3. Scheme for assisting Small Farmers of Coffee and Tea in the Nilgiris District under Hill Area Development Programme	468.81
4. Development of Mandarin Orange in Kukkai Valley of Nilgiris under Hill Area Development Programme	6.25
5. Scheme for providing technical guidance to Tea and improvement of Small Tea Plantations under Hill Area Development Programme	75.98
6. Scheme for strengthening of administrative set up for implementing Hill Area Development Programme in the Nilgiris	3.56
Total ..	<u>622.71</u>

III. Seeds—

1. Scheme for Establishment of Vegetable Seed Production centre at Coonoor under Hill Area Development Programme	11.60
2. Scheme for Development of Paddy, Tapioca and Spices in Gudalur Taluk in the Nilgiris District under Hill Area Development Programme	12.52
3. Scheme for the Development of Ginger cultivation in the Nilgiris under Hill Area Development Programme	6.41
Total ..	<u>30.53</u>

IV. Education Training—

1. Establishments of Farmers Training Centre at Uthagamandalam under Hill Area Development Programme	13.21
Total ..	<u>13.21</u>
Total—EXISTING SCHEMES ..	<u>2,295.85</u>

TABLE—6-IX.

HORTICULTURE.

Sixth Five-Year Plan 1980-85 Schemewise break-up of Financial outlay.

STATE PLAN—PROPOSED SCHEMES.

<i>Serial Number and Name of the Programme.</i>	<i>Outlay for 1980-85.</i>
(1)	(2)
	(RUPEES IN LAKHS).
<i>I. Land Utilisation —</i>	
1 Scheme for establishment of Government Orchard-cum-Nurseries in South Arcot District and in Madavaram.	12.94
2 Scheme for establishment of Elite Banana Garden in Chinnakalrayan hills in Salem District.	31.65
3 Scheme for the Co-ordinating the activities of Government Orchard-cum-Nurseries in Tamil Nadu.	4.84
4 Scheme for establishment of Investigation Cell for identification and formulation of suitable Horticultural Development Scheme in Tamil Nadu.	8.77
5 Scheme for the establishment of Giant Orchards in the District of Chingleput, Ramanathapuram, Trichy, Thanjavur and North Arcot.	240.38
6 Scheme for providing additional facilities to Government Orchard-cum-Nurseries in the State.	2.24
7 Scheme for establishing a Botanical garden-cum-Nursery of Yercaud under I. T. D. P.	9.31
Total	310.13
<i>II. Crop Production—</i>	
1 Scheme for the Production Cross protected Acidlime plants in Tamil Nadu	7.19
2 Scheme for Tuber and rooted crops development in plains of Tamil Nadu	2.06
3 Scheme for cultivation of commercial flowers and co-ordinating floricultural activities in Tamil Nadu.	27.78
4 Scheme for the Development of Turmeric in Tamil Nadu	76.01
5 Scheme for setting up of Turmeric curing plant in Tamil Nadu	12.73
6 Scheme for Development of Tapioca in compact blocks to feed Ethyl Alcohol plant.	91.82
7 Scheme for the production of vegetable cultivation in Kitchen gardens in all the cities and Municipalities in Tamil Nadu.	500.91
8 Scheme for Development of Fruit Production in Tamil Nadu	29.47
9 Scheme for strengthening of Regional and District Offices	5.03
10 Scheme for strengthening the Account Wings of the Directorate of Horticulture and Regional Offices.	11.75
11 Scheme for the Development of Jasmine cultivation industry based schemes for extension of Jasmine concentrate in Tamil Nadu	36.40
Total	801.15

TABLE 6-IX—cont.

(1)	(2) (RUPEES IN LAKHS.)
<i>III. Seeds—</i>	
1 Scheme for the Development of Vegetable Seed Production Centres at Devakettai in Ramanathapuram District and Vallathirakottai in Pudukottai district.	11.62
2 Scheme for establishment of Vegetable Seed Production Centres in Tamil Nadu except the Districts of Tirunelveli, Coimbatore and Madurai.	178.89
3 Scheme for the establishment of Vegetable Seed Processing Centres in Thanjavur and Salem district.	17.58
Total ..	208.09
<i>IV. Education Training—</i>	
1 Scheme for Diploma and Certificate course in Horticulture	7.19
2 Scheme for strengthening of various Farmers Training Centres in plains with Horticultural personnels.	32.47
3 Scheme for establishing a planning cell for the Directorate	11.36
4 Scheme for setting up of an Information Unit at Directorate	30.15
Total ..	81.17

CENTRALLY SPONSORED SCHEMES.

<i>I. Land Utilisation—</i>	
1 Scheme for improvement of Bryant Park in Kodaikanal in Madurai District	10.49
2 Scheme for starting new Government Orchard-cum-Nursery in Coimbatore and Kanyakumari Districts under Western Ghat Development Programme.	20.93
3 Scheme for strengthening of Government Orchard-cum-Nurseries in Periakulam and Courtallam under Western Ghat Development Programme.	6.25
4 Scheme for establishing a Giant Orchard in Sirumalai hill in Dindugal Taluk in Madurai under Western Ghat Development Programme.	26.29
5 Scheme for establishment of Giant Orchards in Coimbatore and Tirunelveli District under Western Ghat Development Programme.	55.69
6 Scheme for the maintenance of bench Terraced lands in the Nilgiris under Hill Area Development Programme.	190.11
7 Scheme for stream training and flood control in the Nilgiris District	252.89
8 Scheme for Pilot Project for soil Conservation and stability of soils in the Nilgiris under Hill Area Development Programme.	317.41
Total ..	880.06

TABLE 6-IX—cont.

(1)	(2) (RUPEES IN LAKHS.)
<i>II. Crop Production—</i>	
1 Scheme for the intensive Development of Horticulture in the Taluks of Usilampatti, Periyakulam and Uthamapalayam in Madurai District under Western Ghat Development Programme.	28-69
2 Scheme for the Development of Plantation Crops in Tamil Nadu and establishing a Central Nursery for plantation crops at Pannaikadu in Madurai District under Western Ghat Development Programme.	26-24
3 Scheme for commercial production of mushroom at Uthagamandalam under Hill Area Development Programme.	7-14
4 Scheme for the Development of Betelvine and assisting the betelvine growers in Tamil Nadu under Western Ghat Development Programme.	5-22
5 Scheme for the Development of Horticulture and Plantation Crops in Tamil Nadu under Western Ghat Development Programme.	394-22
6 Scheme for Survey for establishing demonstration-cum-servicing centre for processing fruits and vegetables.	38-93
7 Scheme for strengthening of Directorate of Horticulture and plantation crops to cope up with the increased work under Western Ghat Development Programme.	3-25
8 Scheme for expansion of the Fruit Preservation Centre at Pomological Station at Coonoor under Hill Area Development programme.	14-86
9 Scheme for the Development of Mandarin Orange in the Nilgiris under Hill Area Development Programme.	7-82
10 Scheme for planting Todapattu lands with Tea in the Nilgiris under Hill Area Development Programme.	18-68
11 Scheme for diversification of crops in the Nilgiris District under Hill Area Development Programme.	158-52
Total ..	703-57
<i>III. Seeds—</i>	
1 Scheme for running potato seed farms at Kodaikanal under Western Ghat Development Programme.	18-54
2 Scheme for supply of disease-free Banana suckers at 50 per cent subsidy under Western Ghat Development Programme.	0-66
3 Scheme for the establishment of 3 Vegetable Seed Production Centre in Tirunelveli, Madurai and Coimbatore District under Western Ghat Development Programme.	57-82
4 Scheme for establishment of Vegetable Seed Processing Centre in Periyakulam Taluk of Madurai District under Western Ghat Development Programme.	8-79
5 Scheme for production of quality potato seeds in the Nilgiris under Hill Area Development Programme.	19-85
6 Scheme for the production of Tea (V.P.) clones in the Nilgiris under Hill Area Development Programme.	57-29
Total ..	162-95

TABLE 6-IX—cont.

(1)	(2)
	(RUPEES IN LAKHS.)
<i>IV. Education Training—</i>	
1 Scheme for the establishment of clinical laboratory for Horticultural and Plantation Crops in Kodaikanal.	21-00
Total ..	21-00
<i>V. Mechanisation—</i>	
1 Scheme for the popularisation of power tiller with improved implements in the Nilgiris under Hill Area Development Programme.	28-03
Total ..	28-03
Total Proposed Schemes ..	31,96-15

TABLE 6-X.

SEED CERTIFICATION.

Sixth Five Year Plan 1980-85—Scheme-wise break-up of Financial Outlays.

<i>Serial number and name of the Project.</i>	<i>Outlay for 1980-85.</i>			
	<i>Revenue.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
	(2)	(3)	(4)	(5)
(1)				
				(RUPEES IN LAKHS.)
I. Independent Seed Inspectorate—				
1 Recurring Expenditure	26-81	..	..	26-81
2 Non-recurring Expenditure	3-72	..	..	3-72
Total ..	30-53	..	..	30-53
II. Strengthening the Seed Certification Directorate—				
1 Recurring Expenditure	126-19	..	..	126-19
2 Non-recurring Expenditure	13-78	..	..	13-78
Total ..	139-97	..	..	139-97
Grand Total ..	170-50	..	..	170-50

TABLE 6-XI.

AGRICULTURAL MARKETING.

Sixth Five Year Plan—Schem-wise break-up of Financial Outlay.

<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85.</i>
(1)	(2)
	(RS. IN LAKHS.)
1 Scheme for Tribal Area Market Development	86.00
2 Establishment of Regulated Markets for Vegetables, Fruits and Flowers ..	673.25
3 Scheme for construction of Rural Godowns for Warehousing of Agricultural Produce.	396.75
4 Scheme for provision of Processing Units in selected Regulated Markets	30.00
5 Scheme for the development of infrastructure of the Regulated Markets	55.00
6 Development of Commercial Grading of Agricultural Produce	55.00
7 Establishment and strengthening of State Agmark Laboratories	45.00
8 Construction of Buildings for the existing State Agmark Laboratories	30.00
9 Strengthening of Directorate of Agricultural Marketing, Tiruchirappalli	85.00
10 Construction of office buildings for Directorate of Agricultural Marketing and Subsidiary offices and Staff quarters.	85.00
Grand Total ..	1,541.00

TABLE 6-XII.

MINOR IRRIGATION.

Sixth Five Year Plan 1980-85—Scheme-wise break-up of Financial Outlay for existing Schemes.

<i>Serial number and name of the Scheme.</i>	<i>Revenue.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)
	(RS. IN LAKHS.)			
I. Agriculture Schemes—				
1 Deepening of wells in Rocky areas	39.45	..	..	39.45
2 Sinking of private Tube-wells	105.26	72.15	..	177.41
3 Strengthening of Ground Water Organisation ..	18.48	0.05	..	18.53
Total—Agriculture Schemes ..	163.19	72.20	..	235.39

TABLE 6—XII—cont.

<i>Serial number and name of the Scheme.</i>	<i>Revenue.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)
				(RUPEES IN LAKHS.)
II. Horticulture Scheme :				
Scheme for providing lift irrigation facilities to Todamunds in the Nilgiris district under Hill Area Development Programme.	2.09	8.10	..	10.19
Total Horticulture Scheme ..	2.09	8.10	..	10.19
III. Public Works Department Schemes:				
1 Special Minor Irrigation Schemes .. .. .	..	..	..	418.29
2 Desilting <i>cum</i> Reclamation Scheme .. .. .	..	..	..	11.98
Total P.W.D. Schemes .. .. .	..	..	..	430.27
IV. Ground Water Schemes :				
1 Ground Water Survey in Tamil Nadu .. .. .	..	..	..	693.00
2 Water Institute .. .. .	..	..	..	43.41
Total—Ground Water Schemes .. .. .	..	..	..	736.41
Total—Existing Schemes .. .. .	..	..	..	1,412.26

TABLE 6—XIII.

MINOR IRRIGATION.

Sixth Five-Year Plan 1980-85

Schemewise break-up of financial outlays for proposed Schemes

<i>Serial number and the name of the Scheme.</i>	<i>Outlay for 1980-85</i>			
	<i>Revenue.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)
				(RUPEES IN LAKHS.)
I Agriculture Schemes :				
1 State Tube wells in Alluvial Region	303.07	..	..	303.07
2 Pilot Project for Re-charging of ground water in Hardrock areas.	16.60	2.00	..	18.60
3 Purchase of 250 PSI Drills (4 Numbers)	17.00	109.20	..	126.20

TABLE 6-XIII—cont.

Serial number and the name of the scheme.	Outlay for 1980-85.			
	Revenue.	Capital.	Loan.	Total.
	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS.)			
4 Purchase of additional equipments for hard rock areas.	18.00	60.00	..	78.00
5 Supply of fuel and inputs-Drills R.B. Units, etc. ..	253.48	18.00	..	271.48
6 Re-powering the drilling rigs with Indigenous Prime Mover.	12.00	..	..	12.00
7 Conversion of percussion drills to Rotary-cum-percussion drills.	15.81	..	..	15.81
Total—Agriculture Schemes ..	635.96	189.20	..	825.16
II. Horticulture Schemes :				
1 Scheme for providing lift irrigation facilities-cum-flood control measures in Nilgiris under Hill Area Development Programms.	15.25	95.00	..	110.25
2 Scheme for providing irrigation facilities to Todamunds in the Nilgiris District under Hill Area Development Programms.	6.00	31.50	..	37.50
Total—Horticulture Schemes ..	21.25	126.50	..	147.75
III. Public Works Department Schemes :				
1 Special Minor Irrigation Schemes .. .. .	..	..	..	1,142.41
2 Desilting-cum-Reclamation Schemes .. .. .	..	..	..	203.96
Total—P.W.D. Schemes .. .. .	..	..	..	1,346.37
IV. Ground Water Schemes :				
1 Pollution Studies .. .. .	..	..	..	2.50
2 Artificial Recharge .. .. .	..	..	..	15.00
3 Consultancy Services .. .. .	..	..	..	120.00
Total—Ground Water Schemes .. .. .	..	..	..	137.50
Total—Proposed Schemes .. .. .	..	..	..	2456.78

TABLE 6—XIV

SOIL CONSERVATION

Sixth Five-Year Plan 1980-85

Scheme-wise break up of financial outlay.

<i>Serial number and the name of the scheme.</i> (1)	<i>Revenue.</i> (2)	<i>Capital.</i> (3)	<i>Loan.</i> (4)	<i>Total.</i> (5)
1 Drought Prone Area Programme :	(RUPEES IN LAKHS.)			
(a) Soil Conservation	120.27	..	172.50	292.77
(b) Dryland farming	48.13	..	..	48.13
2 Soil and Land use Survey Organisation	36.21	..	..	36.21
3 Soil Testing Labs	58.45	0.05	..	58.50
4 Reclamation of Saline Alkaline lands	19.04	..	..	19.04
5 Execution of soil Conservation Schemes	657.88	..	570.62	1,228.50
6 Ravine Reclamation Scheme ..	25.09	..	51.51	76.60
7 Soil Conservation Scheme in Satharur Project area	16.00	..	17.15	33.15
8 Soil Conservation Scheme in Catchment of river Kandha and lower Bhavani.	217.10	..	..	217.10
Total ..	1,198.17	0.05	811.78	2,010.00

TABLE 6-XV

AREA DEVELOPMENT (AGRICULTURE)

SIXTH FIVE-YEAR PLAN 1980-85

Scheme-wise Break up of Financial Outlay.

<i>Serial number and name of the Scheme.</i> (1)	<i>Outlay for 1980--85.</i> (2)
	(RUPEES IN LAKHS).
EXISTING SCHEMES :	
1. Development of Horticulture in Hill areas other than Nilgiris.	129.77
2. Large scale orchard for tribals at Kolli and Kalrayan Hills.	86.63
3. Horticultural (Agricultural) Schemes in Tribal Areas.	1,411.60
Total ..	1,628.00

CHAPTER 7.
ANIMAL HUSBANDRY

7.0. Livestock Development has an important role in the economic development since the livestock besides providing highly nutritive food for the people, supplies the work-power for crop production and rural transport.

7.1. Tamil Nadu has a livestock population of 24.14 millions and livestock rearing is a vocation predominant in rural areas. A wide net work of service centres built up so far have created improvement in the productive capacity of the cattle. The efforts for the development of livestock have mainly been directed towards the qualitative improvement of the productivity of cattle, sheep, pig and poultry to meet the requirements of milk, meat, eggs, work-power, etc.

7.2. The average per capita consumption level of milk which is 99 grams per day in Tamil Nadu against 130 grams for the country needs to be stepped up by improving the performance of the indigenous cows and buffaloes through cross breeding with superior breeds of cattle. By the end of the Sixth Plan period, it is proposed to step up the milk production from the present (1979-80) level of 17.60 lakhs tonnes to 19.80 lakhs tonnes. Since Disease control and Health coverage measures need to be stepped up it is proposed to open up further number of veterinary dispensaries, upgrade the existing institutions into Veterinary Hospitals/Clinical centres. To meet the requirement of Biologicals the programme is to increase the production of Brucellosis vaccine, Duck plague vaccine, Cellculture Fowl Pox vaccine and strengthening of Poultry vaccine divisions. It is also proposed to establish one pharmaceutical division.

7.3. For the development of sheep it is proposed to establish one Ram multiplication farm, and Goat Unit. Deworming work will be intensified in all the Districts.

7.4. Schemes for increasing the production of fodder have also been proposed.

Poultry Development—

7.5. The Tamil Nadu Poultry Development Corporation is engaged in the popularisation of poultry farming and in the procurement of eggs and marketing, for the benefit of poultry farmers. Hatcheries are maintained for the production and sale of Hybridchicks to the poultry farmers. Besides the Corporation is also running feed mixing units to meet the growing demand for poultry feed.

7.6. It is proposed to expand the feed mixing units and also the hatchery and provide additional infrastructure for the marketing activity. It is also proposed to expand the grower farms.

Meat Development

7.7. In order to supply clean and hygienic meat to the urban population of the City of Madras it is necessary to adopt the latest methods of Slaughter house technology for which a Meat Corporation has been formed.

TABLE 7-I.
ABSTRACT.

SIXTH FIVE-YEAR PLAN—1980-85.

ANIMAL HUSBANDRY—FINANCIAL OUTLAY.

Serial number and Programmes.	Outlay proposed for 1980-85		
	Existing.	Proposed.	Total.
	(RUPEES IN LAKHS)		
(1)	(2)	(3)	(4)
1. Animal Husbandry	558.82	2,463.18	3,022.00
2. TAPCO	100.00	..	100.00
3. Tamil Nadu Meat Corporation .. .. .	..	278.00	278.00
Total State Plan	658.82	2,741.18	3,400.00
4. Animal Husbandry Projects with World Bank Assistance.	..	7,902.00	7,902.00

TABLE 7-II.

ANIMAL HUSBANDRY.

Schemewise Financial Outlay proposed for the Sixth Five-Year Plan (1980-85).

Serial number and name of the scheme.	Outlay for 1980-85.		Total.
	Existing Schemes.	Proposed Schemes.	
	(2)	(3)		(4)
	(RUPBES IN LAKHS.)		
1. Cattle Development	435.44	1,008.39	1,443.83
2. Veterinary and Animal Health	99.22	328.86	428.08
3. Institute of Veterinary Preventive Medicine	9.19	288.97	298.16
4. Piggery Development .. .. .	..	5.63	5.63
5. Fodder Development	0.45	19.96	20.41
6. Animal Husbandry Statistics	14.52	..	14.52
7. Veterinary Education and Training .. .. .	..	2.79	2.79
8. Direction and Administration .. .. .	..	66.62	66.62
9. Special Programmes .. .. .	..	741.96	741.96
Total	558.82	2,463.18	3,022.00

TABLE 7-III

Schemewise break-up of Financial outlay. Part-I Schemes (1979-80.)

Serial number and name of the scheme.	Outlays for 1980-85	Serial number and name of the scheme.	Outlays for 1980-85.
(1)	(2)	(1)	(2)
I. Cattle Development : (RUPEES IN LAKHS.)		II. Fodder Development : (RUPEES IN LAKHS.)	
1 Frozen Semen Bank at Eachankottai.	3.77	1 Strengthening of Fodder Seed Production Unit at Sheep Farm, Chinnasalem.	0.45
2 Intensive Cattle Development Project.	167.85	Total ..	0.45
3 Development of Goshala ..	0.03		
4 Key Village Blocks	126.15		
5 Establishment of Liquid Nitrogen Plant.	38.65		
6 Progeny Testing Scheme at District Livestock Farm, Hosur.	38.44	III. Animal Husbandry Statistics :	
7 Establishment of Exotic Cattle Breeding Farm, Eachankottai.	60.55	1 Scheme for Strengthening of Statistical Cell.	14.52
Total ..	435.44	Total ..	14.52

TABLE 7-III—cont.

<i>Serial number and name of the Scheme.</i>	<i>Outlays for 1980—85.</i>	<i>Serial number and name of the Scheme.</i>	<i>Outlays for 1980—85.</i>
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS)		(RUPEES IN LAKHS.)
IV. Veterinary and Animal Health :			
1 Training of rural youth	1.29	TABLE 7-IV—cont.	
2 Veterinary Dispensaries	71.49	II. Veterinary and Animal Health :	
3 Establishment of Animal Disease Intelligence Unit.	14.69	1 Establishment of Pharmaceutical Division.	32.53
4 Upgrading of Veterinary Hospital as Clinical Centres.	11.75	2 Opening of Veterinary Dispensaries.	4.59
Total ..	99.22	3 Upgrading of Veterinary Dispensary into Veterinary Hospital.	1.45
V. Institute of Veterinary Preventive Medicine :			
1 Strengthening of Institute of Veterinary Preventive Medicine, Ranipet.	9.19	4 Upgrading of Veterinary Hospital into Clinical Centres.	7.98
Total ..	9.19	5 Construction of Godowns for Medical Department.	2.00
Total—Part I Schemes ..	558.82	6 Rinderpest Eradication (Provision of additional facilities).	10.28
		7 Rinderpest Eradication (setting up of New Squads).	20.03
		8 Provision of Ministerial Staff to Veterinary Institutions.	..
		Total ..	78.86

TABLE 7-IV.

SIXTH FIVE-YEAR PLAN, 1980-85.

SCHEMewise BREAK-UP OF FINANCIAL OUTLAYS.
PART II—SCHEMES (1980-81).

<i>Serial number and name of the Scheme.</i>	<i>Outlays for 1980—85.</i>	<i>Serial number and name of the Scheme.</i>	<i>Outlays for 1980—85.</i>
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS.)		(RUPEES IN LAKHS.)
I. Cattle Development :			
1 Heifer production programme ..	41.35	III. Institute of Veterinary Preventive Medicine :	
2 Strengthening of Staff, Intensive Cattle Development Project, Tiruchirappalli.	0.75	1 Strengthening of Brucellosis Lab at the IVPM.	8.85
3 Re-organisation of Livestock Farm.	0.01	2 Strengthening of Poultry Vaccine production section at the IVPM.	11.27
4 Training in Frozen Semen Technique.	2.35	3 Production of Duck Plague Vaccine at the IVPM.	1.75
5 Progency testing scheme (Buffalo).	79.33	4 Production of Cell culture Fowl Fox Vaccine at the IVPM.	2.84
6 Establishment of Kangayam Cattle Breeding Farm.	0.01	5 Construction of Staff Quarters at the IVPM.	5.00
7 Establishment of Key Village Blocks.	40.32	6 Augumenting mutton production Deworming of Sheep.	3.76
8 Purchase of Ongole animals ..	4.56	7 Provision of additional facilities to the existing Poultry Extension Centres.	2.51
9 Establishment of Dog Breeding Unit.	2.24	Total ..	35.98
10 Establishment of Goat Breeding Unit.	22.97		
11 Purchase of Exotic Cattle ..	7.25		
Total ..	201.14		

TABLE 7-IV—cont.

<i>Serial number and name of the Scheme.</i> (1)	<i>Outlays for 1980-85.</i> (2) (RUPEES IN LAKHS)	<i>Serial number and name of the Scheme.</i> (1)	<i>Outlays for 1980-85</i> (2) (RUPEES IN LAKHS)
IV. Fodder Development :		VI. Direction and Administration :	
1 Fodder Production Unit in Livestock Farm, Eachankottai.	5.96	1 Strengthening of Staff in the Assistant Director of Animal Husbandry Office.	16.62
Total ..	5.96	Total ..	16.62
V. Veterinary Education and Training :		Total—Part II Schemes	
1 Deputation of Officers to M.V.Sc.	2.79	..	341.35
Total ..	2.79		

TABLE 7-V.

SIXTH FIVE-YEAR PLAN 1980-85.

Schemewise breakup of Financial Outlays

<i>Serial number and name of the Scheme.</i> (1)	<i>Outlay for 1980-85.</i>			
	<i>Revenue.</i> (2)	<i>Capital.</i> (3)	<i>Loan.</i> (4)	<i>Total.</i> (5)
	(RUPEES IN LAKHS)			
I. Cattle Development—				
1. Establishment of Frozen Semen Banks	157-00	493-00	..	650-00
2. Procurement of Exotic Cattle	25-00	..	..	25-00
3. Procurement of Murrah Bulls	12-00	..	..	12-00
4. Purchase of Burdizzo Castrators	6-92	..	..	6-92
5. Establishment of Holstein Friesian Breeding Farm.	9-43	3-90	..	13-33
6. Strengthening of District Livestock Farm with infrastructure facilities.	100-00	..	..	100-00
Total-Cattle Development	310-35	496-90	..	807-28
II. Veterinary and Animal Health—				
7. Upgrading of Veterinary Hospitals as Clinical Centre.	25-00	25-00	..	50-00
8. Upgrading of Veterinary Dispensaries into Veterinary Hospitals.	8-00	42-00	..	50-00
9. Opening of Veterinary Dispensaries	150-00	..	..	150-00
Total—Veterinary and Animal Health	183-00	67-00	..	250-00

TABLE 7-V—*contd.*
 SIXTH FIVE-YEAR PLAN—1980-85—*contd.*
 Schemewise break-up of Financial Outlays—*contd.*

Serial number and name of the Scheme.	Outlays for 1980-85.			
	Revenue. (2)	Capital. (3)	Loan. (4)	Total. (5)
(RUPEES IN LAKHS.)				
III. Institute of Veterinary Preventive Medicine—				
10. Strengthening of I.V.P. M.	2.00-00	..	..	2,00-00
11. Establishment of Poultry Disease Diagnostic Laboratories.	13-72	3-00	..	16-72
12. Establishment of a Sheep Farm in North Arcot District (Madras Red Ram).	31-27	5-00	..	36-27
Total—Institute of Veterinary Preventive Medicine.	244-99	8-00	..	252-99
IV. Piggery Development—				
13. Distribution of Piglets to pig Breeders	5-63	..	..	5-63
Total—Piggery Development ..	5-63	..	..	5-63
V. Fodder Development—				
14. Distribution of Fodder line and fodder seeds ..	4-00	..	..	4-00
15. Establishment of Fodder Seed Production Units in District Livestock Farms.	10-00	..	..	10-00
Total—Fodder Development ..	14-00	..	..	14-00
VI. Direction and Administration—				
16. Strengthening of Administration	50-00	..	..	50-00
Total—Direction and Administration	50-00	..	..	50-00
VII. Special Programmes—(Centrally Sponsored)				
17. Special Livestock Production Programme (State Share).	741-96	—	—	741-96
Total	741-96			741-96
Grand Total—Proposed-State Plan Schemes—	1549-93	5,71-90	..	2,121-83

TABLE 7-VI

SIXTH FIVE-YEAR PLAN—1980-85

PROJECTS WITH WORLD BANK ASSISTANCE (1980-85).

<i>Serial number and name of the Project.</i>	<i>Outlay for 1980-85</i> (RUPEES IN LAKHS.)
1. Tamil Nadu Sheep Development Project.	47,49.00
2. Tamil Nadu Poultry Development Project.	31,53.00
Total ..	79,02.00

TABLE 7-VII

SIXTH FIVE-YEAR PLAN 1980-85.

Tamil Nadu Poultry—Development Corporation Schemewise break-up of Financial outlay.

<i>Serial number and name of the Scheme.</i>	<i>Outlay for 1980-85.</i> (RUPEES IN LAKHS.)
1. Expansion of feed mixing units.	6.35
2. Hatcheries—	
(a) Commercialisation of Chick Hatchery at Kappalur (Total schemes Rs. 34.40 lakhs out of which Rs. 10 lakhs have been released).	24.40
(b) Expansion of Hatchery at Arasur.	8.50
3. Marketing Units—	
(a) Provision of infrastructure for procurement, storage and distribution of Eggs, Meat and Poultry Products and establishment of new marketing units in four districts	
(i) Cold Storage for eggs at Madras	5.50
(ii) Cold storage Plant for Meat in district	4.00
(iii) Vehicles	20.00

*Serial number and name of the Scheme.**Outlay for 1980-85*

(RUPEES IN LAKHS).

(iv) Deep Freezers	10.00
(v) Booths	10.00
(vi) Filler Flats	8.65
4. Expansion of Grower Farms ..	2.60
Total ..	100.00

TABLE 7-VIII

SIXTH FIVE-YEAR PLAN—1980-85. TAMILNADU MEAT CORPORATION

Schemewise break-up of Financial outlays.

<i>Serial number and name of the Schemes.</i>	<i>Outlay for 1980-85</i> (RUPEES IN LAKHS.)
1. Provision for the share capital from Government (State and Centre) for the construction of Modern Abattoir.	1,31.00
2. Token provision towards share capital from State Government for the modernisation of slaughter houses in major cities viz., Madurai, Coimbatore, Tiruchirappalli and Tirunelveli	1,00.00
3. Cost of establishment of 12 Small Scale Slaughter houses in eight districts at an estimated cost of Rs. 50,000 each	6.00
4. Cost of establishment of one carcass utilization plant in Madras.	40.00
5. Cost of Scheme for training Technical Staff and Lecturers.	1.00
Total ..	278.00

CHAPTER 8.

DAIRY DEVELOPMENT.

8-0. The Dairy Development Department in formulating the schemes lays special emphasis on strengthening and organising Milk Procurement Programmes and extending the area of net work for collection of milk in the districts of Thanjavur, Tiruchirappalli, Pudukottai, Ramanathapuram, Tirunelveli and Kanyakumari districts.

8-1. The basic objective is to build up strong producers' co-operatives which should be federated into district unions and then into State level Federation, the idea being that the entire organisational structure should be in a position to involve the farmers' co-operatives in implementing the schemes of Dairy Development. The schemes cover creation of various infra-structure facilities for Dairy Development besides implementation of the Cross Breeding Programme adopting the frozen semen technology to upgrade the genetic quality of the cattle and thereby increase the milk production.

TABLE 8-1.

SCHEME-WISE BREAK-UP OF FINANCIAL OUTLAYS.
SIXTH FIVE YEAR PLAN, 1980-85.

<i>Serial number and name of the scheme.</i> (1)	<i>Proposed outlay 1980-85.</i> (2) (RUPEES IN LAKHS.)
1 Assistance to TNDDC (construction of office buildings for Tamil Nadu Dairy Development at the Corporation Milk Colony).	15.01
2 Technical inputs for increasing milk production in non-operation flood districts :—	
(i) Establishment of Milk Procurement Teams.	95.38
(ii) Establishment of Mobile Veterinary Units.	78.47
(iii) Establishment of a Liquid Nitrogen Plant at Tirunelveli.	49.94
3 Establishment of a Project Cell for implementing the schemes in the Districts of Pudukottai, Ramanathapuram, Tirunelveli and Kanyakumari.	10.56
Total ..	249.26

<i>Serial number and name of the scheme.</i> (1)	<i>Proposed outlay 1980-85</i> (2) (RUPEES IN LAKHS.)
4 Facilities to handle milk produced from the producers' societies organised in the Non-operation Flood districts.—	
(a) Pudukottai :	
Milk Chilling Plant of 1,000 litres per hour capacity.	20.00
(b) Ramanathapuram :	
Milk Pasteurisation Plant of 3,000 litres per hour capacity.	70.00
2 Chilling Plants of 5,000 litres per day.	16.00
(c) Tirunelveli :	
Milk Pasteurisation Plant of 3,000 litres per hour capacity.	70.00
2 Chilling Plants of 5,000 litres per day capacity.	16.00
(d) Kodaikanal in Madurai district: Procurement Team and Mobile Veterinary Unit.	11.27
Equipments like processing Kettle, storage tanks, etc.	15.00
Total ..	218.27
5 Rural Dairy Extension Service (Loan for purchase of milk cans, transport vehicles and construction of Laboratory-cum-godowns by societies/Unions).	201.00
Grand Total ..	668.53
	<i>or</i>
	Rs. 668 lakhs.

CHAPTER 9.

FORESTS.

9.0. The Forest area in the State is 21,747 Sq.Km. and forms 16.7 per cent of the total land area. The forest area is 7 per cent less than the national average of 23.4 per cent and 16 per cent lower than the aim of National Forest Policy. The wide variations of temperature and rainfall in forest areas have led to a variety of fauna and flora. This has led to problems of preservation and conservation of flora and fauna, especially as forest lands were continuously diverted to non-forestry purposes in the past thirty years. Government have taken a decision that no forest land will be diverted to non-forestry and non-developmental purposes.

9.1. Forests, an important and renewable natural resources, help in controlling floods and soil erosion and also help to maintain ecological balance. They ensure an uninterrupted supply of water in rivers and streams and reduce the environmental pollution. Therefore it is necessary to miximise efforts to conserve and develop existing natural forests and create new forests to the extent possible. Such efforts are also necessary to assure an uninterrupted and smooth flow of required raw materials to the Forest-based Industries.

9.2. In 1979-80, production of pulp which covers Bamboo, Eucalyptus hybrid for paper pulp and the Blue gum and wattle wood for Rayon and Staple Fibre was 1,69,000 metric tonnes; Timber 21,219 cu.m., and Fuelwood 140,790 cu.m. During the same year the number of Sandalwood Trees extracted was 2,24,295 ; and productions of cashew was 1447 tonnes and Tanning materials 15090 tonnes. 150 tonnes of essential oils were extracted from lemon grass and 815 hectares of Eucalyptus leaves were exploited. Maximum share of the revenue under forestry is found to come from the sales of Sandal wood and the Pulpwood and Wattle bark supplied to the pulp and rayon industries.

Programmes for Sixth Plan :

I. (1) Forest Industry :

9.3. The four major industries in Tamil Nadu which use the Forest produce are (1) Paper (2) Rayon Pulp (3) Tan Extracts and (4) the Chip Board and Flush doors. There is a wide gap between the demand and supply of forest produce to the paper industries. It is proposed to meet the increasing demand by increasing the village forests for which adequate provision has been made in the Plan.

9.4. M/s. South India Viscos, Mettupalayam is the only industry producing Rayon Fibres. Annually the factory requires 1.5 lakhs tonnes of wood whereas the production of Rayon pulp

materials in our State is only 110,000 tonnes. The supply from the Forest is not adequate to meet the present demand of the Mill. "The Tan India Wattle Extracts Limited", Mettupalayam produces extracts of wattle bark used in the tanning industry. A part of the demand for the tan materials has been proposed to be met by raising more of wattle plantations and Divi-Divi.

(2) Sandal Oil distillation :

9.5. At present there are three sandal oil distillation factories in the State at Mettur, Salem and Thiruvannamalai. They use 230 tonnes of wood out of a quantity of 1500 tonnes produced in our forests. Under the sixth plan, the Government have decided to set up a factory in North Arcot district (Tirupathur) at an estimated cost of Rs. 22.35 lakhs.

II. Forest Corporations :

9.6. The Tamil Nadu Forest Plantation Corporation (TAF CORN) and the Tamil Nadu Tea Plantation Corporation (TANTEA) are the two State owned corporations started during the Vth Plan period. The main objective of starting the Corporations was to take up an aggressive programme in the poor and degraded forest areas with quick growing commercial species and thus increase the produce of the forest areas. It is envisaged that these Corporations would tap institutional finance for their development activities. TAF CORN took over 76,874 hectares of areas from the Forest Department in the 4 districts of South Arcot, Trichy, Pudikkottai and Ramanathapuram. The Corporation handles Eucalyptus hybrid wood, cashewnut, casuarina and Lac products.

9.7. The TANTEA was started with an authorised capital of Rs. 5 Crores with the primary aim of rehabilitating the displaced Sri Lanka Repatriates. It had availed institutional finance to the tune of Rs. 358.23 lakhs from the ARDC through a consortium of banks. This Corporation took over an area of 1517 hectares from the Forest Department. An area of 1,78,577 hectares of tea has been grown upto 1979 in 5 divisions, namely Coonoor, Kotagiri, Cherangode, Cheranbadi and Nelliyaalam. There are 2 Tea factories at Cherangode and Coonoor. All the plantations are well stocked. The quantum of Green Leaves produced is more than the master plan figures. The revenue realised in this scheme in 1978-79 was Rs. 160.27 lakhs. The Revenue realised by the sale of Eucalyptus, Cashew and Casuarina in the year 1978-79 were Rs. 18.17 lakhs, Rs. 82.35 lakhs, Rs. 24.88 lakhs respectively under the TAF CORN. The Lac Factory at Madurai has also been taken over by the Tamil Nadu Forest Plantation Corporation.

III. Social Forestry :

9.8. Social Forestry includes village forests, Extension Forestry, River, Canal and lake fringe plantations. Tamil Nadu maintains a lead in the Social Forestry Programme and currently it has got a coverage of more than 130,000 hectares under this scheme. Social forestry is developed to meet the Fuelwood, Small timber, green manure and fodder needs of the rural folk. It increases and improves the pasturage of the village cattle and helps the practice of Agri Silviculture by the farmers. However in this process maximum employment is provided to the rural people in the plantation operations, the area under man-made forests is increased and the bio-aesthetics is enhanced by planting up flowering and other suitable shade and ornamental trees.

The Programmes of Social Forestry during the 1980-85 Plan :

9.9 Green manure and Fodder yielding species, and shade bearing trees and trees yielding Minor-Forest produce, are to be planted in the village waste lands, tank beds, foreshores, un-assessed revenue lands, village grazing grounds. The sides of Railway lines and the sides of canals are to be planted and road side parks are to be created. Shelter belts are to be created to raise pastures, to demonstrate to the ryots about Agri silvi culture, and raise and supply suitable seedlings to the public for planting. There are 3 package policies to involve the public in Social Forestry. They are (i) Public policy package of facilities to ryots, (ii) Technological package that covers the transfer of Technology and (iii) package of services to extend technical know-how, etc.

9.10 **The SIDA Project:** The SIDA have agreed to finance the Government of Tamil Nadu for raising social plantations over a period of 5 years; 35 percent of cost will be met by SIDA and 65 per cent by the State. This project includes 13 items of operation. For the VI Plan period the SIDA will fund to the tune of Rs. 1,400 lakhs and the balance will be borne by the State Government.

Current programme under Social Forestry :

9.11 10 Forest divisions are functioning now at different places in the State. Each division now tackles about 2,400 hectares of area per year and undertakes avenue planting over 50 Sq. Km. and supplies 1 lakh of seedlings to the public. Intensive tree planting has also been thought of and a sum of Rs. 5 lakhs has been provided for the same for 1980-81 under plan schemes.

Proposals for the Involvement of the Public under Social Forestry :

9.12 The following steps will be taken to popularise tree planting under Social Forestry. Seedlings of choice varieties are to be supplied at a subsidised cost at the farm or planting site of

the farmers. Tribals, Harijans and labourers will be supplied with seedlings free of cost. Schools will be supplied with seeds and bags. Certain cash incentives and rewards will be given to the farmers who have raised a maximum number of seedlings. One tree one child scheme may be implemented. Banks will be persuaded to advance long term low interest loans to the ryots undertakings tree planting. Farmers, will be trained in Silviculture and Slides, hordings, etc., and will be prepared on the importance of tree planting.

IV. Wild Lite and Sanctuaries :

9.13 The scheme is included under the head 'Nature conservation' which covers the subject of wild life development in all sanctuaries. The main objective of this scheme is to preserve the heritage to posterity and to create facilities for the public to see and enjoy wild animals in its natural settings. For this purpose, schemes have been drawn upto a tune of Rs. 75 lakhs during the 6th Five-Year Plan in Tamil Nadu. Additional scholarships for further studies and research on wild life, collection of scientific information, enforcement of the Wilf-Life Act, improvements of communications, and inspections and protection of roads and access ways and the renewal of old rest houses to improve the Sanctuaries are thought of under this scheme.

9.14. Proposals for starting New Sanctuarie during the Plan period.

(1) Proposals for the formation of a Sanctuary in Nilgiris for the protection of Nilgiris Tahr is waiting decision of the Government. The cost estimated for this project is Rs. 6.20 lakhs.

(2) It is also proposed to create a sanctuary in Megamalai Hills of Madurai district during the plan period.

V. Tribal Development :

9.15. In the early fifties, 2 tribal development blocks were created. A new approach was adopted for the V Plan where all areas with more than 50 percent tribal concentration were clearly identified and special sub-plans prepared, during the Sixth Plan.

(1) The entire tribal population will be covered by suitable developmental programmes,

(2) The levels of development in the tribal areas and the areas surrounding will be reduced and

(3) The tribal communities outside the tribal areas will be helped to obtain the general level of development in their areas by the end of plan period.

The Tribal Welfare measures undertaken by the Forest Department.

9-16. 1. The Tribes are permitted to remove forest produce for their use free of cost and graze their cattle free of charges. Rewards are given to Tribes for successful Fire protection work, and they are given employment in various Forestry Operations. There are 19 Co-operative Societies set up exclusively for the benefit of Tribals. Necessary Soil conservation works are done departmentally without recovering the cost from the Tribes. For the benefit of Education of hill tribes, Schools, Free hostels, Midday meals and Free books are provided. In North Arcot district 12 Elementary Schools and one High School were run by the Forest Department. An amount of Rs.50.00 lakhs has been provided for the plan period for this scheme.

VI. Centrally Sponsored Schemes :

(1) Rural Pulpwood Plantations:

9-17. The Centre has proposed this new scheme to be taken up from the year 1980-81. The Centre will finance up to Rs.1,000 per hectare as a grant or actual expenditure and the balance will be met by the state. It is somewhat similar to the social forestry programme, the only difference is that in this programme the degraded forest areas will be tackled but under the Social Forestry Scheme the areas selected are strictly outside the forest limits. The Chief aim of the scheme is to make the villagers self-sufficient in respect of Fuel wood and small timber and to stop pilfering firewood and other materials from the State forests. There were three Forest divisions already proposed under this scheme with headquarters at Ariyalur (Tiruchirappalli District) Krishnagiri (Dharmapuri District) and the Chengalpattu (Chengalpattu District). Two more divisions one at Palani (Madurai District) and the other at Tirunelveli will be proposed under this.

(2) Hill Area Development :

9-18. Under this scheme, the Government of India have allotted a sum of Rs. 20 lakhs for the development of forests in the Nilgiris District during 1980-81 and the scheme is likely to continue. The object of the scheme is to raise plantations of Industrial use. It also aims to convert valueless low Forest into more valuable Industrial plantations. To meet the demand of small Timber, firewood and green manure. This scheme also envisage to raise woodlots in the village waste lands.

Area so far planted under this scheme :

19-19. An extent of 2,110 hectares have been planted and an amount of Rs. 36.53 lakhs have been spent on this scheme from 1975-76; 50 K.M. length of roads also have been formed.

(3) Western Ghat Development Programme :

9-20. Under this scheme commercial plantations of Rubber, Pulpwood, Eucalyptus Grandis, Cloves and Tea are being raised in Kanyakumari, Upper

Palanis of Madurai district and Nilgiris District respectively. The object of the scheme is to increase the industrial plantations and to convert the less valuable Forests into more valuable economic ones. An amount of Rs. 239.54 lakhs has been spent and an area of 3,155 hectares have been covered.

VII. Employment Generated during the VI Plan Period :

	Rupees in lakhs.	Mandays in lakhs (anticipated)
State Schemes	2,703	355.73
Rehabilitation Rubber ..	150	20.00
Total ..	2,853 lakhs.	375.73 lakhs.

9-21. The total employment generated during the V Plan period is 284 lakh mandays.

CINCHONA.

Introduction :

9-22. Quinine and Quinidine are important alkaloids obtained from Cinchona-bark of mature Cinchona trees. Quinine is used as an anti-malarial drug and in the treatment of Cardiac diseases. The main Cinchona products produced and sold are Quinine sulphate, Quinine hydrochloride, Quinidine Sulphate and Mixed Cinchona alkaloids. Currently an area of 1807.26 hectares is under Cinchona of different age groups in the State. When the demand for Quinine products declined, the department started cultivation, on a small scale of Medicinal and Aromatic oil bearing plants to supplement its revenue

DEVELOPMENT SCHEMES.

I. Scheme for Intensive Cultivation of Cinchona and Vegetative propagation.

9-23. In view of the demand for Quinine and Quinidine Salt in the internal and international markets and to bridge the gap between production and demand, it is proposed to expand the Cinchona cultivation to larger area and to increase the productivity in the existing areas. During the Fifth Plan period, in addition to Fresh planting, most of the old Cinchona areas were consolidated after coppicing the old trees to allow young plants to spread root freely and grow. During the Sixth Plan, it is proposed to resort to new planting after uprooting the bad areas of Cinchona. 644 hectares has been proposed for new Cinchona planting and 145 hectares for Vegetative propagation. The total area for this scheme is 789 hectares. The total expenditure amounts to Rs. 137.50 lakhs. Under the above scheme, an employment potential for 1,100 local labourers will be generated during 1980-85.

II. Scheme for Expansion Intensive Cultivation of Medicinal and Aromatic Plants.

9.24. To augment the revenues of the Cinchona Department and to meet the market demand, the subsidiary small scale industry of cultivation of Medicinal and Essential oil bearing Crops (such as Geranium, Eucalyptus Citriodora) was started. Due to the greater use of these oils in Soap, Cosmetics and Perfumery industries, there is greater demand for these oils. These crops are Shrub and tree crops and will help soil conservation and prevent soil erosion. The quantum of oil and other medicinal products from the plants Geranium, Eucalyptus Citriodora, Eucalyptus Globulus, Java Citronella and Ocimumcplora have been proposed to be expanded under VI Plan. In the VI Plan it is proposed to cover 287 hectares with the expenditure of Rs. 17.00 lakhs. Under this scheme about 400 locals will be employed.

III. Research on Medicinal and Aromatic Plants.

9.25. To reduce cost of production and increase profit the correct and economic strains are to be identified, high yielding varieties are to be evaluated, optimum conditions for planting, maintenance, harvest, distillation, storage, etc. are to be determined by research. 5000 Nos. of soil samples and plant material samples are proposed to be analysed. Research on tackling pests and diseases problems will be entrusted to the Tamil Nadu Agriculture University, sharing the expenditure at 50 : 50. The process evaluation for the conversion of Quinine and Quinidine (Research Work) will be entrusted to Central Drug Research Laboratories, Lucknow. It is proposed to spend Rs. 5.00 lakhs for this scheme under VI Plan.

IV. Gradual Modernisation of Plant and Equipments for Quinine Factory, Cinchona and Medicinal and Essential Oils Factory, Nadvattam.

9.26. To maintain the quality of the products at highest international standard for export, there is imperative need to modernise the above factories with the latest equipments.

9.27. Nuxvomica seeds containing Strychnine and Brucine are available in the State Forest Department and as the process of manufacture of these alkaloids is similar to Cinchona alkaloids, it is proposed to modify the equipments in the Quinine Factory for production of the same. The Medicinal and Essential Oils Factory, Nadvattam also needs modern sophisticated equipments for the purification and grading of Medicinal and Essential Oils. It is also proposed to provide extra equipments for increasing the production of home-hold utility products, like cinfresh, cinspray and cinomos which are in great demand. Under the VI Plan for the purchase of Factory equipments an amount of Rs. 5 lakhs is proposed. During 1980-81 closed circuit Extraction system for Extraction of Cinchona alkalodies is to be introduced Quinine Factory to increase factory efficiency.

V. Provision of Buildings, Roads and Other amenities to Workers and Staff of the Department.

9.28. Construction of 190 quarters are in progress. Besides the Roads where Buses ply inside the plantations at Anamallais and the road leadig to Hospital have been black topped. Internal telephone facilities have been provided in the Anamallais plantation. It is proposed to construct 280 workers quarters during 1980-85 and 26 Staff quarters. Amenities like Roads, telephone and Medical facilities are also proposed to be increased. The total expenditure proposed for his scheme for the VI Plan is Rs. 55 lakhs.

VI. Manufacture of Caffeine from Tea Waste.

9.29. Caffeine, widely used in many pharmaceutical preparation, is not manufactured in Tamil Nadu. The Medical and Essential Oils Factory, Nadvattam has got infrastretural facilities for the manufacture of Caffeine and the department has developed its own technical know-how for the manufacture and has already produced 200 kg. of caffeine on a pilot scale. The Government have sanctioned the project for the manufacture of Caffeine and the scheme has been implemented with effect from 1st March 1980. The scheme aims at producing 2.5 metric tonne of Caffeine utilising 165 M.T. of Tea Waste available with Indco Tea factories and TANTEA Factory in Nilgiris which are State sponsored Government undertakings. The scheme provides employment opportunities to 3 staff members and 15 daily workers. The financial outlay proposed for this scheme for the VI Plan is Rs.13.00 lakhs. The total production proposed is 9,000 kgs. during 1980-85.

The proposed Out-lay for the VI Plan.

9.30. The financial outlays for the Cinchona Department during the Revised VI Plan period for State Plan Schemes is Rs. 267 lakhs. The Abstract of Financial out-lay on different schemes for VI plan period (1980-85) is separately given.

A Note on Centrally Sponsored Schemes.

9.31. Western Ghats Development programme and Hill Area Development Programme are the two Centrally Sponsored Schemes taken up by the Cinchona department with a proposed outaly of Rs. 272.71 lakhs. for the production of valuable drug intermediate like Diosgenin and essential oils and thereby improve the Hilly regions of the State.

TABLE 9.I.

Schemewise Demand for funds for the VI Plan- Forests 1980 -- 1985.

Serial number and name of the Scheme.	Outlay 1980-85.
(1)	(2)
(RUPEES IN LAKHS.)	
State Schemes.	
1 Working Plan	2.00
2 Forest Research	30.00
3 Planning, Statistical and Evaluation Cell.	7.50

CHAPTER 10.

FISHERIES.

10.0. Fish-food makes a substantial contribution to the protein requirements of the people. Tamil Nadu accounts for 800 miles of India's Sea Coast and 16 per cent of India's Fish Production. In view of the immense potential of the Fisheries resources in the State, the successive Five-Year Plans gave due importance to Fishery Development Programmes.

Plan Programmes—

10.1. The Programmes included in the Sixth Plan to develop the aquatic resources of the State are as follows :—

1. Marine Fisheries—

About 2,200 mechanised boats and about 38,000 traditional crafts exploit a total of 16,000 Sq. Km. of the Inshore area. For the commercial exploitation of the Shrimp and pelagic fisheries, it is proposed to acquire atleast 15 Vessels during 1980-85 at the rate of 3 Vessels each year.

10.2. Out of four lakhs of Fishermen population only one lakh are actually engaged in fishing operations. Among this, 10,000 fishermen are engaged in 2,000 mechanised fishing boats. 30,000 active fishermen remain unutilised. It is therefore necessary to help atleast 10,000 of the above by providing the existing catamarans with additional effective gear during the Sixth Plan Period, to increase the number of fishermen who can be gainfully employed on each catamaran.

10.3. A target of an additional 80,000 tonnes of marine fish production is proposed in the Sixth Plan. This can be achieved by (a) Increasing the operational efficiency of the Traditional crafts through introduction of out-board motors, in board motors, improved gears and introduction of improved types of canoes including fibre glass boats (61,000 tonnes). (b) The introduction of additional mechanised boats of 30', 32' and 43½' (c) and by introduction of additional large vessels. A 20 per cent subsidy has to be extended by the Government towards the cost of out-board and in-board motors.

10.4. The investment required for the above Programme during the Sixth Plan Period is composed of (1) Assistance for non-mechanised traditional fishing, (2) Acquisition of large size fishing vessels and (3) construction or acquisition of 43½' mechanised boats.

2. Provision of Landing Facilities and other Infrastructures—

10.5. As already mentioned till the end of the Fifth Plan about 2,200 mechanised fishing boats have been introduced. But the landing facilities so far developed are totally inadequate. During

the present Plan period the proposal is to introduce 1,000 Fishing boats and trawlers in the public sector alone. These crafts also require berthing places, supply centres, processing and servicing facilities.

10.6. A major fishing harbour at Chinnamuttom (Kanyakumari District) is proposed at an estimated cost of Rs. 150 lakhs. Minor landing facilities in other places are also proposed. The Government of India is extending 50 per cent financial assistance towards the execution of fishing harbour and other minor landing facilities.

10.7. Infrastructure facilities such as processing plants, Service Centres, Water and Power Supply, Sewerage arrangements, Diesel bunks, Approach Roads, Canteen buildings, etc., to the Fishing harbours and landing facilities have been proposed during 1980-85. It is suggested that the Government of India may be urged to include water supply, provision of electricity, provision of Sewerage, provision of hard pavement for drying of fish and Nets, Toilets, Fencing or compound wall, Store room for Fishing gears and Port Office eligible for 100 per cent Central assistance in order to ensure the early development of the landing facilities in complete shape.

3. Inland Fisheries—

10.8. The main strategy in the development of inland fisheries is to stock all culturable waters with quality fish seeds, and to adopt the latest fish culture techniques to increase fish production. At the rate of 30 lakhs fingerlings for every additional 1,000 tonnes of production, 200 million fingerlings will have to be produced at the end of the Plan period. Up to the end of 1979-80, the Fisheries Department has developed Nursery Areas, Rearing ponds and Breeder ponds to the extent of 10-30 hectares only. The requirements of Fish farms nurseries and other related facilities for the development of 140 million fish and production for Inland fisheries during the Sixth Plan period will be around 20 hectares.

10.9. Approximately 60,000 hectares of Water spread areas of reservoirs producing fish at the rate of 25 Kg. per hectare are under the control of this Department. A sum of Rs. 50 lakhs is provided for management of Reservoirs and increasing production of fish in these reservoirs.

10.10. During the Sixth Plan period 2 additional Fish Farmers Development Agencies are proposed along with 4 already established. Each agency covering an area of 200 hectares and with a provision of Rs. 20 lakhs is to popularise Inland Fish culture in selected perennial and seasonal waters. Stocking the Major and Minor Irrigation tanks with fingerlings and Fresh Water Prawn culture in the vast expanses of seasonal waters in the State are also to be developed during 1980-85.

4. Brackish Water Fisheries :—

10.11. During 1980-85, 50 hectares of suitable lands are proposed to be developed into commercial brackish water farms each year under Government management which will bring in an additional production of 50 tonnes of prawns worth Rs. 10 lakhs.

10.12. Training will be given in prawn farming and at the rate of 2 trained personnel for each one hectare farm. An additional 2,000 persons are proposed to be trained in all aspects of practical brackish water farming. The cost of Training will be Rs. 50 lakhs under Sixth Plan. Regarding Brackish Water seed production and Supply, it is proposed to create the necessary infrastructural facilities.

5. Research Programmes.

10.13. The Department of Fisheries has a sound research base for tackling various problems of the Fishing industry. 5 Marine Biological Stations, 3 Fresh Water research stations, 4 Brackish water Research Stations and 3 technological research stations attend the field oriented and need-based problems in the use of Fishery resources. An outlay of Rs. 15 lakhs is proposed for this programme. The Research work is also done in collaboration with outside agencies. The Indian Council of Agricultural Research Co-ordinated Research Project on Brackish Water Fish farming at the Madras Centre will be continued during Sixth Plan.

10.14. A modern Aquarium at a cost of Rs. 40 lakhs is proposed to be set up at Kanyakumari and the one at Madras is proposed to be replaced during the Sixth Plan. In view of the rich marine life, marine national Park is proposed in the Gulf of Mannar with Krusadai Island as the vast island.

6. Strengthening of Processing and Marketing Facilities.

10.15. This refers to the modern methods of preservation of icing, freezing and canning. At present in Tamil Nadu, capacities for the production of 389 tonnes of ice cold storage for 2,442 tonnes, 2,947 tonnes of Frozen Storage and 172 tonnes of Freezing capacity per day have been created. A sum of Rs. 125 lakhs has been included in the Sixth Plan for strengthening and processing. Two model-cum-service fish cutting yards one each at Tuticorin and Kanyakumari are proposed during the current plan Period at a cost of Rs. 5 lakhs.

10.16. Regarding Marketing facilities, the major cities Madras, Madurai, Tiruchy and Coimbatore lack sanitary retail out-let for sale of fish. These 4 city fish stalls will be provided with necessary hygienic facilities. The investment required for this scheme is Rs. 150 lakhs.

7. Extension, Survey and Statistics.

10.17. Basic information regarding water sources suitable for fish culture, area, location, etc., has to be identified. Collection of these essential data is basic to further planning.

8. Training Programme for Fishermen and Officials.

10.18. Six Fishermen Training Centres have been started under successive plans to provide Training to the Fisher boys over a 10 months period on improved fishing methods, handling of mechanised boats, Fabrication and mending of nets, etc. The strength of each marine Fishermen Training Centre is 50 but at Mandapam it is 60.

10.19. At Tuticorin a Junior Mechanic course is being conducted for operating Marine diesel engines. So far 320 mechanics have been turned out. The Departmental officers and staff are being deputed regularly to different Fishery institutions, for advance training. Such deputations for training will be continued during the Sixth Plan period. A provision of Rs. 7 lakhs is included in the Plan for this purpose, to decide the stocking programme of Fish culture.

9. Fishermen Co-operatives.

10.20. There are 278 Marine Fishermen Co-operative Societies and 200 Inland fishermen Co-operative Societies. Of these 4 are marketing societies and another one is a service society for mechanised boat operators. All others are primaries at Village or Kuppam level. The Co-operative societies provide financial assistance and relief measure to their members. They are functioning only as credit societies. Since their performance is not encouraging Revitalisation by amalgamation of un-economic and nonviable societies and elimination of Non-fishermen members is being done. Large scale assistance for implementation of development schemes is made available to fishery Co-operative by NCDC. The tentative programme of assistance by NCDC to Fishermen Co-operative during the Sixth Plan will be the order of Rs. 300.00 lakhs out of which a sum of Rs. 10.00 lakhs towards subsidy and Rs. 50.00 lakhs towards share capital loan have to be provided under the Plan in the State Sector.

10. The Socio Economic Measures to improve the Living conditions of Fisherfolk.

10.21. Since the Fishermen community is backward and they dwell in hamlets along the coastline, they must be provided Housing, Water supply, approach roads, lighting and other minimum amenities. The provision of Link Roads at the cost of Rs. 150 lakhs has been proposed by the end of Sixth Plan. This programme is already in action by taking 37 roads with a Budget provision of 30 lakhs in 1980-81.

10.22. Fishermen from some of the remote villages in Kanyakumari, Thanjavur, Tirunelveli district are urging the department, to provide guide lights or beacons to ensure safe navigation. These beacons will be provided in a phased programme to the tune of Rs. 10 lakhs in the Sixth Plan. The Government are providing Rs. 40 lakhs per year for the execution of the Housing

Scheme. This programme will be executed by Tamil Nadu Harijan Housing and Development Corporation. Likewise, electrification of fishing villages is being done under the Agency of the Tamil Nadu Electricity Board. The Tamil Nadu Water Supply and Drainage Board has taken up the programme of providing drinking water.

10.23. The Economic and Social status of the Fisher Women is also improved by Schemes for hygienic Fish handling and Marketing, Net making, Collection and Supply of Prawn seeds and by Extension work including Training in serving, etc. The proposed investment for the entire programme under Sixth Plan is Rs. 415 lakhs.

11. The proposed outlay on Fisheries for the Sixth Five-Year Plan.

10.24. Considering the vast resources and the need to intensify efforts to maximise production at all levels, a modest outlay of Rs. 2,133.00 lakhs is decided for the Sixth Plan 1980-85. From this amount a provision of Rs. 350 lakhs has to go for Socio economic betterment of fisherfolk. Hence the Fisheries outlay proposed is only Rs. 1,783.00 lakhs, whereas in the Fifth plan the outlay proposed was Rs. 13.44 crores. The proposed outlay for the Sixth Five-Year Plan on various Fisheries Programmes is given in the accompanying table.

12. The Generation of Employment Potential.

10.25. In the introduction of 18' Fibre Glass Boats with out board motors and combination nets, 2,300 persons will be employed from 1981-82 to 1984-85. In the establishment of landing and berthing facilities 250 persons will be employed and in the provision of Infrastructural facilities 550 persons will be absorbed. In the construction of fish farms and nurseries 600 persons and in the construction of Brackish water fish farming 50 persons would be engaged. In the formation of Link Roads and in the construction of Housing for Fishermen 750 persons and 12,000 persons respectively will be employed. So the total labourers proposed to be employed in the Sixth Plan on various schemes are 16,500. The production/Field/Operational/Staff proposed to be employed in the Sixth plan is 5,000.

TABLE 10-I.

Statement showing the details of Financial Targets For Programmes included in the Sixth Five-Year Plan.

<i>Serial number and name of the Programmes.</i>	<i>Suggested allocation 1980-85.</i>
(1)	(2)
	(RUPEES IN LAKHS)
MARINE FISHERIES :	
1 Grant of 20 per cent subsidy on distribution of O. B. Motors with combination nets at Rs. 10,000 per unit.	20
2 Grant of 20 per cent subsidy for the introduction of 18' F. G. boats with O. B. Motors and combination nets at Rs. 30,000 per unit.	30
3 Grant of 20 per cent subsidy for the introduction of 25 F. G. boats with in board engines and combination nets at Rs. 75,000 per unit.	75
4 Extension of Financial assistance to the T. N. F. D. C. for the acquisition of 23m. vessels for D. S. F. operations at Rs. 50.00 lakhs per unit.	250
5 Construction or acquisition of 20 Nos. of 43½' boats for mid-water trawling.	60
6 Establishment of Landing and berthing facilities.	(150+200)
	350
7 Provision of Infrastructure facilities in fishing villages.	108
INLAND FISHERIES :—	
8 Construction of fish seeds farms consisting of nurseries equipments and operation staff.	300
9 Taking over of new reservoirs and large water spreads for stocking and exploitation.	50
10 Setting up of Fish Farmers Development Agencies.	40
BRACKISH WATER FISH FARMING :—	
11 Construction of Brackish water Fish farms.	40
12 Training in Brackish water fish farming.	50
13 Construction of hatchery ponds for production of prawn seeds.	25
14 Construction of prawn seed farms.	20
RESEARCH AND DEVELOPMENT :—	
15 Rearing of fish and prawns by cage culture method.	2
16 Culture of edible oysters and mussels.	17
17 Green Mussels.	21

<i>Serial number and name of the Scheme.</i>	<i>Suggested allocation (1980-85)</i>		
18 Culture of Pearl Oysters ..	35	SOCIO-ECONOMIC MEASURES—	
		25 Formation of link roads ..	150
19 Culture of Sea Weeds	10	26 Installation of Guide lights ..	10
20 Research and Development ..	15	27 Housing	200
21 Aquarium and Marine National Park,	40	28 Establishment of Training centres for Fisher-women.	5
PROCESSING AND MARKETING		FISHERMEN CO-OPERATIVES—	
22 To extend financial assistance to the Tamil Nadu Fisheries Development Corporation for strengthening its equity base.	150	29 Extension of assistance to the Fishermen Co-operatives.	60
EXTENSION SERVEY AND STATISTICS.—		Total ..	2,133
23 Survey of inland Water spreads and extension.	25		
24 Training of Fishermen and officials.	15		(or) 21.33 Crores.

CHAPTER 11. CO-OPERATION.

The Role of Co-operation :

11.0. The Co-operative Movement continues to play a crucial role in stimulating the economic development of the State particularly in the rural areas which comprises of predominantly Agriculturists.

Progress during the Base Year :

11.1. During 1979-80, short term and medium term loans to the tune of Rs. 42.70 crores and long term loans to the extent of Rs. 8.85 crores were disbursed. Besides, Jewels, loans to the tune of Rs. 111.42 crores were also issued. Agricultural produce valued at Rs. 65.83 crores were marketed. Retail sales of consumers goods to the value of Rs. 140.92 crores were effected by consumer co-operatives during the year. Essential commodities to the value of Rs. 13.66 crores were distributed to the rural population during the period up to March, 1980 under the 'One Village One Shop' Scheme.

Objectives of the Sixth Five-Year Plan :

11.2. The Sixth Five Year Plan aims at the following objectives :

1. The level of the agricultural credit supplied by the credit co-operatives will be increased from Rs. 43 crores at present.

2. The share of weaker sections in the short term and medium term loans provided by the Co-operatives which is at present 49 per cent will be raised.

3. The long term advances by land development banks will be raised from the present level of Rs. 9 crores.

4. The tempo of increase in the provision of jewel loans by credit co-operatives will be maintained and the level of the lending will be raised from Rs. 111 crores at present.

5. The value of agricultural produce marketed by the Co-operative institutions will be stepped up from Rs. 66 crores at present.

6. The Co-operatives will distribute increased quantity of chemical fertilizers as against Rs. 26 crores at present.

7. The Consumer Co-operatives which play a crucial role by distributing essential goods worth Rs. 141 crores at present will be increased.

FOOD.

The Role of Civil Supplies Corporation :

11.3. The Tamil Nadu Civil Supplies Corporation Limited set up for the purpose of controlling and stabilising the market price, is engaged in procuring, processing and distributing food-grains and essential commodities. Rice being the main staple food of the State, it is necessary to procure, store, process and distribute huge stocks.

Proposals during the Sixth Five-Year Plan :

11.4. Apart from the existing 13 Modern Rice Mills, it is proposed to install one more Modern Rice Mill during the Sixth Plan period at a total capital cost of Rs. 200.00 lakhs.

11.5. With a view to distribute essential commodities to the remote villages at controlled price, it is proposed to open, apart from the existing shops, an additional 250 numbers of village retail shops in various districts at the cost of Rs. 64,000 per shop at a total capital cost of Rs. 160.00 lakhs during the Sixth Plan period.

TABLE 11-I.

SIXTH FIVE-YEAR PLAN

SCHEMewise BREAK-UP OF FINANCIAL OUTLAYS.

<i>Serial number and Name of the Scheme.</i>	<i>Outlay proposed for 1980-85.</i>	<i>Serial number and name of the scheme</i>	<i>Outlay proposed for 1980-85</i>
(1)	(2)	(1)	(2)
	(Rs. in lakhs.)		(Rs. in lakhs)
CO-OPERATION :			
STATE PLAN			
1. Co-operative Credit	2,365.14	CENTRALLY SPONSORED SCHEME :	
		CO-OPERATIVE CREDIT	
		(fully financed by Govt. of India)	1,573.00
		SCHEMES FINANCED BY AUTONOMOUS BODIES (N.C.D.C.) :	
		Co-operative Marketing, Processing and Storage :	
2. Co-operative Marketing, Processing and Storage.	211.36	60 per cent of the total cost ..	610.37
		(40 per cent cost included in the plan).	
3. Consumer Co-operatives ..	131.37	Food :	
4. Education, Research and Training.	2.52	1. Construction of one Modern Rice Mill.	200.00
5. Co-operatives for Weaker Sections.	259.97	2. Construction of 250 Retail Shops at Rs. 64,000 each in various Districts.	160.00
		3. Public Distribution System Subsidy	250.00
Total—Co-operation ..	2,970.36	Total ..	2,860.00

TABLE 11—II.
PHYSICAL ACHIEVEMENTS DURING 1979-80.

Serial number.	Schemes.	Unit.	Base level 1979-80
(1)	(2)	(3)	(4)
I. CO-OPERATIVE CREDIT :			
1	Coverage of agricultural holdings by Credit co-operatives ..	Percentage	
	(a) Total operation holdings	Do.	77
	(b) Operational holdings belonging to weaker sections ..	Do.	74
2	Effective coverage of membership :		
	(a) All members	Do.	50
	(b) Members belonging to weaker sections	Do.	50
3	Issue of short term and medium term loans during the last year	Rs. in crores	42.70 (37.16 + 5.54)
4	Coverage of weaker sections in the issue of loans ..	Percentage.	
	(a) Short Term	}	49
	(b) Medium term		
5	Increasing the inputs proportion to the total Agricultural loans.	Do.	41
6	Issue of jewel loans by Credit Co-operatives	Rs. in crores	111.42
7	Financing of cottage and small scale industries by urban Co-operative banks loans to be issued in the last year.	Do.	1.13
8	Involvement of co-operatives in industrial financing		
	(a) Urban Banks	Number	70
	(b) Agricultural service co-operatives Societies	Do.	..
	(c) Farmers Service Societies	Do.	..
9	Number of viable agricultural service co-operative societies formed by re-organisation of societies.	Do.	3,467
10	Strengthening the internal resources of credit co-operatives ..		
	(a) Share capital level to be reached at the end of the last year	Rs. in Crores.	
	(i) Central Co-operative Banks	Do.	23.18
	(ii) Agricultural Service Co-operative societies	Do.	33.81
	(b) Deposits to be held at the end of the last year ..		
	(i) Central Co-operative Banks	Do.	170.19
	(ii) Agricultural Service Co-operative Societies	Do.	15.88
	(c) Mobilisation of Deposits at Central Co-operative Banks level from private individuals and organisations.	Percentage	59
11	Issue of long term loans during the last year	Rs. in crores	8.85

II. CO-OPERATIVE MARKETING PROCESSING AND STORAGE.

<i>Serial number.</i>	<i>Schemes.</i>	<i>Units.</i>	<i>Base level 1979-80</i>
(1)	(2)	(3)	(4)
12	Value of agricultural produce that will be handled during the last year.	Rs. in crores	65.83
13	Collection of production loans	Rs. in lakhs	172.21
14	Issue of produce pledge loans	Do.	227.16 (1978-79)
15	Distribution of Chemical fertilisers by Co-operatives in last year.		
	Quantity ..	Lakh tonnes	1.85
	Values ..	Rs. in crores	25.82
16	Distribution of pesticides by co-operatives in last year ..	Rs. in lakhs	18.01
17	Distribution of agricultural implements by co-operative marketing societies in last year.	Do.	10.54
18	Setting up of processing units.		
	1. Rice Hullers	Number	37
	2. Groundnut Decorticators	Do.	24
	3. Oil Expellers	Do.	7
	4. Cotton Ginning Units	Do.	18
	5. Coffee curing plant	Do.	1
	6. Solvent Extraction plant	Do.	1
	7. Fruit Processing Units	Do.	2
	8. Tapioca Processing Unit	Do.	1
	9. Cold storage plant	Do.	1
	10. Sun flower/Groundnut Seed oil Plants	Do.	3
	11. Modernised rice mill	Do.	..
	12. Jasmine Oil Plant	Do.	..
	13. Cattle feed unit	Do.	..
	14. Bread Making plant	Do.	..
			<u>95</u>
19	Construction of Godowns		
	(a) Assisted	Number	3,797
	(b) Construction completed	Do.	3,275
	(c) Capacity of completed Godowns	Lakh tonnes	4.61

III. CONSUMERS CO-OPERATIVES :

<i>Serial number.</i>	<i>Schemes.</i>	<i>Units.</i>	<i>Base level 1978-79</i>
(1)	(2)	(3)	(4)
20	Value of retail sales by consumer co-operatives	Rs. in crores	141

IV. CO-OPERATIVES FOR WEAKER SECTIONS :

21	Number of motorised cycle rickshaw drivers co-operative societies at the end of the period.	Number	2
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TABLE 11—III.

SIXTH FIVE-YEAR PLAN, 1980—85.

CO-OPERATION.

Details of schemes and break-up of financial outlay.

<i>Serial number and Name of the Scheme.</i>	<i>Proposed outlay, 1980-85.</i>	<i>Serial number and name of the Scheme.</i>	<i>Outlay proposed for 1980-85.</i>
(1)	(2)	(1)	(2)
	(RS. IN LAKHS)		(RS. IN LAKHS.)
State Plan—		II. Co-operative marketing, processing and storage—	211.36
I. CO-OPERATIVE CREDIT—	23,65.14	(i) <i>Co-operative marketing—</i>	
1 Contribution to the share capital of Credit Co-operatives.	..	1 Contribution to the share capital of co-operative marketing societies.	..
2 Assistance to agricultural services Co-operative Societies for purchase of iron safes with trays for issue of jewel loans.	..	2 Contribution to the Special price Fluctuation Fund of co-operative marketing societies.	..
3 Assistance to central co-operative banks for construction of office buildings with residential quarters for peons.	..	3 Managerial subsidy to marketing societies.	..
4 Contribution to the risk funds of the agricultural service co-operative societies and central co-operative banks.	..	4 Package programme for revitalisation—	..
5 Contribution to the Agricultural Credit Relief Fund.	..	(i) Assistant to co-operative marketing societies for establishing marketing yards.	..
6 Contribution to the ordinary debentures of the Tamil Nadu Co-operative State Land Development Bank.	..	(ii) Assistance to co-operative marketing societies for grading equipment.	..
7 Contribution to the Special development debentures of the Tamil Nadu Co-operative State Land Development Bank.	..	(iii) Subsidy to co-operative marketing societies towards pooling incentives.	..
8 Assistance to primary land development banks for national reduction in the percentage of overdues.	..	(iv) Assistance to co-operative marketing societies for purchase of transport vehicles.	..
9 Contribution to the Agricultural Credit Stabilisation Fund of the Tamil Nadu Co-operative State Land Development Bank.	..	5 Assistance to co-operative marketing societies for establishment of seed development project (share capital).	..
10 New Well subsidy	..	(ii) <i>Co-operative processing—</i>	
11 Managerial subsidy to lift irrigation co-operative societies.	..	1 Assistance to co-operative marketing societies for modernisation of rice mills.	..
12 Assistance to lift irrigation co-operative societies by way of subsidy towards capital works.	..	2 Assistance to co-operative marketing societies for establishment of processing plants (share capital).	..
		(iii) <i>Co-operative storage—</i>	
		1 Assistance to credit societies and marketing societies for construction of godowns.	..

<i>Serial number and Name of the Scheme.</i>	<i>Outlay proposed for 1980-85.</i>	<i>Serial number and Name of the Scheme,</i>	<i>Outlay proposed for 1980-85.</i>
(1)	(2)	(1)	(2)
	(RS. IN LAKHS.)		(RS. IN LAKHS.)
III. Consumer Co-operatives	131.37	6 Assistance to salt producers co-operative societies. ..	
1 State participation in the share capital of primary co-operative stores. ..		7 Assistance to co-operative printing press. ..	
2 Managerial subsidy to primary co-operative stores. ..		Total ..	<u>2,970.36</u>
3 Assistance to consumer co-operatives for establishment of modern retail units. ..		CENTRALLY SPONSORED SCHEME.	
4 Assistance to primary co-operative stores for revitalisation. ..		I. Co-operative credit :	
5 Managerial subsidy to college students co-operatives stores. ..		Contribution to Agricultural Credit Stabilisation Fund of the Tamil Nadu State Co-operative Bank (Cent per cent). ..	1,573.00
6 Assistance to high school students co-op. ratives stores. ..		SCHEMES FINANCED BY AUTONOMOUS BODIES N.C.D.C.	
7 Assistance to co-operative wholesale stores for construction of super market complex. ..		I. Co-operative Marketing, Processing and Storage :	
8 Subsidy to village shops		1 Assistance to co-operative marketing societies for establishment of seed development project (Loan). ..	55.00
9 Assistance to lead societies implementing the village shop programme for purchase of transport vehicles. ..		2 Assistance to co-operative marketing societies for modernisation of rice mills (Loan) (17 mills at Rs. 29,868 each). ..	5.08
IV. Education research and training :		3 Assistance to co-operative marketing societies for establishment of processing plants (Loan). ..	147.69
Refresher course for departmental staff. ..	2.52	4 Assistance to credit societies and marketing societies for construction of godown (Loan) (1,000 rural godown at Rs. 36,000 each, 15 marketing godowns of 1,000 tonnes of Rs. 2.04 lakhs each and 10 marketing godowns of 500 tonnes at Rs. 1.20 lakhs). ..	402.60
V. Co-operatives for weaker sections ..	259.97	Total—Schemes financed by autonomous bodies—N.C.D.C. ..	<u>610.37</u>
1 Assistance to LAMP Co-operative societies. ..			
2 Assistance for motorised cycle rickshaw drivers co-operative societies to be organised. ..			
3 Assistance to labour contract co-operative societies. ..			
4 Assistance to barbers co-operative societies. ..			
5 Assistance to washermen co-operative societies. ..			

CHAPTER 12

RURAL DEVELOPMENT

Introduction :

12.0. The Tamil Nadu Panchayat Act, 1958 enabling the formation of Panchayats and Panchayat Unions, has helped to revitalise political, economic and social activities in the far-flung villages of the State. There are at present 12,608 village Panchayats, 603 town panchayats and 13 Township committees comprised in 376 Panchayat Unions in Tamil Nadu. The Panchayat Unions form the only comprehensive developmental administration responsible for the implementation of community development programme in their respective areas. The Rural Urban drift and urbanization could be arrested only through an aggressive policy of rural economic development, a higher level of services, scope for employment, provision of the requisite infrastructure to make villages self-sufficient and self reliant.

I. Self-Sufficiency in Rural Areas

12.1. With this prime requirement in view, a scheme of self-sufficiency in rural areas was launched by the Government. The purpose of the scheme is to provide the minimum requirement of infrastructural facilities such as link roads, school buildings, Construction of Maternity and Child Welfare Centres, Rural Dispensary buildings, etc. The scheme was implemented in 69 blocks in 1979-80 and during 1978-82 and 1982-83, the scheme is to be implemented in 100 blocks and 207 blocks respectively. The allocation in 1979-80 was Rs. 265 lakhs and in 1980-81, Rs. 10 crores. The physical targets, set under this scheme are given below and are to be completed in three years

Improving Link Roads to a length of	25,611	Km.
Culverts	23,613	Nos.
Construction of School Buildings.	7,133	Nos.
Improving Minor Irrigation Sources.	12,226	Nos.
Construction of Rural Dispensaries.	4,455	Nos.
Construction of Maternity and Child Welfare Centres.	1,262	Nos.
Water Supply	12,603	habitations

The outlay required for this scheme is Rs. 270-90 Crores.

12.2. The details of the major works in Self-Sufficiency Scheme are given below :

(1) *Link Roads*.—Formation of roads connecting remote village habitation come under this. Most of these roads are initially formed as gravel roads and thereafter black topped on a priority basis. Omission of pathways to burial ground of Scheduled Castes and Construction of small causeways and Culverts come under this programme.

1 Formation of roads and gravelling for habitations with population of 250 to 500.	10,264	Km.
2 Improvements like metalling the roads.	15,347	Km.
3 Providing pathways to Harijan Colony burial grounds.	4,268	Km.
4 Construction of Culverts and Small Causeways.	23,612	Nos.

2. School Buildings:

12.3. 2,572 Schools have no buildings at all and they have to be provided with new buildings. Schools that are short of accommodation have also to be provided with new and additional buildings. A total of 4,561 such additional buildings are required. For construction of School buildings a sum upto Rs. 40,000 can be sanctioned as Government grant. Hence for construction of 7,133 School buildings a sum of Rs. 3,566-50 lakhs will be the estimated cost and a sum of Rs. 713-30 lakhs will be the local bodies contribution.

3. Minor Irrigation

12.4. There are 23,701 Minor Irrigation sources with an ayacut of 8,10,347 acres in the State. It is estimated that more than 50 per cent of the tanks do not possess the sluices and weirs in good condition. Funds have to be provided for improving the structures like sluices and weirs to prevent seepage of water and to facilitate bringing more acreage under assured irrigation. Hence it has been proposed to improve 12,226 sources with an allocation of Rs. 787 lakhs.

4. Rural Water Supply

12.5. There are 12,603 Habitations out of 17,969 habitations yet to be provided with drinking water supply source as on 1st April 1980. Water supply works, other than those, costing more than Rs. 50,000, involving drilling operations, are executed by Panchayat Unions. These constitute approximately 10 per cent of the number of habitations to be provided with water supply. Providing protected pipe^d water supply to Harijan Colonies having a population of 200 and above and falling beyond 4 furlongs from a supply source is also the function of the Panchayat Unions.

1 Villages with sources not perennial but potable water	6,487
2 Potable water with perennial source privately owned or unprotected	4,955
3 Alternative good source with 1 km. of hamlet	1,107
Total ..	12,549

II. Rural Employment:

12.6. During the Plan Period, a labour force of 138 lakhs is expected. About 40 per cent of this labour force is expected to be unemployed and under employed i.e., 55 lakhs. Hence steps have to be taken to provide employment opportunities to this vast labour force to raise them above poverty line and to build up capital assets for the Panchayats. During 1979-80 under employment guarantee scheme 3.35 lakhs people registered their names for employment and subsequently about 15 per cent withdrew registration since they were not willing to do manual work.

12.7. The food for work programme has an annual allocation of the order of 1 lakh tonnes of rice per year. But as per the scheme the rice should be spent for the labour component in respect of plan and non-plan schemes of State Government as an additional outlay. Hence a sum of Rs. 10 crores per annum may be required for Rural employment programme for each year to meet the other components of the works. Apart from Government rice allocation, Panchayat Unions are contributing towards cash component and material component wherever surplus general funds are available. Adopting a ratio 25 : 75 material and labour components and assuring Rs. 10 crores per annum as material component, the value of work done will amount to Rs. 40 crores. If an average rate of Rs. 6 is applied 6.66 crores of mandays of labour can be generated in a year in the plan and non-plan schemes. During off seasons, 22.2 lakhs people can be provided employment. 5,910 persons can be employed for a period of 30 days or 2,955 persons can be employed for 60 days. The complementation of the schemes will include local bodies contribution of Rs. 15 crores.

III. Whole Village Development Programme:

12.8. The scheme to be implemented are family oriented schemes to improve the earning capacity of the beneficiaries in such areas as Agriculture, Animal Husbandry, Fisheries, Cottage Industries and infrastructural facilities and imparting of technical know-how supplementing the institutional finance. This will be an addition to the on-going scheme like SFDA, IRDP, DPAP, etc.

12.9. During the Sixth Plan period, it is proposed to take up 15 such projects one for each district, in two stages the first stage covering four districts from 1981-82 to 1984-85 and the remaining districts from 1985-86 onwards. An outlay of Rs. 25 lakhs is proposed for each project and the total outlay required is 600 lakhs.

IV. Bio-Gas Plants:

12.10. (a) *Subsidised Plants for individuals.*— It is proposed to subsidise 750 Gobar Plants per year for individuals at 20 per cent subsidy and the total outlay required is Rs. 9.36 lakhs per year and 48.80 lakhs for the five year period.

(b) Community Plants:

12.11. Similarly Community Bio-Gas-Plants have to be encouraged in compact areas providing a combination of amenities like cooking gas, street lighting, house lighting, community latrines and power for starting small industries. Each such project will cost approximately Rs. 5 lakhs.

It is proposed to provide one such plant in selected districts and the total outlay in this will be Rs. 35 lakhs.

V. Bhoodan:

12.12. Most of the lands that have been obtained by way of gift (Bhoodan) by the Tamil Nadu Bhoodan Board consist of alkalines and saline soils and are not profitable for cultivation. The soil conditions have to be analysed and measures undertaken to reclaim them. Even after reclamation, required farm plans and package of practices have to be adopted by the beneficiaries.

For this purpose a sum of Rs. 23 lakhs is required for five years for reclaiming 2,300 acres.

VI. Rural Sanitation:

1. Community Latrines for Women in Rural areas.

12.13. Environmental Sanitation is vital to Public Health of every village and town. Efficient collection and disposal of all types of refuse produced in the village will contribute to good environmental sanitation.

12.14. Villages cannot afford to construct latrines in their own and due to non-availability of public latrines, women folk find it difficult to find privacy.

12.15. Two public latrines of four seater is proposed to be constructed in each of the 69 self-sufficiency blocks, where water supply is available, during the year 1980-81. The scheme is to be extended to all blocks in subsequent years. Five latrines may be constructed in each Panchayat Union, where water supply is available during the plan period. 1,880 latrines will be constructed during the plan period at an outlay of Rs. 119.00 lakhs.

2. Drainage in Bigger Panchayat Areas:

12.16. As another step to improve the sanitation of the villages, open drains are to be provided for the streets in Panchayats. Built-up areas in bigger Panchayats account for 2,181 kilometres of street length. The rough cost of constructing

open drains per Rft. is Rs. 20 and per kilometre works out to Rs. 66,000 and for 2,181 kilometre it is Rs. 1439.46 lakhs. 50 kilometres length of streets are to be provided with drains at a cost of Rs. 25 lakhs during this Five-Year Plan at 75 per cent Government grant and 25 per cent local contribution. Hence a sum of Rs. 25 lakhs will be required for the purpose.

VII. Women Teachers' Quarters:

12-17. The need for quarters for Women Teachers is badly felt. A grant of Rs. 5,600 is given for the construction of Women Teachers Quarters. It is proposed to take up 355 quarters and the allotment for the Five-Year Plan period is Rs. 20 lakhs. The local contribution per building is Rs. 15,000 and the contribution for the plan period is of the order of Rs. 53.25 lakhs.

Continuing Schemes.

I. Agriculture

12-18. Under Integrated Rural Development Programme and under S.F.D.A. and also under Drought Prone Area Programme, special schemes have been taken up in 272 blocks out of 376 blocks in the State.

12-19. The normal programme under agriculture and animal husbandry may be limited to other blocks where such schemes are not in operation. Under Agriculture and Animal Husbandry Programmes the schemes benefiting individuals will be implemented only in 97 blocks and the schemes intended for infrastructural facilities will be implemented in all blocks according to felt needs.

II. Social Education:

12-20. (a) *Information Centres:* There are 13,131 Social Education Centres functioning as on date. Each block is allowed to spend a sum of Rs. 1,650 towards providing newspapers, magazines, etc., with 50 per cent matching contribution for running these centres. Each block has one information centre and a sum of Rs. 200 as 50 per cent grant is required for running the information centres. At the State level, for conducting exhibitions, etc., a sum of Rs. 58,700 is required.

(b) Social Libraries :

12-21. To inculcate the reading habit among school children, school libraries are proposed to be established during the Plan period and the Government grant proposed for each library will be Rs. 200 supported by a matching contribution by the Panchayat Unions. There are 20,171 Elementary Schools and 3,085 Higher Elementary Schools maintained by the Panchayat Unions.

It is proposed to cover two schools per Panchayat Union per year and the outlay is of the order of Rs. 2.00 lakhs per year and Rs. 15.04 lakhs for the Plan period to cover 3,760 schools.

(c) Community Centres, T.V. sets, etc:—

12-22. (1) Subsidy at the rate of Rs. 1,000 is proposed for community T.V. sets and the balance to be borne by the Panchayats in the T.V. covering areas of Chengalpattu, North Arcot and South Arcot districts initially. When the Kodaikanal T.V. antenna tower is commissioned by 1982, it will cover the Six districts of Madurai, Ramnad, Trichy, Pudukkottai, Tirunelveli and Tanjore. It is proposed to subsidise 25 sets in 1980-81, 75 sets during 1981-82, 200 sets each during 1982-83 to 1984-85 making a total of 700 sets during the Plan period involving an outlay of Rs. 7.00 lakhs.

12-23. (2) Assistance to Panchayats for construction of office buildings-cum-community recreation centres is also proposed during the Plan period. The buildings will be utilised for running Mahalir Mandrams, Youth Clubs, Radio listening group, etc., at Rs. 49,000 per building, 75 per cent Government grant will be given to local bodies for this purpose.

III. Nutrition and Kuzhantthaihal Kappagam Feeding Programme with CARE assistance:

12-24. A sum of Rs. 56 lakhs is being allowed for implementing the Applied Nutrition Programme per year which comes to Rs. 280 lakhs for five years. There are at present 32 ongoing blocks benefitted under the schemes. Every year it is proposed to include five new additional blocks in lieu of the existing ongoing blocks entering its post operational stage. The selection of blocks would be suggested and finalised every year. But, the total annual financial outlay of Rs. 56 lakhs for implementing this programme will not be exceeded.

12-25. A sum of Rs. 19 lakhs per year is required for the feeding programme with CARE assistance towards the grants being allowed for transport of CARE commodities, non-feeding charges, CARE administrative cost, etc., for a period of five years, i.e., the Sixth Five-Year Plan the amount comes to Rs. 95 lakhs which may be allowed.

12-26. Since the UNICEF is phasing out from Applied Nutrition Programme the UNICEF share of assistance can be continued to be obtained under Basic Services in Rural Development. This could be implemented in phased manner in Self-Sufficiency Blocks.

PROPOSALS FOR SIXTH FIVE-YEAR PLAN PERIOD, 1980-85.

RURAL DEVELOPMENT SCHEMES.

<i>Serial number and Head of Scheme.</i>	<i>Proposed outlay 1980-85.</i>	<i>Serial number and Head of Scheme.</i>	<i>Proposed outlay 1980-85.</i>
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS.)		(RUPEES IN LAKHS.)
1 School building	625.00	13. Self-sufficiency Scheme:—	
2. Link Roads	505.00	a. Link Roads	8,500.00
3 Rural Water Supply ..	775.00	b. Maternity & Child Welfare Centres	500.00
4 Social Education :—		c. Minor Irrigation ..	800.00
(a) Normal Schemes? ..	40.00	d. School buildings ..	2,500.00
(b) Assistance to Pan-chayats.	50.00	e. Rural dispensaries ..	200.00
5 Agriculture	138.00		
6 Animal Husbandry	} I.R.D. is being extended to all blocks from 1981-82.		
7 Fisheries			
8 Rural Employment, ..		5000.00	Total ..	12,500.00
9 Rural Sanitation :—			
(i) Drainage	25.00	14 Women Teachers Quarters.	20.00
(ii) Construction of latrines for women.	119.00	15 Nutrition (Transport of CARE Food, Kuzhandai-gal Kappagams and A.N.P.)	375.00
10 Whole Village Development Programme.	1100.00		
	Allotment under other heads also to be used.		
11. Bio-Gas plants	85.00		
12. Bhoodan	23.00	Total ..	395.00
Total ..	7,485.00	Grand Total ..	20,380.00

Part 11

SECTORAL PLANS

B. SECONDARY SECTOR

PART II—SECTORAL PLANS.

B. SECONDARY SECTOR.

CHAPTER 13.

INDUSTRIES—LARGE SCALE AND MEDIUM

13.0. Massive increase in employment opportunities, utilisation of local resources, exploration of new sectors here to untapped and development of backward areas are the basic objectives of the Industrial Policy pursued by the Government of Tamil Nadu. In the background of the magnitude of unemployment and the large number of persons living below the poverty line, the touchstone of all industrial schemes and investments should be their employment potential especially in the short term. While this points out to the need for increased emphasis on the growth of small industries, development of the tiny sector and overall rural industrialisation which will ensure a greater dispersal of industry and a better distribution of wealth and income, it is at the same time important to take necessary steps to promote large and medium industries in a harmonious manner to strengthen the industrial infrastructure of the State to provide linkages with the small sector and to generate additional employment. In the context of the planned development, large scale industries and small industries are to be assigned their proper role in such a way that they function in a complementary manner and help in activating the growth forces in the State's economy. In consonance with the policy of the Government of India, the State Plan for industrial development aims to achieve an average growth rate of about 8 to 9 percent in the industrial production. The emphasis is on encouraging the private entrepreneurial talents the State would directly enter only those areas which absolutely need this intervention from angles of social justice, innovations of technology or desirable distribution of wealth and income. The natural endowments available in the States like raw materials, local resources, man power and skills would be fully utilised and converted into productive assets through identification and formulation of viable schemes, establishment of basic infrastructural facilities, provision of incentives, supply of credit and other inputs, training, introduction of appropriate technology and assistance for marketing and exports.

13.1. The industrial progress of any State depends to a great extent on the investments in the Central Sector projects. Unfortunately, the Central sector investments in Tamil Nadu have been disproportionately low. The total Central sector investments in the country stood at Rs. 15,668 crores at the end of 1979, out of which the investments in Tamil Nadu was Rs. 616 crores only representing a meagre 4 percent of the total. During the past ten years, the proportion of the Central sector investments in Tamil Nadu has

gradually got reduced from 8 percent to 4 percent. Even considerations on a population basis would justify an 8 percent investment in the Central Sector Projects in the State. It is earnestly hoped that during the Plan period 1980-85, the Government of India will come forward to correct this regional imbalance by setting up more projects for Tamil Nadu.

13.2. One such project which the Centre can take up is the prestigious Petro Chemical complex near Madras. This project can be based on the nahtha available from the Madras Refineries and will also pave the way for development of a large spectrum of chemical units to process the downstream products. Another project which could be considered in the Central sector is for production of basic chemicals from the lignite available at Neyveli. As these projects require very heavy investments, the State Plan does not include them, but it is hoped that Government of India will take them up for implementation in the Central sector.

13.3. The major responsibility of the State Government in the promotion and development of major and medium industries has been the development of necessary infrastructure and provision of funds and other assistance required for the orderly growth of private sector. To achieve these objectives a number of Corporations have been set up, which not only receive necessary financial and managerial support from Government but also tap huge institutional funds for their activities. A few of these Corporations have been directed to enter directly the field of production in some selected areas due to strategic reasons.

13.4. The Tamil Nadu Industrial Development Corporation (TIDCO) has been entrusted with the task of setting up and managing some of the large and medium industries in the public sector and also of promoting industrial units in the joint sector in collaboration with private entrepreneurs. TIDCO is now managing a steel plant at Arkonam and Cement plants at Alangulam and Ariyalur. TIDCO will expand its activities in the public sector with the expansion of these units and with the setting up of some new projects. In addition, this Corporation which is now implementing 19 joint sector projects, will take up about 38 more new schemes in the joint sector. All these projects will call for a total investment of about Rs. 580 crores and would generate employment potential for more than 22,000 persons most of whom will be in the skilled and semi skilled categories. The plan for 1980-85

envisages a Government contribution of Rs. 70 crores to TIDCO, which would enable it to strengthen its equity basis and obtain sufficient loans from financial institutions.

13.5 The State Industries Promotion Corporation of Tamil Nadu (SIPCOT) has been entrusted with the twin responsibilities of promotion of large and medium industries in the private sector and of hastening the industrial dispersal to the under-developed areas of the State. The Corporation implements a package of incentives provides financial assistance to industries under the refinance scheme of Industrial Development Bank of India, extends various ancillary services to entrepreneurs and develops growth centres in different parts of the State where developed lands would be made available to industries on easy terms. The incentives include the Central Subsidy and interest-free sales tax loan offered by the State Government. It is anticipated that the scheme of the interest-free sales tax loan will be continued during the Sixth Plan period and that there will be a minimum outgo of Rs. 300 lakhs annually as a result of the existing sanctions as well as fresh sanctions in future years. The total requirement of Rs. 1,500 lakhs for the period 1980-85 will have to be provided in the Plan. The extent of term loan assistance to be provided to large and medium industries by SIPCOT in the five years has been estimated at Rs. 8,400 lakhs, of which Rs. 2,100 lakhs will have to be contributed by the Government in the form of share capital to SIPCOT. On the infrastructural development side SIPCOT will have to invest about Rs. 250 lakhs more in its growth centres at Hosur and Ranipet and in line with the avowed policy of the Government to provide such facilities to all possible areas in the State, SIPCOT will undertake to develop new growth centres in ten other areas. Thus, the total requirement of funds from the Government during the plan period will be as follows:—

	(RUPEES IN LAKHS).
Sales tax loan	1,500
Term loan operations	2,100
Growth centres	1,400
	—————
Total	5,000
	—————

In addition to the market borrowings and other financial resources, SIPCOT would also disburse about Rs. 1,500 lakhs as Central Subsidy to the industrial units coming up in backward areas. It is expected that all these investments and incentives together will catalyse a total investment of about Rs. 1,600 crores in new industries, mostly in backward areas and would give employment to about 70,000 persons.

13.6. The Tamil Nadu Industrial Investment Corporation Limited (TIIC) set up in 1949 functions as the State financial Corporation of Tamil Nadu. It assists in the establishment of new units and the expansion and modernisation of existing units by providing medium term loans, guaranteeing deferred payments for acquisition of machinery and underwriting of equity and preference shares. The Corporation is also implementing special schemes like financial assistance to technocrats, rural medical practitioners, transport operators and hotels, loan assistance under soft loan schemes, Technician Entrepreneur Schemes, etc. with a view to promote larger employment opportunities. The Corporation contemplates increased assistance to these sectors in the coming years, giving priority to the units capable of generating larger employment opportunities and especially to those set up in the backward and rural areas and particularly designed to suit the economically weaker sections of the society. The cumulative amount of the various financial assistance granted by the Corporation as on 31st March 1980 is Rs. 143.82 crores. The proposed total sanctions of the Corporation during 1980-85 will be of the order of Rs. 200 crores. Equity contribution and refinance from Industrial Development Bank of India and assistance from other sources of financing will meet a large part of the financial requirements for the implementation of these schemes. During the plan period 1980-85, the equity contribution by the State Government would be Rs. 4.50 crores. This total investment is estimated to generate employment for about 1,00,000 persons during 1980-85.

13.7 Tamil Nadu, with its long coastline and abundant sunshine, occupies the second position in the country in the field of production of salt. Salt industry is labour intensive and provides seasonal employment to agricultural workers in the coastal districts. The Tamil Nadu State Board for Salt and Allied Chemicals advises the State Government on measures to increase salt production and to encourage the setting up of salt-based chemical industries. The Tamil Nadu salt Corporation, recently formed as a public sector company, has been entrusted with the responsibility of development of new areas for salt production and of establishment of salt-based chemical industries. At present this Corporation has taken up the development of two large salt projects in Mariyur-Valinokkam in Ramanathapuram District and Maravakkadu in Thanjavur District. During the plan period, the Corporation will take up new areas for salt manufactures, underdevelopmental activities including creation of an Research and Development Cell and extension of financial and marketing assistance to small salt cultivator and establishment of projects for manufacture of Marine Chemicals. These schemes together will involve a total project outlay of about Rs. 16 crores, giving employment to about 10,000 persons. To make this investment possible, the State Government will have to contribute an amount of Rs. 5.00 crores to the Salt Corporation during 1980-85.

13.8. Sugar industry being an agro-based industry is occupying an important place in the economy of rural areas. The growth of sugar industry in Tamil Nadu has been gaining momentum as a result of the implementation of several development programmes under the Five Year Plan. The Directorate of Sugar, along with the Tamil Nadu Sugar Corporation Limited, started in 1974 to set up all the future sugar mills in the public sector, has in view several new schemes to be implemented in the course of 1980-85. These include the establishment of (a) two new sugar mills of 1,250 tonnes per day (b) three mini sugar plants of 500 TCD (c) two mini paper plants using bagasse (d) a sugar machinery workshop to undertake roller reschelling work, manufacture of certain simple spare parts, machinery items etc. and (e) alcohol based units. Total investment proposed in these schemes is of the order of Rs. 34.20 crores during 1980-85 needing Government assistance to the extent of Rs. 6.00 crores. This investment would generate employment for about 3,420 persons besides catalysing the development of new cane areas in the State.

13.9. Tamil Nadu Ceramics Ltd (TACEL) is running a mechanised Brick Plant at Thirumazhisai and Ceramic units at Madras, Vridhachalam and Omalur. The company will pay attention to the areas of optimising production in its units and take up schemes for assisting rural potters and entrepreneurs. The Company's plan envisages a modest outlay of about Rs. 1.53 crores during the period 1980-85 which will be fully met from State Government's contribution.

13.10. Tamil Nadu Government have undertaken a major project for the production of Newsprint and Writing Paper from Sugarcane bagasse. Preliminary steps for finalisation of technical know-how, financial arrangements, equipment supply etc., are being taken by the Tamil Nadu Newsprint and Papers Ltd. (TNPL) which has been specially established to implement this project. The project is estimated to cost around Rs. 180 crores and will be financed from

the funds provided by the Government of Tamil Nadu, Indian Financial Institutions and the World Bank. A sum of Rs. 30 crores is provided in the plan for contribution from the Government towards the equity of the Company. This project while heralding a new technology in the country, will not only make use of the bagasse which is now being burnt as fuel in the sugar plants, but would also provide employment to about 2,000 persons directly and about 10,000 indirectly.

13.11. Summing up, the total investments in the various projects under large and medium industries will be as follows :—

(RS. IN CRORES).		
(1)	Total investments during 1980-85.	Plan allocation.
(1)	(2)	(3)
(1) TIDCO	491.00	70.00
(2) SIPCOT	128.00	50.00
(3) TICC	200.00	4.50
(4) TAMIL NADU SALT CORPORATION.	12.78	5.00
(5) SUGAR CORPORATION	31.10	6.00
(6) TACEL	1.93	1.53
(7) TAMIL NADU NEWS-PRINT AND PAPERS LTD.	180.00	30.00
Total ..	1,044.81	167.03

TABLE 13-I.
PLAN 1980-85, TAMIL NADU.
Industrial Area Development Programmes.

(a) Industrial Areas already developed.

A. Location. B. District	Area acquired in acres.	Area Developed. in acres	Total cost. (RUPEES IN LAKHS.)	Number of plots developed.	Utilisation of plots (Numbers.)				Remarks.
					Allotted.	Un-occupied.	Industrial units in production.	Employment.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>State Industries Promotion Corporation of Tamil Nadu (SIPCOT)—</i>									
1 Establishment of Growth Centres—									
A. Ranipet	730	560	105	85	60	25	35	4,050	Total estimated employment is about 8,000.
2 A. Hosur	1,205	1,060	120	162	110	52	25	3,000	Total estimated employment is 10,000 to 12,000.

(b) *Industrial areas proposed to be taken up during 1980-85.—*

A. Location. B. District.	Programme of Five-Year Plan 1980-85.					
	Land to be acquired.	Land to be developed.	Number of plots.	Estimated cost.	Date of start.	Expected date of completion.
	(1)	(2)	(3)	(4)	(5)	(6)
	(ACRES.)	(ACRES.)		(RUPEES IN LAKHS.)		
<i>Establishment of Growth centres in backward areas;—</i>						
1 Tuticorin (Tirunelveli District)	1,350	1,350	Not decided.	378	Initial stage.	1983.
2 Pudukottai (Pudukottai District)	363	363	Do.	200	Do.	....
3 Manamadurai (Ramanathapuram District)	381-81 (acquired) 109-08 (yet to be 490-89 acquired).	490-89	Do.	250	June, 1980	June, 1983.

TABLE 13-II.

EMPLOYMENT CONTENT OF PLAN SCHEMES 1980-85 OUTLAY AND EXPENDITURE AND TARGETS AND ACHIEVEMENTS.

537C-6-12

Implementing Department :— State Industries Promotion Corporation of Tamil Nadu (SIPCOT).

1. Amount in Rs. in lakhs.

2. Employment figures in numbers.

Serial number.	Name of the Scheme.	Outlay and expenditure (Rupees in lakhs).				1980-85.	
		1978-79 (Actual expenditure)	1979-80 (Actual expenditure)	1980-81 (Proposed outlay)	1980-85 (Proposed outlay)	State Government contribution.	Financial assistance from other sources.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Term Loan Operations	173	369	700	8,400	2,100	6,300 (IDBI).
2	Interest Free Sales Tax Loan ..	153	185	300	1,500	1,500	....
3	Government of India Central Investment subsidy	175	215	300	1,500	..	1,500 (G.I.).
4	Growth Centres	12	14	328	1,400	1,400	....
	Total ..	513	783	1,628	12,800*	5,000	7,800

*includes item (3) Government of India subsidy.

TABLE 13-II—cont.

EMPLOYMENT CONTENT OF PLAN SCHEMES 1980-85 OUTLAY AND EXPENDITURE AND TARGETS AND ACHIEVEMENTS—cont.

Serial number.	Name of the Scheme.	Total direct employment generation							
		1978-79 (Actual).		1979-80 (Actual).		1980-81 (Target).		1980-85 (Target).	
		Construction (Person days).	Continuing (Person years).	Construction (Person days).	Continuing (Person years).	Construction (Person days).	Continuing (Person years).	Construction (Person days).	Continuing (Person years).
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1.	Term Loan Operations ..	300	1,750	500	3,000	2,800	5,000	15,000	79,000
2.	Interest Free Sales Tax Loan.	..	800	..	1,000	..	2,000	..	10,000
3.	Government of India Central Investment subsidy.. ..	..	750	..	1,000	..	2,000	..	7,000
4.	Growth Centres	500	600	800	500	1,500	2,000	1,200	3,000
	Total	800	3,900	1,300	5,500	4,300	11,000	16,200	99,000

Note.—To arrive at person days figures at Columns (9), (11), (13) and (15) may be multiplied by 273.

TABLE 13-III.

LARGE SCALE AND MEDIUM INDUSTRIES—PROJECTS PROPOSED BY TIDCO DURING 1980-85.

A. PROJECTS INCLUDED UNDER SIXTH FIVE-YEAR PLAN (1980-85) PROPOSAL WHICH RELATES TO EXPANSION OF THE EXISTING PROJECTS UNDER PRODUCTION.

Serial number and name of the project.	Project cost.	TIDCO's commitment.	Contribution paid up to 31st March 1980.	Proposed outlay during	
				1980-81.	1981-82.
(1)	(2)	(3)	(4)	(5)	(6)
				(RUPEES IN LAKHS.)	
<i>Public Sector Projects—</i>					
1. Tamil Nadu Steels—Providing of additional furnace and providing of two strand concast plant.	500	170	..	..	..
2. Ariyalur Cement Project—Substantial expansion.	3,000	860	..	..	..
3. Alangulam Cement Plant—Improvement and modernisation.	301	87	32	55	..
4. Tamil Nadu Steels—Addition to fixed assets.	Existing project under production.	..	..	18	10
<i>Joint Sector Projects—</i>					
1. Southern Boraax Limited ..	162	12	10	2	..
2. Asia Tobacco Co. Limited ..	178	31	21	10	..
3. Tamil Nadu Alkaline Batteries Limited.	38	16	10	6	..
4. Great Sea Trawler Building Yard Mandapam Limited.	100	14	2	5	5
	4,279	1,190	75	96	15

TABLE 13—III—cont.

Serial number and name of the project.	Proposed outlay during			Total proposed.	Employment potential (Number of person).
	1982-83.	1983-84.	1984-85.		
(1)	(7)	(8)	(9)	(10)	(11)
(RUPEES IN LAKHS.)					
<i>Public Sector Projects—</i>					
1. Tamil Nadu Steels—Providing of additional furnace and providing of two strand con-cast plant.	..	170	..	170	100
2. Ariyalur Cement Project—Substantial expansion.	300	560	..	860	600
3. Alangulam Cement Plant—Improvement and modernisation.	..	..	..	55	..
4. Tamil Nadu Steels—Addition to fixed assets.	12	10	10	60	..
<i>Joint Sector Projects—</i>					
1. Southern Boraax Limited ..	..	..	..	2	10
2. Asia Tobacco Company Limited	..	..	..	10	1,000
3. Tamil Nadu Alkaline Batteries Limited.	..	..	..	6	150
4. Grant Sea Trawler Building Yard Mandapam Limited.	2	..	..	12	150
	314	740	10	1,175	2,010

TABLE 13—III—cont.

B. Projects included under Sixth Five-Year Plan (1980-85) proposal for which Government approval for implementation has been obtained and the projects under implementation/to be taken up for implementation.

Serial number.	Name of the project.	Project cost.	TIDCO's commitments.	Contribution up to 31-3-1980.	Proposed outlay during	
					1980-81.	1981-82.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
<i>Public Sector Projects—</i>						
1.	Magnesium Metal Project ..	450	139	4	10	125
2.	Asbestos Cement Sheet Project	212	62	22	21	19
3.	Industrial Explosives	2,000	600	..	20	260
<i>Joint Sector Projects—</i>						
1.	Tamil Nadu Flourine and Allied Chemicals.	1,480	125	80	45	..
2.	Asian Bearings Limited ..	1,635	130	44	25	61
3.	Vanavil Dyes and Chemicals Limited.	600	200	31	100	69
4.	Gangappa Paper Mills Limited	487	43	20	23	..
5.	Asia Carbon Limited	800	80	13	10	57
6.	Madras Shoe Fabrics Limited	145	10	..	10	..
7.	Ship Steels (India) Limited ..	50	5	..	1	4
8.	Tuticorin Alkali Chemicals and Fertilisers Limited.	3,975	575	420	155	..
9.	Ephyrine Hydrochloride Project.	140	12	1	8	3
10.	Acetylene and Industrial Gas Cylinders Limited.	61	..	6	1	..
11.	Fine Measure Instruments Limited.	300	25	2	1	5
12.	Refractories Project	3,000	300	4	5	40
		15,335	2,314	647	435	643

TABLE 13—III—cont.

Serial number.	Name of the project.	Proposed outlay during			Total proposed outlay for 1980-85.	Employment potential (Number of persons).
		1982-83.	1983-84.	1984-85.		
(1)	(2)	(8)	(9)	(10)	(11)	(12)
(RUPEES IN LAKHS.)						
<i>Public Sector Projects—</i>						
1	Magnesium Metal Project ..	..	..	..	135	200
2	Asbestos Cement Sheet Project ..	..	..	..	40	240
3	Industrial Explosives	200	120	..	600	300
<i>Joint Sector Projects—</i>						
1	Tamil Nadu Flourine and Allied Chemicals.	..	..	..	45	265
2	Asian Bearings Limited ..	..	..	..	85	650
3	Vanavil Dyes and Chemicals Limited.	..	..	..	169	400
4	Gangappa Paper Mills Limited ..	..	..	..	23	300
5	Asia Carbon Limited .. ..	..	..	..	67	300
6	Madras Shoe Fabrics Limited ..	..	..	..	10	300
7	Ship Steels (India) Limited ..	..	..	..	5	650
8	Tuticorin Alkali Chemicals and Fertilisers Limited.	..	..	..	155	500
9	Ephyrine Hydrochloride Project ..	..	..	..	11	100
10	Acetylene and Industrial Gas Cylinders Limited.	..	..	..	1	50
11	Fine Measure Instruments Limited.	18	..	..	24	100
12	Refractories Project	100	100	51	296	1,500
		318	220	51	1,667	5,855

TABLE 13 III—cont.

C. Projects included under Sixth Five-Year Plan (1980-85) Proposal which are under Consideration

Serial number.	Name of the Project.	Project cost.	TIDCO's commitment.	Contribution proposed during plan period 1980-85.	Proposed outlay during.	
					1980-81	1981-82
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Public Sector Projects—</i>						
		(RUPEES IN LAKHS.)				
1	Polyster staple Fibre Project ..	4,200	1,050	1,050	5	45
2	Steel Rolling Mill	400	135	135	10	90
3	Palayam Cement Plant ..	3,200	920	920	..	320
4	Asbestos Pressure Pipes and Sheets Project, Tiruchirappalli.	700	200	200	..	5
<i>Joint Sector Projects—</i>						
1	Southern Borax Limited-Boric Acid Plant.	50	50	50	5	45
2	Southern Hydrocarbon Limited—Diversification.	200	20	20	10	5
3	Automotive Castings Project..	700	60	60	1	10
4	Asia Carbon Limited—Diversification.	500	50	50	..	..
5	Southern Agrifurcance Limited Diversification.	500	50	50	..	..
6	A.B.S. Resins Project ..	500	50	50	2	30
7	Polynosic/H.W.M. Staple Fibre Project ..	5,300	800	359	5	95
8	Wrist Watch Project ..	2,000	200	199	5	50
9	Goat Skin Project ..	120	12	12	1	11
10	Optical Component Project ..	200	20	20	1	5
11	Synthetic Rutile Project ..	1,800	180	180	1	10
12	Linear Alkaline and Benzene Project.	2,500	250	250	..	50
13	Two Ethyl Hexanol Project..	1,800	180	180	..	50
14	Vinyl Acetate and Polyvinyl Acetate Project.	1,600	160	159	..	50
15	Pentacithral Project	1,200	120	120	10	90
16	Fatty Acid Project	600	60	60	1	34
17	Malathion Project	200	23	23	1	22
18	Acetone Project	180	..	12	12	..

TABLE 13—III—cont.

Serial number.	Name of the Project.	Proposed outlay during.			Total Proposed outlay for 1980-85	Employment potential (Number of Persons),
		1982-83	1983-84	1984-85		
(1)	(2)	(8)	(9)	(10)	(11)	(12)
(RUPEES IN LAKHS.)						
<i>Public Sector Projects—</i>						
1	Polyster Staple Fibre Project ..	500	400	100	1,050	1,500
2	Steel Rolling Mill	35	..	..	135	100
3	Palayam Cement Plant ..	600	..	..	920	900
4	Asbestos Pressure Pipes and Sheets Project, Tiruchirappalli.	195	..	..	200	450
<i>Joint Sector Projects—</i>						
1	Southern Borax Limited—Boric Acid Plant.	..	..	..	50	50
2	Southern Hydrocarbon Limited—Diversification.	5	..	..	20	100
3	Automotive Castings Project ..	49	..	..	60	200
4	Asia Carbon Limited—Diversification.	25	25	..	50	150
5	Southern Agriculture Limited—Diversification ..	50	..	..	50	30
6	A.B.S. Resins Project ..	17	..	..	49	130
7	Polynosic/H.W.M. Staple Fibre Project.	100	59	..	359	120
8	Wrist Watch Project	100	44	..	199	2,500
9	Goat Skin Project .. ..	..	..	..	12	200
10	Optical Component Project ..	14	..	..	20	105
11	Synthetic Rutile Project ..	60	60	49	180	450
12	Linear Alkaline and Benzene Project,	100	100	..	250	300
13	Two Ethyl Hexanol Project ..	100	30	..	180	500
14	Vinyl Acetate and Polyvinyl Acetate Project.	100	9	..	159	570
15	Pentacritral Project	20	..	..	120	400
16	Fatty Acid Project	25	..	..	60	80
17	Malathion Project .. ..	..	..	..	23	50
18	Acetone Project .. ..	..	..	..	12	30

TABLE 13—III—cont.

ABSTRACT.

<i>Particulars of Projects.</i>	<i>Proposed capital outlay during</i>		
	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)
		(RS. IN LAKHS)	
1. Projects relating to expansion of existing projects under production.	96	15	314
2. Projects for which Government approval for implementation has been obtained and the project under implementation/to be taken up for implementation.	435	643	318
3. Projects which are under consideration	70	1,117	2,095
	601	1,775	2,727

<i>Particulars of Projects.</i>	<i>Proposed capital outlay during.</i>		<i>Total proposed capital outlay during 1980-85 (share of expenditure from State Government).</i>
	1983-84	1984-85	
(1)	(5)	(6)	(7)
		(RUPEES IN LAKHS.)	
1. Projects relating to expansion of existing projects under production.	740	10	1,175
2. Projects for which Government approval for implementation has been obtained and the project under implementation/to be taken up for implementation.	220	51	1,667
3. Projects which are under consideration	727	149	4,158
	1,687	210	7,000

TABLE 13—IV.

SIXTH FIVE-YEAR PLAN—1980-85.

Project undertaken/to be undertaken by Directorate of Sugar/Tamil Nadu Sugar Corporation during the Sixth Five-Year Plan Period.

Serial number and Name of the Project.	Annual capacity.	Status of the project.	Date of start.	Expected date of completion.	
(1)	(2)	(3)	(4)	(5)	
<i>I. Continuing Schemes/Project.—</i>					
1. Ulundurpet Co-operative Sugar Mills	.. 18,000 tonnes of Sugar.	Crushing commenced	..	..
2. Mini Paper Plant	.. .. 4,500 tonnes per year.	Preliminary Stage			
<i>New Schemes.—</i>					
1. 1250 TCD Sugar Mills (Two)	.. .. 18,000 tonnes of sugar per unit.	Preliminary Stage.			
2. Mini Sugar Plants (Two)	.. .. 6,000		Do.		
3. Mini Paper Plant	.. .. 4,500 tonnes per unit.		Do.		
4. Wax Extraction Plant (One)	.. .. 450 tonnes of Natural Wax per year.		Do.		
5. Sugar Machinery Workshop (29)*	.. ..		Do.		
			<i>Latest cost Estimate.</i>		
			Total cost.	Equity.	Debt.
			(6)	(7)	(8)
				(Rs. IN LAKHS.)	
<i>I. Continuing Schemes/Project.—</i>			700.00	245.00	455.00
1. Ulundurpet Co-operative Sugar Mills	..			(State Govt. Rs. 175 lakhs cane growers Rs. 70 lakhs).	
2. Mini Paper Plant	.. ..		200.00	70.00	130.00
				(Rs. 50 lakhs by State Govt. and Rs. 20 lakhs by Co-op. Sugar Mills).	
<i>New Schemes.—</i>					
1. 1250 TCD Sugar Mills (Two)	.. ..		700.00	245.00	455.00
			per unit.	per unit.	per unit.
2. Mini Sugar Plants (Two)	.. ..		250.00	88.00	162.00
			per unit.	per unit.	per unit.
3. Mini Paper Plant	.. ..		200.00	70.00	130.00
4. Wax Extraction Plant (One)	.. ..		60.00	21.00	39.00
5. Sugar Machinery Workshop (29)*	.. ..		50.00	20.00	30.00
			3,110.00		

* To be undertaken by Tamil Nadu Sugar Corporation Limited.

TABLE 13—IV—cont.

Serial number and Name of the Project.	If Joint Sector.		
	Name of private sector participants.	Extent of participation.	Equity capital to be provided by Government Corporation.
(1)	(9)	(10)	(11)
<i>Continuing Schemes/Project—</i>			
1. Ulundurpet Co-operative Sugar Mills ..		Does not arise.	
2. Mini Paper Plant		Does not arise.	
<i>New Schemes—</i>			
1. 1,250 TCD Sugar Mills (Two)		Does not arise.	
2. Mini Sugar Plants (Two)		Does not arise.	
3. Mini Paper Plant		Does not arise.	
4. Wax Extraction Plant (One)		Does not arise.	
5. Sugar Machinery Workshop*		Does not arise.	

Serial number and Name of the Project.	Equity capital contribution by Government Corporation.		
	Up to 1979-80.	1980-81 approved outlay.	1981-82.
(1)	(12)	(13)	(14)
<i>Continuing Schemes/Project—</i>			
1. Ulundurpet Co-operative Sugar Mills ..	145.00	20.00	..
2. Mini Paper Plant	30.00	20.00	..
<i>New Schemes—</i>			
1. 1,250 TCD Sugar Mills (Two) .. ..	..	..	200.00
2. Mini Sugar Plants (Two) .. .. .	..	..	50.00
3. Mini Paper Plant .. .. .	..	..	..
4. Wax Extraction Plant (one) .. ..	..	..	..
5. Sugar Machinery Workshop* .. ..	..	..	20.00

* To be undertaken by Tamil Nadu Sugar Corporation Limited.

TABLE 13—IV—cont.

Serial number and Name of the Project. (1)	Equity capital contribution by Government/ Corporation.		
	1982-83. (15)	1983-84. (16)	1984-85. (17)
(Rupees in lakhs)			
<i>I. Continuing Schemes/Project—</i>			
1. Ulundurpet Co-operative Sugar Mills ..	..	..	..
2. Mini Paper Plant .. .. .	..	..	..
<i>New Schemes—</i>			
1. 1,250 TCD Sugar Mills (Two) .. ..	..	150.00	..
2. Mini Sugar Plants (Two) .. .. .	..	60.00	40.00
3. Mini Paper Plant	100.00	..	..
4. Wax Extraction Plant (One) .. ..	..	30.00	..
5. Sugar Machinery Workshop* .. ..	..	..	..
Serial number and Name of the Project. (1)	Total for Five- Year Plan. (RS. IN LAKHS) (18)	Employment	
		During construction (Nos.) (19)	During operation (Nos.) (20)
<i>I. Continuing Schemes/Project—</i>			
1. Ulundurpet Co-operative Sugar Mills ..	20.00	800 to 900 persons per year.	About 700 persons.
2. Mini Paper Plant	20.00	About 300 persons per 1½ years in each unit.	About 150 to 200 persons.
<i>New Schemes—</i>			
1. 1,250 TCD Sugar Mills (Two)	350.00	800 to 900 persons per year per unit.	About 350 per- sons per unit.
2. Mini Sugar Plants (Two)	150.00	250 to 350 per- sons per 1½ years in each unit.	About 100 in each unit.
3. Mini Paper Plant	100.00	About 300 persons for 1½ years in each plant.	About 150 to 200 persons.
4. Wax Extraction Plant (One)	30.00	About 80 to 90 persons for 1 year.	About 80 persons.
5. Sugar Machinery Workshop*	20.00	About 100 persons.	About 100 persons.
Total ..	600.00		

*To be undertaken by Tamil Nadu Sugar Corporation Limited.

TABLE 13-V.

TAMIL NADU SALT CORPORATION LIMITED
SIXTH FIVE-YEAR PLAN SCHEMES.

Name of the Project.	Installed Capacity p. a (In tonnes)	Year of Start.	Year of Completion.	Total Project Cost.	Actuals 1979-80.	1980-81 approved Outlay.		Proposed outlay	
						(7)	(8)	(8)	(9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
(RUPEES IN LAKHS).									
A. Continuing Schemes—									
1. Mariyur Valinokkam Salt Complex.	2,40,000	1975	1982	145.00	13.00	10.00	15.00	..	..
2. Maravakadu Vedakadu Salt Project.	1,20,000	1979	1985	120.00	..	10.00	20.00	10.00	..
B. New Schemes.									
<i>(a) Development activities —</i>									
1. Development Cell ..	..	..	..	17.00	..	..	8.00	5.00	..
2. Financial assistance to small cultivators.	..	1982	..	20.00	..	..	..	1.50	..
<i>(b) Development of additional areas—</i>									
1. Kandadu Swamp ..	50,000	1981	1983	50.00	..	..	10.00	10.00	..
2. Vadasemmancheri area	15,000	1981	1982	20.00	..	..	2.00	..	..
3. Uchipuli Area ..	40,000	1982	1983	23.00	..	..	..	9.00	..
4. Devipattinam Area ..	6,000	1982	1982	3.00	..	..	..	1.20	..
5. Other Areas ..	6,00,000	1981	1985	285.00	..	..	24.00	48.00	..
C. Plant for manufacture of special varieties of Salt—									
1. Table Salt ..	5 (b)	1982	1983	10.00	..	..	..	4.00	..
2. Cattle — licks ..	5 (b)	1982	1983	10.00	..	..	..	4.00	..
D. Marine Chemicals—									
1. Plaster of Paris ..	1 (b)	1982	1982	5.00	..	..	..	2.00	..
2. Sorel—Cement ..	3,000 Tiles(b)	1983	1983	10.00	..	..	..	4.00	..
3. Pottassium Schoenite ..	5 (b)	1983	1984	10.00	..	..	..	..	..
4. Potash Alum ..	10(b)	1984	1985	10.00	..	..	..	..	..
5. Magnesium Hydroxide ..	½ (b)	1984	1985	10.00	..	..	..	..	..
6. Light Basic Magnesium Carbonate.	1 (b)	1983	1984	10.00	..	..	..	..	..
7. Bromine and Bromides ..	½ (c)	1982	1983	20.00	..	..	..	8.00	..
8. Magnesium Metal ..	2(c&d)	1982	1985	500.00	..	..	..	50.00	..
Total ..	..	..	..	1278.00	13.00	20.00	85.00	156.70	..

(a) This may be released as subsidy. (b) Capacity per 8 hr. shift. (c) Capacity per day.

(d) TIDCO has also proposed to implement the scheme. (R) Regular. (S) Seasonal.

TABLE 13—V—cont.

Name of the Project.	Proposed outlay during		Total Proposed Outlay during 1980-85.
	1983-84.	1984-85.	
(1)	(10)	(11)	(12)
(RUPEES IN LAKHS.)			
<i>A. Continuing Schemes—</i>			
1. Mariyur Valinokkam Salt Complex .. .. .	..	..	50-00
2. Maravakadu Vadakadu Salt Project	8-00	..	48-00
<i>B. New Schemes.</i>			
<i>(a) Development Activities—</i>			
1. Development Cell	4-00	..	17-00
2. Financial assistance to small cultivators.. .. .	1-50	2-00	24-00
<i>(b) Development of additional areas—</i>			
1. Kandadu Swamp .. .. .	..	..	20-00
2. Vadasemmancheri area .. .. .	..	..	8-00
3. Uchipuli area .. .. .	..	..	9-00
4. Devipattinam area.. .. .	..	..	1-20
5. Other areas	20-00	21-80	113-80
<i>C. Plant for manufacture of Special varieties of salt—</i>			
1. Table Salt .. .. .	..	..	4-00
2. Cattle—licks .. .. .	..	..	4-00
<i>D. Marine Chemicals—</i>			
1. Plaster of Paris .. .. .	..	..	2-00
2. Sorel — Cement .. .. .	..	..	4-00
3. Pottassium Schoenite	4-00	..	4-00
4. Potash Alum .. .. .	..	4-00	4-00
5. Megnesium Hydroxide .. .. .	..	4-00	4-00
6. Light Basic Megnesium Carbonate	4-00	..	4-00
7. Bromine and Bromides .. .. .	..	..	8-00
8. Magnesium Metal	100-00	50-00	200-00
Total	141-50	81-80	500-00

TABLE 13—V—cont.

Name of the Project.	Equity.	Loan.	Employment potential. (Number of persons).
(1)	(13)	(14) (Rupees in lakhs.)	(15)
A. Continuing Schemes—			
1. Mariyur Valinokkam Salt Complex .. .. .	..	25-00	3000 (S) 400(R)
2. Maravakadu Vadakadu Salt Project	48-00	..	1,000 (S) 100(R)
B. New Schemes.—			
<i>(a) Development Activities—</i>			
1. Development Cell	17-00	..	20 (R)
2. Financial assistance to small cultivators .. .. .	..	24-00	20 (R)
<i>(b) Development of additional areas —</i>			
1. Kandadu Swamp	20-00	..	1000 (S) 40 (R)
2. Vadasemmancheri area	8-00	..	300(S) 20(R)
3. Uchipuli area	9-00	..	500 (S) 30 (R)
4. Devipattinam area	1-20	..	10 (S)
5. Other areas	113-80	..	3685 (S) 220 (R)
C. Plant for manufacture of special varieties of Salt—			
1. Table Salt	4-00	..	20 (R)
2. Cattle—licks	4-00	..	20 (R)
D. Marine Chemicals—			
1. Plaster of Paris	2-00	..	20 (R)
2. Sorel—Cement	4-00	..	20 (R)
3. Pottassium Schoenite	4-00	..	20 (R)
4. Potash Alum	4-00	..	20 (R)
5. Magnesium Hydroxide	4-00	..	20 (R)
6. Light Basic Magnesium Carbonate	4-00	..	20 (R)
7. Bromine and Bromides	8-00	..	18 (R)
8. Magnesium Metal	200-00	..	250 (R)
Total	451-00	49-00	10,723 9,495 (S) 1228 (R)

(a) This may be released as subsidy. [b] Capacity per 8 hr. Shift. [c] Capacity per day.
[d] TIDCO has also proposed is Complement the scheme. [R] Regular. (S) Seasonal.

TABLE 13—VI.

TAMIL NADU CERAMICS LIMITED, MADRAS.

PLAN FOR 1980—1985 FUNDING AND OUTLAY

SCHEDULE

Group/Serial number. (1)	1980-81				1981-82			
	<i>E</i>	<i>L</i>	<i>G</i>	<i>T</i>	<i>E</i>	<i>L</i>	<i>G</i>	<i>T</i>
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN LAKHS.)								
A. Schemes for attaining and sustaining commercial viability of Existing Units—								
1. Kiln Reconstruction and 18% pipe manufacture in TACEL Pipe Factory, Vridhachalam.	2.25	2.25	..	4.50	4.00	..	..	4.00
2. Manufacture of H.T. Insulators at Vridhachalam.	3.00	3.00	..	6.00	6.00	6.00	..	12.00
3. Capital investment and diversification at Mechanised Brick Plant, Thirumazhisai.	..	..	..	..	10.00	..	..	10.00
4. Improving profitability of TACEL Ceramics, Vridhachalam.	3.50	..	..	3.50	..	..	..	..
5. Installation of on line drier at Tunnel kiln of TACEL Service Centre, Vridhachalam.	1.00	..	..	1.00	..	..	..	..
6. Clay Washery at Panruti ..	..	..	..	..	..	..	..	..
7. Improvements to Raw materials handing at Central Purchase Organisation, Vridhachalam. ..	..	..	..	..	5.00	..	..	5.00
Total (A)	9.75	5.25	..	15.00	25.00	6.00	..	31.00
B. Schemes for assisting rural potters and entrepreneurs—								
1. Training Rural entrepreneurs in the manufacture of whiteware products. .. .. .	..	..	1.00	1.00	..	..	0.77	0.77
2. Service facilities to rural potters. .. .. .	..	..	..	..	..	..	4.00	4.00
Total (B) .. ..	..	..	1.00	1.00	..	..	4.77	4.77

E=Equity.

L=Loan;

G=Grant.

T=Total.

TABLE 13-VI—cont.

Group/Serial number. (1)	1982-83				1983-84			
	E (10)	L (11)	G (12)	T (13)	E (14)	L (15)	G (16)	T (17)
<i>A. Schemes for attaining and sustaining commercial viability of Existing Units—cont.</i>								
1. Kiln Reconstruction and 18' pipe manufacture in TACEL Pipe Factory, Vridhachalam.	4.60	..	..	4.60	5.40	..	..	5.40
2. Manufacture of H. T. Insulators at Vridhachalam.	..	..	..	..	..	..	..	..
3. Capital investment and diversification at Mechanised Brick Plant, Thirumazhisai.	5.00	5.00	..	10.00	..	..	..	..
4. Improving profitability of TACEL Ceramics, Vridhachalam .. .. .	..	..	..	..	..	..	..	..
5. Installation of on line drier at Tunnel kiln of TACEL Service Centre, Vridhachalam .. .. .	..	..	..	..	..	..	..	..
6. Clay Washery at Panruti ..	5.00	5.00	..	10.00	..	..	..	..
7. Improvements to raw materials handing at Central Purchase Organisation, Vridhachalam ..	..	..	..	..	..	..	..	..
Total (A) ..	14.60	10.00	..	24.60	5.40	..	..	5.40
<i>B. Schemes for assisting rural potters and entrepreneurs—cont.</i>								
1. Training Rural entrepreneurs in the manufacture of whiteware products.	..	..	0.78	0.78	..	..	..	..
2. Service facilities to rural potters.	..	..	5.00	5.00	..	..	6.00	6.00
Total (B) ..	..	..	5.78	5.78	..	..	6.00	6.00

E=Equity.
L=Loan.G=Grand.
T=Total.

TABLE—13·VI—cont.

Group/serial number. (1)	1984—85				Total.			
	E (18)	L (19)	G (20)	T (21)	E (22)	L (23)	G (24)	T (25)
(Rupees in lakhs.)								
A. Schemes for attaining and sustaining commercial viability of Existing Units—cont.								
1 Kiln Reconstruction and 18 inches Pipe manufacture in TACEL Pipe Factory, Vridhachalam.	16.25	2.25	..	18.50
2 Manufacture of H.T. Insulators at Vridhachalam.	9.00	9.00	..	18.00
3 Capital investment and diversification at Mechanised Brick Plant Thirumazhisai.	15.00	5.00	..	20.00
4 Improving profitability of TACEL Ceramics, Vridhachalam.	3.50	..	..	3.50
5 Installation of on line drier at Tunnel kiln of TACEL Service Centre, Vridhachalam.	1.00	..	..	1.00
6 Clay Washery at Panruti.	5.00	5.00	..	10.00
7 Improvements to raw materials handling at Central Purchase Organisation, Vridhachalam.	5.00	..	..	5.00
Total (A)	54.75	21.25	..	76.00
B. Schemes for assisting rural potters and entrepreneurs—cont.								
1. Training Rural entrepreneurs in the manufacture of whiteware products.	2.55	2.55
2. Service Facilities to rural potters	15.00	15.00
Total (B)	17.55	17.55

E=Equity.
L=Lcan.G=Grant.
T=Total,

TABLE 13 VI—cont.
1980—81

(1)	1980—81				1981—82			
	<i>E</i> (2)	<i>L</i> (3)	<i>G</i> (4)	<i>T</i> (5)	<i>E</i> (6)	<i>L</i> (7)	<i>G</i> (8)	<i>T</i> (9)
<i>C. Schemes to ensure survival and containment of fuel costs.</i>								
1. Experimental Coal based Gas firing at Omalur Ceramic Centre ..	..	..	..	..	5.00	2.50	2.50	10.00
2. Producer Gas Plants for the Kilns at Vridhachalam units ..	..	..	..	..	..	..	..	..
TOTAL (C) ..	..	..	..	..	5.00	2.50	2.50	10.00
TOTAL (A+B+C) ..	9.75	5.25	1.00	16.00	30.00	8.50	7.27	45.77

TABLE 13 VI—cont.
1982—83

	1982—83				1983—84			
	<i>E</i> (10)	<i>L</i> (11)	<i>G</i> (12)	<i>T</i> (13)	<i>E</i> (14)	<i>L</i> (15)	<i>G</i> (16)	<i>T</i> (17)
<i>C. Schemes to ensure survival and containment of fuel costs.</i>								
1. Experimental Coal based Gas firing at Omalur Ceramic Centre ..	..	..	..	..	..	..	..	..
2. Producer Gas Plants for the Kilns at Vridhachalam units ..	15.00	7.50	7.50	30.00	15.00	7.50	7.50	30.00
TOTAL (C) ..	15.00	7.50	7.50	30.00	15.00	7.50	7.50	30.00
TOTAL (A+B+C) ..	29.60	17.50	13.28	60.38	20.40	7.50	13.50	41.40

TABLE 13 VI—cont.
1984—85

	1984—85				<i>Total.</i>			
	<i>F</i> (18)	<i>D</i> (19)	<i>G</i> (20)	<i>T</i> (21)	<i>E</i> (22)	<i>L</i> (23)	<i>G</i> (24)	<i>T</i> (25)
<i>C. Schemes to ensure survival and containment of fuel costs.</i>								
1. Experimental Coal based Gas firing at Omalur Ceramic Centre ..	..	..	..	..	5.00	2.50	2.50	10.00
2. Producer Gas Plants for the kilns at Vridhachalam units ..	15.00	7.50	7.50	30.00	45.00	24.50	20.50	90.00
TOTAL (C) ..	15.00	7.50	7.50	30.00	50.00	27.00	23.00	100.00
TOTAL (A+B+C) ..	15.00	7.50	7.50	30.00	104.75	48.25	40.55	193.55

CHAPTER 14

SMALL SCALE AND VILLAGE INDUSTRIES AND HANDLOOMS.

(a) General :—

14.0. The main thrust of the industrial policy during the plan period 1980-85 will be on the widespread development of small scale sector including cottage, tiny household industries with a view to create increased employment opportunities and reduce the malaise of unemployment and under-employment. The strategy to be adopted would include specific programme for encouragement of select industries based on in-depth studies and market potential surveys, provision of infrastructure facilities including development of growth centres, and revival of sick industrial units. While the Directorate of Industries and Commerce will be in charge of planning and implementation of programmes for promotion of industries in general and, in particular for the development of industrial co-operatives, the District Industries Centres and electrical and electronic industries, the development institutions of the State like TIIC, SIDCO and SIPCOT, along with the Small Industries Service Institute of Government of India and nationalised banks will take the responsibility of providing inputs to this sector including finance, management support, locational advantages, training, marketing assistance etc.

14.1. There were 18,956 working small-scale units in Tamil Nadu in 1977 with a total investment of Rs. 197.36 crores employing 1.26 lakh persons and accounting for a production of Rs. 352.25 crores. The present average growth of small-scale industries is estimated at 6.2 per cent. The small industries sector has contributed nearly 7 per cent of State's income and in the manufacturing sector the share of small scale industries is nearly 30 per cent. The plan for 1980-85 envisages a growth rate of about 10 per cent for the smallscale industry.

(b) Directorate of Industries and Commerce:--

14.2. The Directorate will concentrate mainly on the organisation of industrial co-operatives for the match, tea and coir as there is great scope for development in these sectors which are considerably labour-oriented. The agency of the District Industries Centres which had been created in each district to offer a package of assistance and facilities to small entrepreneurs for guidance, raw materials, training and marketing etc., will be suitably modified, strengthened and made more effective with a view to see the smallscale entrepreneurs need not run from agency to another to get clearance and services. Development of electronics will be another responsibility of the Directorate of Industries and Commerce and with the active involvement

of the recently set up Electronics Corporation of Tamil Nadu it is proposed to give a great fillip to this branch. Similarly the Chemical Wing of the Directorate will be suitably strengthened to enable it to offer technical assistance to small-scale industries. The total investment in the various schemes administered by the Directorate of Industries and Commerce during the period 1980-85 would be of the order of Rs. 18.26 crores and the employment potential has been estimated at 1,14,600.

(c) Sericulture :

14.3. Sericulture is a highly labour intensive rural industry which offers high employment potential with comparatively low capital investment. There are at present about 1.57 lakhs people belonging to 31,400 families engaged in this industry in our State. 12,800 hectares are under mulberry cultivation in our State producing 1,500 m.t. of cocoons per year and about 50,000 kgs. of silk. With the annual requirement of silk in the State being 7 lakhs kgs. there is an almost unlimited scope for development of sericulture in Tamil Nadu. During the Sixth Plan it is proposed to bring in an additional area of 20,000 hectares under mulberry cultivation spread over in 16 Districts of the State. Side by side with this expansion of mulberry acreage, the Directorate of Sericulture will concentrate on the development of additional seed farms, opening of cocoon markets, expansion of grainage programme, setting up of demonstration-cum-training centre training of farmers, provision of rearing sheds and appliances, establishments of silk reeling units, and setting up of District Sericulture Centres. The Department will embark on new ventures like Silk Reeling Twisting Complex, modern silk filatures and a Silk Waste and Bye-product unit, and build up necessary Research and training facilities. Such a programme of large scale development of Sericulture in the State would ensure additional employment opportunities to more than a lakh of people. It is proposed to set apart a sum of Rs. 33.45 crores for this sector.

(d) Tansi :

14.4. As a part of the programme for development of Small Scale Industries in the State during the first three five-year plan periods, the Government established a number of Departmental Small Scale Industrial Units. In the year 1965, the Government formed TANSI by transferring these units so as to use the maximum capacity of these units and to run them on commercial lines. There are at present 55 production units under the Corporation. The schemes proposed to be undertaken by TANSI during

the Sixth Plan will involve an outlay of the order of Rs. 527.20 lakhs. These schemes will substantially increase the output at the end of the Sixth Plan from the present level of Rs. 18.18 crores.

(e) Sidco :

14.5. Tamil Nadu Small Industries Development Corporation (SIDCO) was formed in the year 1971 to aid, counsel, assist, finance and promote small scale industries in the State. The Corporation has undertaken the following activities to aid small scale industries:—

- (i) Construction of worksheds for entrepreneurs on hire-purchase basis ;
- (ii) Supply of machinery repaired by Small Scale Industry ;
- (iii) Procurement and distribution of essential raw materials ;
- (iv) Offer internal marketing to small scale industrial units ;
- (v) Sanction of interest free short-term loans to new small scale units to increase small scale units and create employment opportunities in rural and backward areas ;
- (vi) Distribution of Central investment subsidy to small scale industrial units in backward areas.

SIDCO will continue to extend an umbrella of helps, incentives to the small industries, including provision of sheds for industries in small sector and tiny sector, formation of trade centres to give marketing facilities for SSI products, interest-free loans and margin money assistance for revival of sick units. The total outlay on the various development schemes envisaged by SIDCO during the period 1980-85 would be of the order of Rs. 33.70 crores of which the State's share would be Rs. 15.35 crores.

(f) Handicrafts:

14.6. With a view to help, promote and develop Handicrafts in the State, the Tamil Nadu Handicrafts Development Corporation was formed in 1973. In order to provide gainful employment to the unemployed rural people by the use of the raw material available, the Corporation has programmed to open training centres for weaving field cumblies, blankets, woolen carpets at various places. Marketability of the handicrafts products can be considerably improved if new designs are continuously given to the various articles produced in the handicrafts field. With this in view, a programme of training to craftsmen to improve their methods and skills is proposed in the plan. An amount of Rs. 1.17 crores is proposed to be set up for the development of Handicrafts in the Plan.

(g) Khadi and Village Industries :

14.7. Nearly 6.7 lakhs artisans are engaged in Khadi and Village Industries and an equal number in subsidiary activities. The programme under

the Khadi and Village Industries sector have been drawn up with a view to stabilise the existing rural industries, develop new ones and generate opportunities for fuller and full-time employment. The products of this weak sector face severe competition from the small, medium and large scale units making it absolutely essential for the industry to co-ordinate and integrate its production and marketing programmes taking full advantage of the advancement of science and technology; but at the same time it casts a responsibility on the State to continue protection to this Sector. Sincere attempts will be made in the coming years to diversity the production, to impart better skills to the artisans through purposeful training programmes and to develop new outlets for marketing the products. The Sixth Plan proposes to introduce 1,300 rural textile centres and 200 Muslin units to increase the Khadi production which could provide additional employment to about 56,000 people. Special attention will be bestowed on the development of Palmgur industry where also it is hoped to provide additional employment to about 56,000 persons. The Hand-made-paper industry will be suitably encouraged and other industries like oil, village pottery, Bee-keeping, leather, soap, etc., would be given considerable encouragement and assistance by the Board. The total investments on all the schemes under contemplation would be around Rs. 66.88 crores which will result in a production of Rs. 118 crores per annum and an additional employment to about 3 lakh persons. As a major portion of the funds required for the development of Khadi and Village Industries comes from the Centre, the share of expenditure from the State Government under the Plan would be Rs. 5.13 crores only.

(h) Handlooms:

14.8. In terms of employment, the Handloom Industry is next to importance only to Agriculture. There are about 5.56 lakhs of handlooms of which 2.20 lakhs are in the Co-operative fold. At the rate of an average of 2.4 persons per loom, it can be safely assumed that about 13.35 lakhs of persons depend on this industry. Weaving is the sole occupation of 67 per cent of weavers, main occupation for 17.7 per cent and subsidiary occupation for the rest of 15.30 per cent. The handloom sector in Tamil Nadu produces nearly 600 million metres of cloth per year which is about 26 per cent of the total handloom production in the country. The schemes for the years 1980—85 aim at increasing this production to 700 million metres by the end of the Plan. The schemes in the Plan have been formulated with the twin objectives of providing continuous employment and an assured minimum income to the handloom weavers. It aims at a substantial increase in the co-operative coverage, of handlooms by giving suitable financial and marketing support, supply of essential raw materials and dyes and chemicals, implementation of schemes for product development, diversification, upgradation of technology, provision of processing facilities, increase in exports and implementation of welfare schemes for the weavers. 1.75 lakhs additional handlooms will be brought under the

co-operative fold during the plan period. This would throw an additional responsibility on the State to provide sufficient quantities of yarn at reasonable rates to the co-operative handloom and for this purpose, the installed capacity of the cooperative spinning mills will be increased. Production of raw silk and zari, which are essential for the silk handlooms will be stepped up. Co-optex in association with TIDCO would embark on a joint sector venture for the production of dyes and chemicals required by the handlooms.

14.9. In spite of all the assistance offered by the Government the handloom industry is highly susceptible to market fluctuations and the Government has to step in year after year to assist the co-operatives to offer special rebate to clear of accumulated handloom goods during festival seasons, though the ordinary rebate would be abolished. Government will also have to help co-optex and Tamil Nadu Handloom Development Corporation in their attempts at modernisation of show rooms, training of weavers export of products, etc. It is also proposed to set up 10 powerloom complexes in the backward areas of the State through the Tamil Nadu Textile Corporation. Keeping in mind that the handloom weavers are highly unorganised and are in need of comprehensive social security, schemes, provisions will be made for saving and security schemes and housing facilities. The total outlay on these various schemes under handloom sector for the Plan period works out to Rs. 83.40 crores, of this the share of the State Government would be Rs. 22.82 crores. With the implementation of these schemes it is expected that additional employment opportunities for about 65,000 persons would be created besides providing full employment and increased wages to the weavers coming under the co-operative fold.

(i) Total outlay.

14.10. The total cost of the schemes coming under the small scale industries fold including village industries, sericulture and handlooms during the Sixth plan works out to Rs. 238.72 crores and the share of the State Government would be Rs. 98.97 crores as shown below :

	Total cost	State Government share.
(Rs. in crores)		
1 Department of Industries and Commerce.	18.26	18.26
2 Department of Sericulture	33.45	33.45
3 Tamil Nadu Small Industries Corporation (TANSI)	5.27	2.79
4 Tamil Nadu Small Industries Development Corporation (SIDCO)	30.29	15.35
5. Handicrafts		
(a) Tamil Nadu Handicrafts Development Corporation	1.13	1.13
(b) Department of Industries and Commerce	0.04	0.04
6 Khadi and Village Industries	66.88	5.13
7 Department of Handlooms and Textiles ..	83.40	22.82
	<u>238.72</u>	<u>98.97</u>

TABLE NO. 14.I

ABSTRACT OF SCHEMES PROPOSED BY DEPARTMENT OF INDUSTRIES AND COMMERCE.

Serial number and Name of Scheme.	1979-80 Actuals.	1980-81		1980-85		1981-82	
		Approved outlay.	Anticipated expenditure.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
1. Industrial Co-operatives	21.16	21.98	61.67	2,44.49	1,57.75	75.23	51.75
2. Coir Development Schemes .. ..	..	10.00	21.79	102.45	52.10	24.33	14.80
3. District Industries Centres including RIP/RAP Schemes.	1,22.26	1,57.14	1,99.65	9,00.55	12.42	2,28.70	..
4. Strengthening of State Directorate .. ..	..	..	..	49.76	40.00	13.88	10.00
5. Continuing Education Programme for Departmental personnel.	..	..	0.20	2.68	..	0.66	..
6. Chemical Schemes	2.09	1.37	2.54	25.14	0.42	2.39	0.37
7. Other Schemes	40.26	22.48	26.16	2,05.55	93.65	82.84	54.06
8. Electrical and Electronics	25.39	1.39	45.80	2,54.41	216.55	40.77	31.40
Total ..	<u>2,11.16</u>	<u>2,14.36</u>	<u>3,57.81</u>	<u>18,25.03</u>	<u>5,72.89</u>	<u>4,68.80</u>	<u>1,62.38</u>

TABLE No. 14-II.

SCHEMES OF THE DEPARTMENT OF INDUSTRIES AND COMMERCE.

Serial number and Name of Scheme.	1979-80 Actuals.	1980-81		1980-85		1981-82	
		Approved outlay.	Anticipa- ted expendi- ture.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
I. INDUSTRIAL CO-OPERATIVES							
<i>Existing Scheme:—</i>							
1 Assistance to Industrial Co-operative Societies.	1.16	11.96	11.96	17.21	..	5.25	..
2 Assistance to Match Workers Industrial Co-operative Societies.	3.00	4.50	1.70	10.50	7.50	1.90	1.50
3 Assistance to Leather Finishing Service Industrial Co-operative Society.	6.00	3.00	5.41	13.28	4.00	0.41	..
4 Organisation of Match Producers Service Industrial Co-operative Society.	5.00	2.50	12.95	40.75	13.75	6.05	1.25
<i>New Schemes:—</i>							
1 Starting of three splints and Veneer Factory in Coimbatore, Madurai and Kanyakumari by the Match Co-operative Federation.	..	..	3.36	4.80	3.00	0.36	..
2 Setting up of Mini Paper Plant by the Match Co-operative Federation.	..	..	..	6.44	5.00	5.36	5.00
3 Setting up of Off-set Printers Industrial Co-operative Society at Sattur.	..	..	..	6.44	5.00	5.36	5.00
4 Setting up of a Chlorate Factory at Kundrakudi (Madurai district).	..	..	..	6.44	5.00	5.36	5.00
5 Organisation of a New Industrial Co-operative Tea Factory in Nilgiris.	..	..	..	7.16	6.00	6.29	6.00
6 Raising of Tea Gardens in Janmam Land and organisation of Five new Industrial Co-operative Tea Factories.	6.00	0.29	6.29	24.35	20.00	6.58	6.00
7 Setting up of a Servicing Workshop by Incoserve, Coonoor.	..	..	..	9.16	4.00	8.29	4.00
8 Reorganisation of the Incoserve, Coonoor.	..	..	..	9.08	2.00	6.77	2.00
9 Additional State participation to the Tamil Nadu Industrial Co-operative Bank for opening branches at Sattur and Coonoor.	..	..	..	30.96	30.00	10.24	10.00
10 Setting up of four Printers Service Industrial Co-operative Societies.	..	..	..	9.70	8.00	2.17	2.00
11 Starting a sago and starch manufacturers Service Industrial Co-operative Society at Salem.	..	..	20.00	21.24	20.00	0.31	..
12 Organisation of three Polythene Workers Industrial Co-operative Societies at Tiruchirappalli, Vellore and Pandalai.	..	..	..	12.82	1.50	1.24	1.00
13 Organisation of a Polythene Woven Sack Industrial Co-operative Society at Kancheepuram.	..	..	..	14.16	3.00	3.29	3.00
Total—Industrial Co-operatives	21.16	22.25	61.67	244.49	1,37.75	75.23	51.75

TABLE No. 14.II—contd.

SCHEMES OF THE DEPARTMENT OF INDUSTRIES AND COMMERCE.

Serial number and Name of Scheme.	1979-80 Actuals.	1980-81		1980-85		1981-82	
		Approved outlay.	Anticipa- ted expen- diture.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
II. Coir Development Schemes .. ..	..	10.00	21.79	102.45	52.10	24.33	14.80
III. District Industrial Centres including RIP/RAP Schemes :—							
Existing Schemes :—							
1 District Industries Centres	72.11	111.10	111.10	507.00	12.42	140.10	..
2 Rural Artisans Programme	0.22	0.01	14.00	70.00	..	14.00	..
3 Pilot Project for Intensive Develop- ment of Rural Industries.	0.92	1.03	1.05	6.05	..	1.10	..
4 Rural Industries Project Loan ..	49.01	45.00	70.00	300.00	..	70.00	..
New Scheme :—							
Subsidy on Power .. .. .	..	..	3.50	17.50	..	3.50	..
Total—District Industrial Centres including RIP/RAP Schemes.	122.26	157.14	199.65	900.55	12.42	228.70	..
IV. Strengthening of the State Directo- rate.	..	..	..	49.76	40.00	13.88	10.00
V. Continuing Education Programmes for Departmental Personnel.	..	..	0.20	2.68	..	0.66	..
VI. Chemical Wing :—							
Existing Schemes : ..							
1 Regional Testing and Analytical Laboratory, Madurai and Coimba- tore.	0.97	0.07	0.91	2.20	0.35	0.95	0.35
2 Research Station for Salt and Marine Chemicals at Tuticorin.	..	0.01	0.01	5.47	..	0.01	..
3 Data Bank and Consultancy Services for Chemical Industries.	0.64	1.26	1.47	5.50	..	1.40	..
4 Modernisation of Chemical Testing and Analytical Laboratory, Guindy.	0.48	0.01	0.15	0.15	0.07	..	..
5 Regional Scientific and Industrial Laboratory, Tiruchirappalli.	..	0.02	..	..	..	..	..
New Schemes :—							
1 Expansion of Sago Research Labo- ratory, Salem.	..	..	..	6.76	3.51	0.01	0.01
2 Model Demonstration Unit .. ..	..	..	..	2.53	2.00	0.01	..
3 Pilot Plant facilities .. .. .	..	..	..	2.53	2.00	0.01	0.01
Total—Chemical Wing	2.09	1.37	2.54	25.14	7.93	2.39	0.37

TABLE 14-II contd.

Serial Number and Name of Scheme.

(1)	1979-80 Actuals.	1980-81		1980-85		1981-82	
		Appro- ved outlay.	Antici- pated expen- diture.	Propo- sed outlay.	Capital content.	Propo- sed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VII Electricals and Electronics :—							
<i>Existing Schemes :—</i>							
1 Special Electrical Ancillary and Instrument Estate at Hosur.	0.36	0.01	..	..	..	..	..
2 Developed Plot Estate for Electrical and Electronics Instruments at Madras.	22.31	0.03	10.28	70.00	45.00	11.00	10.00
3 Electrical and Electronics Estate at Salem.	..	0.01	..	..	..	..	..
4 Electric Industrial Estate for Women	..	0.02	1.10	12.10	2.10	1.00	1.00
5 Laboratory for Testing Certification and products development facilities for Electronic industry in Madras.	0.02	0.02	4.91	43.09	..	5.16	..
6 Centre for Inspection, Testing and Maintenance of Medical Electronic equipments.	..	0.01	..	..	..	..	..
7 Service Centre for Electro Medical Equipments at Salem.	..	0.01	..	..	..	..	..
8 Electronic Testing and Certificate and Product Development Laboratory at Madurai.	0.03	0.02	..	..	..	..	..
9 Sub-Centre for Repair and Servicing of Electro Medical equipment at Coimbatore.	..	0.02	..	..	..	..	..
10 Service Centre for Electro Medical Equipments at Thanjavur.	0.30	0.01	..	..	..	..	..
11 Land and building for administrative offices in Industrial Estate.	2.37	0.02	..	..	..	..	..
12 Vikramsarabai Instronic Estate, Adyar.	..	..	12.00	28.00	19.00	12.00	12.00
13 Electrical and Electronic Industrial Estate, Coimbatore.	..	..	2.39	14.29	4.29	1.90	1.90
14 Electrical and Electronic Industrial Estate, Madurai.	..	..	0.01	16.71	6.71	4.00	4.00
15 Central Electrical Testing Laboratory, Kakkalur.	..	..	12.00	33.00	9.00	4.00	2.00
<i>New Scheme :</i>							
Quality Control Centre .. .. .	..	1.21	3.11	27.22	2.45	1.71	0.50
Total—Electrical and Electronics.	.. 25.39	1.39	45.80	254.41	88.55	40.77	31.40

TABLE 14.II—contd.

Serial Number and Name of Scheme.	1979-80 Actuals	1980-81		1980-85		1981-82	
		Appro- ved outlay.	Antici- pated expen- diture.	Propo- sed outlay.	Capital content.	Propo- sed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
OTHER SCHEMES :—							
<i>Existing Schemes :</i>							
1 T.I. Section in Industrial Estate ..	1.36	0.14	0.15	0.57	0.05	0.15	0.01
2 Expansion of Technical Training Centre, Guindy, and introduction of Tool Engineering Diploma Course in the Tool and Die Designing Training Centre, Dindigul.	0.10	0.31		48.39	64.00	40.11	35.25
3 Advances under special laws (State Aid to Industries) to aid Small Scale Industries in Private Sector.	38.50	20.00	20.00	100.00	....	20.00	..
4 Engineering Entrepreneurs Training Scheme (Int. subsidy).	0.30	0.01	..	..	..	..	..
5 Additional Testing facilities for Refractories and L.T. Insulators at the Ceramic Training School, Virudhachalam.	..	0.01	0.01	10.44	..	0.43	..
Scientific Glass Training Centre, Guindy.	..	0.01	..	14.60	2.00	1.00	1.00
7 Institute of Ceramic Technology, Virudhachalam.	..	2.00	0.50	20.30	3.60	2.65	1.80
<i>New Schemes :</i>							
1 Expansion of Basic Rural Service Centre, Ambasamudram and Tenkasi for Training of Rural Youth for self employment.	..	..	5.00	34.00	14.00	6.00	6.00
2 Strengthening of the Salt Board ..	..	..	0.50	17.25	..	2.50	..
Total—Other Schemes	40.26	22.48	26.16	245.55	73.65	62.84	34.06
Total—Department of Industries and Commerce.	211.16	214.36	357.81	1825.03	527.89	468.80	162.38

TABLE 14-III.

Schemes of the Department of Sericulture,

Serial number and head of Development.	1979-80 Actuals (un-re- conciled figures).	1980-81		1980-85			1981-82	
		Approved outlay.	Capital content.	Antici- pated expenditure.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN LAKHS.)								
VILLAGE AND SMALL INDUSTRIES :								
Sericulture Schemes :								
1 Intensive Development of Sericulture.	22.15	22.10	..	22.10	22.10	..	..	..
2 Pilot-cum-Service Centre ..	0.03	..	..	..	..	..	..	..
3 Opening of Additional cocoon markets.	2.56	0.88	..	0.83	101.08	7.00	5.25	3.00
4 Improvement to Govern- ment Silk Farms.	0.90	60.00	23.81	30.00	178.00	35.00	19.00	12.00
5 Additional Basic Seed Farms and Seed Centres.	..							
6 Expansion of Grainage Programme.	..	..	..	..	300.00	40.00	14.00	8.00
7 Demonstration-cum-Training Centres.	3.05	..	..	..	225.00	50.00	21.00	17.00
8 Training of Farmers ..	30.67	30.00	..	30.00	174.00	..	36.00	..
9 Expansion of Area under Mulberry cultivation.	16.21	20.00	..	20.00	92.00	..	18.00	..
10 Rearing appliances ..	39.79	30.00	..	15.00	154.00	..	21.20	..
11 Rearing sheds								
12 Establishment of cottage bains silk reeling units.	5.71	7.70	..	3.35	43.70	..	6.00	..
13 Strengthening of Adminis- trative Wing.	1.91	2.62	..	1.31	2.62	..	..	..
14 Co-operative Silk reeling unit.	8.72	4.00 0.54	..	4.00 0.54	22.54	..	3.00	..
15 521 Capital outlay of expansion of mulberry nurseries.	0.05	0.20	0.20	0.20	0.20	0.20	..	..
16 Tamil Nadu Silk Producers' Industrial Co-operative Marketing Federation	1.89	0.32	..	0.32	0.32	..	..	..
17 District Sericulture Centres	..	44.57	32.39	44.57	44.57	32.39	..	..
18 Demonstration Model Plots	..	7.40	..	7.40	7.40	..	..	..
19 Sericulture Publicity ..	..	3.00	..	3.00	3.00	..	..	..
02 Rural Silk Reeling Centres	..	10.92	..	10.92	10.92	..	..	..
21 Chawkie Rearing Centres	..	6.00	5.20	6.00	88.00	20.20	26.00	130.00

TABLE No, 14-IV,

SCHEMES OF THE TAMIL NADU SMALL INDUSTRIES CORPORATION (TANSI)
TANSI AND GOVERNMENT'S SHARE OF ASSISTANCE.

<i>Serial number and name of scheme.</i>	1980-81.	1981-82.	1982-83.	1983-84	1984-85.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
A. Spill over Schemes	25.00	5.20	..	..	..	30.20
B. New Schemes.—						
1 Provision of Galvanising facilities at Salem .. .. .	..	40.00	..	..	..	40.00
2 Expansion of Fabrication Section and Installation of Galvanizing Plant in 2 units of TANSI .. .. .	..	50.00	50.00	..	..	100.00
3 Expansion of Galvanizing Plant Mettur.	6.00	..	..	..	..	6.00
4 Establishment of a Second Tannery .. .. .	..	25.00	25.00	..	..	50.00
5 Establishment of a Shoe Factory .. .. .	..	30.00	30.00	..	..	60.00
6 Modernisation of existing units	15.00	15.00	15.00	15.00	15.00	75.00
7 Project for the manufacture of Mocasim shoes.	5.00	..	..	..	..	5.00
8 Manufacture of Flush doors at Guindy	5.00	5.00	..	..	..	10.00
9 Project for manufacture of Malic Resins. .. .. .	..	5.00	..	..	..	5.00
10 Investments in Tamil Nadu Mopeds Limited. .. .. .	..	60.00	..	..	..	60.00
11 Establishment of Central Office complex with show rooms at Guindy .. .. .	..	30.00	30.00	..	..	60.00
12 Project for manufacture of Lac at Madurai .. .. .	..	6.00	..	..	..	6.00
13 Expansion of Watch Assembly Unit Ooty .. .. .	..	..	..	10.00	..	10.00
14 Project for manufacture of Distribution Transformers .. .. .	..	..	..	10.00	..	10.00
Total (A + B)	56.00	271.20	150.00	35.00	15.00	527.20
Government share of Assistance	40.50	138.20	75.00	17.50	7.50	278.70

TABLE NO. 14-V.

SCHEMES OF THE TAMIL NADU SMALL INDUSTRIES DEVELOPMENT CORPORATION (SIDCO).

Serial number and Head of development.	Ultimate cost.	SIDCO's internal generation.	Finance from commercial banks.	Finance from T.I.C.	Funds required from Government.	Year-wise details.				
						1980-81	1981-82	1982-83	1983-84	1984-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(RUPEES IN LAKHS.)										
1 Infrastructural facilities ..	2,334	350	932	552	500	75	100	120	130	75
2 Rolling fund for Tiny Sector Scheme.	50	..	..	..	50	50	..	..	..	..
3 Working capital margin for raw material distribution.	80	..	..	..	80	40	20	10	5	5
4 Working capital for marketing SSI products. ..	75	..	..	..	75	..	25	25	25	..
5 Trade Centres	24	..	..	..	24	..	8	8	8	..
6 Market Information Cell ..	24	..	..	..	24	..	6	6	6	6
7 Market Survey	14	..	..	..	14	2	3	3	3	3
8 Interest free S.T. Loan ..	75	..	..	..	75	10	15	20	20	10
9 Assistance for setting up of industries in backwatd areas.	75	..	..	..	75	5	10	25	15	20
10 Assistance to SIDCO under World Bank Project (Machinery Assistance only).	340	..	..	..	340	100	100	140	..	..
11 Labour Tenements ..	118	..	..	..	118	..	42	42	17	17
12 Subsidy for Labour Tenements.	60	..	..	..	60	..	7	10	20	23
13 Margin Money Assistance revival of sick units ..	100	..	..	..	100	20	20	20	20	20
Total ..	3,369	350	932	552	1,535	302	356	429	269	179

TABLE No. 14, VI.

Schemes proposed by Tamil Nadu Handicrafts Development Corporation—Sixth Five-Year Plan 1980-85
Schemes—Outlay.

Serial number and Head of Development.	Actuals 1979-80.	1980-81		1980-85		1981-1982	
		Approved outlay.	Anticipated expenditure.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS)							
1 Procurement of articles directly from artisans.	55.37	..	..	..	..	..	..
2 Renovation of show rooms	2.90	..	..	3.00	3.00	3.00	3.00
3 Training for Officers and craftsmen in development of new designs and improved methods of production.	0.17	0.30	0.30	1.80	..	0.35	..
4 Training Centre for Sandal wood Carving at Kallakurichi.	0.45	0.97	0.97	5.89	..	1.07	..
5 Training Centre for inlay work at Madurai.	0.56	0.73	0.73	4.45	..	0.80	..
6 Expansion of Poompuhar Design Centre.	2.02	1.00	1.00	1.00	..	..	..
7 Training Centre for Weaving of Woollen Carpet at Wallajapet.	1.49	2.68	2.68	16.30	..	2.94	..
8 Opening of new show room .. ..	..	3.00	3.00	18.00	18.00	..	..
9 Training Centre for Thanjavur Art Plate Craft at Thanjavur.	..	1.30	1.30	7.32	..	1.30	..
10 Training Centres for Thanjavur Picture Painting at Thanjavur.	..	0.85	0.85	5.05	..	0.90	..
11 Training Centre for Rosewood Carving, Vellore.	..	1.53	1.53	8.24	..	1.46	..
12 Training Centre for Nirmal Painting at Madras.	..	1.05	1.05	6.20	..	1.10	..
13 Expansion of show room in Madras	..	..	..	10.00	10.00	..	..
14 Construction of new building for show room at Mahabalipuram.	..	..	..	5.00	5.00	..	..
15 Scheme for establishing Training Centre for Cane and Bamboo at Denkanikottai.	..	..	..	3.58	..	0.87	..
16 Scheme for establishing Training Centre in Sheet Metal at Madurai.	..	..	..	5.62	..	1.53	..
17 Scheme for establishing Common Facility Centre for Brass and Bell metal Crafts Centre at Nachiarkoil and Vagaikulam.	..	..	..	5.06	3.90	5.06	3.90
18 Scheme for establishing Training Centre for Stone Carving at Pudukkottai.	..	..	..	2.49	..	..	..
19 Scheme for establishing Centre for Sandalwood Carving Centre, Arumbavur in Trichy.	..	..	..	4.24	..	..	..
Total	62.96	13.41	13.41	113.24	39.90	20.38	6.90

TABLE NO. 14, VI—cont.

Schemes proposed by Tamil Nadu Handicrafts Development Corporation — Sixth Five-Year Plan 1980-85
Schemes—Outlay.

Serial number and Head of Development.	1982-83		1983-84		1984-85	
	Proposed outlay.	Capital content.	Proposed outlay.	Capital Content.	Proposed outlay.	Capital Content.
(1)—Cont.	(9)	(10)	(11)	(12)	(13)	(14)
	(RUPEES IN LAKHS)					
1 Procurement of articles directly from artisans.	..	..	..	..	..	..
2 Renovation of show rooms .. ..	..	..	..	..	..	..
3 Training for Officers and Craftsmen in development of new designs and improved methods of production.	0.35	..	0.40	..	0.40	..
4 Training Centre for Sandal Wood Carving at Kallakurichi.	1.17	..	1.28	..	1.40	..
5 Training Centre for inlay work at Madurai.	0.88	..	0.97	..	1.07	..
6 Expansion of Poompuhar Design Centre.	..	..	..	..	..	..
7 Training Centre for Weaving of Woollen Carpet at Wallajapet.	3.23	..	3.55	..	3.90	..
8 Opening of new show room	15.00	15.00	..	..	..	..
9 Training Centre for Thanjavur Art Plate Craft at Thanjavur.	1.43	..	1.57	..	1.72	..
10 Training Centre for Thanjavur Picture Painting at Thanjavur.	1.00	..	1.10	..	1.20	..
11 Training Centre for Rose wood Carving, Vellore.	1.60	..	1.75	..	1.90	..
12 Training Centre for Nirmal Painting at Madras.	1.20	..	1.35	..	1.50	..
13 Expansion of show room in Madras	..	..	10.00	10.00	..	..
14 Construction of new building for show room at Mahabalipuram.	5.00	5.00	..	..	..	..
15 Scheme for establishing Training Centre for Cane and Bamboo at Denkanikottai.	0.82	..	0.90	..	0.99	..
16 Scheme for establishing Training Centre in Sheet Metal at Madurai.	1.24	..	1.36	..	1.49	..
17 Scheme for establishing Common Facility Centre for Brass and Bell Metal Crafts Centre at Nachiarkoil and Vagaikulam.	..	..	..	..	..	..
18 Scheme for establishing Training Centre for Stone Carving at Pudukkottai.	0.81	..	0.80	..	0.88	..
19 Scheme for establishing Centre for Sandal wood Carving Centre, Arumbavur in Trichy.	1.41	..	1.35	..	1.48	..
Total	35.14	20.00	26.38	10.00	17.93	..

TABLE 14-VI—cont.

Handicrafts Schemes proposed by Directorate of Industries and Commerce.

Serial number and name of scheme.	1979-80 Actuals.	1980-81.		1980-85.		1981-82.	
		Approved outlay.	Antici- pated expenditure.	Proposed outlay.	Capital content.	Proposed outlay.	Capital content.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

(RUPEES IN LAKHS.)

HANDICRAFTS :

Existing Schemes :

1 All-India Handicrafts Week ..	0.12	0.20	0.20	1.00	..	0.20	..
2 Training in Marketing Design, etc. ..	..	0.50	0.50	2.50	..	0.50	..
Total ..	0.12	0.70	0.70	3.50	..	0.70	..

TABLE 14-VII

KHADI AND VILLAGE INDUSTRIES—LIST OF SCHEMES PROPOSED DURING 1980-85.

Serial number and name of the industry.	1980-81.					1981-82.				
	Grant.	Loan.	Total.	Production.	Employment.	Grant.	Loan.	Total.	Production.	Employment.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		(Rupees in lakhs.)			Number.		(Rupees in lakhs.)			(Number.)
1 Khadi	19.93	287.46	307.39	2,000.50	11,968	17.23	313.89	331.12	2,500.00	10,000
2 Oil	5.84	167.80	173.64	1,097.00	800	4.35	200.16	204.50	1,302.00	3,000
3 Hand made paper	0.10	35.60	35.70	33.22	536	0.10	34.38	34.48	38.78	540
4 Processing Cereals and Pulses Industry..	1.58	18.02	19.60	183.25	526	1.38	18.80	20.18	225.41	565
5 Palmgur	15.55	45.43	60.98	1,530.00	9,650	16.88	42.88	59.76	1,600.00	10,350
6. Village Pottery	20.25	27.38	47.63	109.30	1,302	28.84	47.81	76.65	154.41	1,830
7 Beekeeping	4.64	7.56	12.20	103.97	665	4.15	5.59	9.74	111.02	560
8 Leather	4.45	33.14	37.59	385.50	2,661	4.28	35.00	39.28	421.98	2,686
9 Soap	2.17	91.05	93.22	572.81	5,510	1.14	91.50	92.64	633.95	5,703
10 Carpentry and Blacksmithy	25.44	49.94	75.38	280.04	6,760	12.65	56.96	69.61	300.00	3,355
11 Lime	0.31	21.33	21.64	64.07	615	0.35	27.66	28.01	100.27	810
12 Fibre	1.52	4.70	6.22	31.62	2,313	2.18	2.44	4.62	33.70	2,320
13 Cane and Bamboo	0.26	1.13	1.39	37.00	1,000	0.26	0.25	0.51	40.00	1,000
14 Gur and Khandasari	1.10	1.10	2.20	80.00	275	1.10	1.10	2.20	90.00	275
15 Fruit Processing	0.10	6.83	6.93	11.65	72	0.10	6.92	7.02	13.87	74
16 Agarbathi .. .. .	..	1.00	1.00	2.00	..	..	1.00	1.00	2.00	..
17 Gramodyog Sales Depot. ..	..	2.36	2.36	..	..	..	2.40	2.40	..	..
Total	103.24	801.83	905.07	6,521.93	44,653	94.99	888.74	983.73	7,567.39	43,068
Cottage Match .. .. .	..	250.00	250.00	2,900.00	10,000	..	300.00	300.00	2,200.00	11,000
Total	103.24	1,051.83	1,155.07	8,539.93	54,653	94.99	1,188.74	1,283.73	97,677.39	54,063

TABLE 14—VII—Contd.

Serial number and name of the industry. (1)	1982-83.					1983-84.				
	Grant. (12)	Loan. (13)	Total. (14)	Production. (15)	Employment. (16)	Grant. (17)	Loan. (18)	Total. (19)	Production. (20)	Employment. (21)
	(Rupees in lakhs.)					Number.				
1 Khadi	18.09	329.57	347.66	2,750.00	10,500	19.00	346.04	365.04	3,025.00	11,550
2 Oil	4.57	210.24	214.81	1,432.20	3,600	4.80	220.75	225.55	1,575.42	4,700
3 Hand made paper	0.10	36.10	36.20	42.66	567	0.10	37.90	38.00	46.93	623
4 Processing cereals and pulses industry.	1.45	19.74	21.19	247.95	593	1.53	20.73	22.26	271.74	652
5 Palmgur	17.72	45.02	62.74	1,760.00	10,867	18.61	47.27	65.88	1,935.00	11,953
6 Village pottery	30.28	50.20	80.48	169.85	1,922	31.79	52.71	84.50	186.83	2,114
7 Beekeeping	4.36	5.86	10.22	122.12	588	4.58	6.15	10.73	134.33	646
8 Leather	4.49	36.75	41.24	464.18	2,820	4.72	38.59	43.31	510.89	3,102
9 Soap	1.19	96.07	97.26	697.34	5,988	1.26	100.87	102.13	767.07	6,586
10 Carpentry and blacksmithy	13.28	59.80	73.08	330.00	3,522	13.94	62.79	76.73	363.00	3,874
11 Lime	0.37	29.04	29.41	110.29	850	0.38	30.49	30.87	121.31	935
12 Fibre	2.29	2.56	4.85	37.07	2,436	2.40	2.69	5.09	40.77	2,679
13 Cane and bamboo	0.27	0.24	0.51	44.00	1,050	0.27	0.25	0.52	48.40	1,155
14 Gur and khandasari	1.16	1.15	2.31	99.00	288	1.22	1.20	2.42	108.90	316
15 Fruit processing	0.11	7.27	7.38	15.26	77	0.11	7.63	7.74	16.78	84
16 Agrabathi .. .. .	..	1.05	1.05	2.20	..	..	1.10	1.10	2.42	..
17 Gramodyog sales depot .. .. .	..	2.52	2.52	..	..	..	2.65	2.65	..	..
Total	99.73	933.18	1,032.91	8,324.12	45,668	104.71	979.81	1,084.52	9,156.49	50,969
Cottage Match .. .. .	..	315.00	315.00	2,420.00	12,100	..	330.75	330.75	2,662.00	13,310
TOTAL	99.73	1,248.18	1,347.91	10,744.12	57,768	104.71	1,310.56	1,415.27	11,818.49	64,279

TABLE 14—VII—cont.

Serial number and name of the industry.	1984-85.					Employment as on 1st April 1980.	Additional Employment during VI Plan Period.	Employment as on 31st March 1985.
	Grant.	Loan,	Total.	Production.	Employment.			
	(Rupees in lakhs.)								(Number.)
(1)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
1 Khadi	19.95	363.34	383.29	3,327.50	12,705	1,03,032	56,723	1,59,755
2 Oil	5.04	231.78	236.82	1,732.96	4,900	3,965	7,000	20,965
3 Hand made paper	0.12	39.79	39.91	51.62	685	1,596	2,951	3,547
4 Processing cereals and pulses industry	1.61	21.76	23.37	300.01	717	1,803	3,053	4,856
5 Palmgur	19.54	49.63	69.17	2,129.60	13,158	2,86,142	55,978	3,42,120
6 Village pottery	33.38	55.35	88.73	205.51	2,325	1,013	9,493	10,506
7 Beekeeping	4.81	6.45	11.26	147.76	710	42,774	3,169	45,943
8 Leather	4.96	40.51	45.47	561.97	3,412	2,587	14,681	17,268
9 Soap	1.32	105.91	107.23	843.77	7,244	5,738	31,031	36,769
10 Carpentry and blacksmithy	14.63	65.93	80.56	399.30	4,261	4,926	21,772	26,698
11 Lime	0.39	32.01	32.40	133.44	1,028	1,635	4,238	5,873
12 Fibre	2.52	2.82	5.34	44.84	2,946	3,244	12,694	15,988
13 Cane and bamboo	0.28	0.26	0.54	53.24	1,270	2,531	5,475	8,006
14 Gur and khandasari	1.28	1.26	2.54	119.74	347	691	1,501	2,192
15 Fruit processing	0.11	8.01	8.12	18.45	92	53	399	452
16 Agarbathi .. .. .	..	1.15	1.15	2.66	..	..	..	..
17 Gramodyog sales Depot. .. .. .	..	2.78	2.78	..	..	..	..	..
Total	109.94	1,028.74	1,138.68	10,072.42	55,800	4,60,730	2,40,158	7,00,888
Cottage Match .. .. .	..	347.29	347.29	2,928.00	14,640	96,000	61,050	1,57,050
Total	109.94	1,376.03	1,485.97	13,000.42	70,440	5,56,730	3,01,208	8,57,938

TABLE 14-VII—cont.

ABSTRACT.						
(1)			(2)	(3)	(4)	
(RUPEES IN LAKHS.)						
1980-81	103.24	1,051.83	1,155.07
1981-82	94.99	1,188.74	1,283.73
1982-83	99.73	1,248.18	1,347.91
1983-84	104.71	1,310.56	1,415.27
1984-85	109.94	1,376.03	1,485.97
Total			..	512.61	6,175.34	6,687.95

TABLE 14-VIII.

HANDLOOMS

The Sources of Financial Assistance for the VI Five-Year Plan Schemes.

Serial number and Particulars.	Likely sources of Financial Assistance.					Total.
	G.O.I.	N.C.D.C.	HUDCO.	Institutional Finance/ Beneficiary Units.	State Govern- ment.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
<i>I. Co-operative Coverage :</i>						
1 Co-operative coverage of Handloom (Share capital loan).	113.87	..	..	..	113.87	227.74
2 State Participation	72.50	..	..	..	72.50	145.00
3 Industrial Weavers Co-operative Societies ..	126.00	..	..	..	126.00	252.00
4 Silk and Artsilk Weavers Co-operative Societies.	7.50	..	..	..	7.50	15.00
5 Intensive Handloom Development Projects ..	..	..	..	..	73.57	73.57
<i>II. Assistance for Working Capital :</i>						
6 Subsidy towards interest on working capital loan.	..	..	..	..	200.00	200.00
7 Guarantee scheme .. .. .	..	..	..	..	15.00	15.00
<i>III. Transfer of Technology :</i>						
8 Modernisation of Handlooms	68.00	..	..	..	68.00	136.00
9 Design Centres .. .. .	..	..	..	..	12.50	12.50
10 Training .. .. .	..	..	..	..	5.00	5.00
<i>IV. Organisation Assistance :</i>						
11 Managerial subsidy	15.00	..	..	..	15.00	30.00
12 Organisational Expenses .. .. .	..	..	..	..	40.08	40.08
<i>V. Marketing :</i>						
13 Assistance to Apex Weavers Co-operative Society.	80.00	..	..	..	80.00	160.00
14 Rebate	1,684.00	..	..	..	1,126.00	2,810.00
15 Opening of show-room by Tamil Nadu Handloom Weavers Co-operative Society.	..	150.00	..	..	50.00	200.00
16 Opening of show-room by Primary Weavers Co-operative Societies.	..	52.50	..	..	17.50	70.00
<i>VI. Units of Department of Handlooms and Textiles :</i>						
17 Assistance to Co-operative Spinning Mills ..	571.00	571.00	..	1,914.10	18.90	3,075.00
18 Assistance to Tamil Nadu Handloom Development Corporation.	50.00	..	..	..	50.00	100.00
19 Assistance to Co-optex for taking shares in Vanavil Dyes and Chemicals.	..	..	..	..	10.00	10.00
20 Tamil Nadu Zari Limited .. .. .	..	..	..	..	10.00	10.00
21 Powerloom Complex	45.00	..	..	288.00	..	333.00
<i>VII. Welfare Schemes :</i>						
22 Weavers Housing Schemes .. .. .	..	..	250.00	..	56.50	306.50
23 Co-operative Handlooms Weavers Savings and Security Scheme.	..	..	..	..	114.00	114.00
Total ..	2,832.87	773.50	250.00	2,202.10	2,281.92	8,340.39

ABSTRACTS.

				(RUPEES IN LAKHS.)
Government of India	..	..	—	28,32.87
N.C.D.C.	..	—	—	7,73.50
HUDCO	..	—	—	2,50.00
Institutional Finance	..	—	—	22,02.10
State Government	—	—	—	22,81.92
Total				83,40.39

TABLE—14—IX.

Handlooms: The Physical Target for the Sixth Five-Year Plan (1980-81 to 1984-85)

Serial number and particulars.	Base year 1979-80 or qu 31-3-1980.	Physical Outlay.					Total VI Plan.
		1980-81.	1981-82	1982-83	1983-84	1984-85	
		(3)	(4)	(5)	(6)	(7)	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LOOMS.							
I. Co-operative Coverage.—							
1 Share capital loan to Weavers for admission into Co-operative fold.	2,08,800	25,000	28,800	33,500	33,500	33,500	1,54,300
2 State participation share capital of primary weavers Co-operative Societies.	..	..	..	..	..	..	..
3 Industrial Weavers Co-operative Societies.	7,300	4,500	1,000	1,000	1,000	1,000	8,500
4 Silk Weavers Co-operative Societies.	11,600	500	500	500	500	500	2,500
5 Handloom Development Project ..	12,300	5,000	4,700	..	..	..	9,700
	2,40,000	35,000	35,000	35,000	35,000	35,000	1,75,000
II. Assistance for working capital.—							
6 Subsidy towards interest on working capital loan.	..	..	..	..	..	..	..
7 Subsidy to Co-operative Bank towards reimbursement of loans.	..	..	..	..	..	..	..
III. Transfer of Technology.—							
8 Modernisation of looms .. ..	..	..	..	..	..	..	..
9 Design Centres—Units	2	2	2	1	..	..	5
10 Weavers Training—Weavers ..	4,500	4,500	4,500	4,500	4,500	4,500	22,500
IV. Organisational Assistance :							
11 Managerial subsidy .. ..	..	..	..	..	..	..	..
12 Organisation Expenditure (Staff expenditure) .. ..	..	..	..	..	..	..	..
V. Marketing.—							
13 Assistance to Apex Weavers Co-operative Society.	..	..	..	..	..	..	..
14 Rebate .. ..	..	..	..	..	..	..	..
15 Opening of new show rooms and modernisation by Co-optex.	420N.S.	60	70	80	90	100	(New show room + Modernisation of show rooms.)
	Mod.	40	50	60	70	80	..
16 Opening of show rooms by primary weavers co-operative societies.	80	10	12	14	16	18	70

TABLE 14. IX—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SPINDLES :							
VI. Units of the Department.—							
17 Assistance to Co-operative Spinning Mills.	3.14 lakhs.	25,000	25,000	27,000	37,000	48,000	4.76 lakhs.
18 Assistance to Tamil Nadu Handloom Development Corporation.	..	..	..	..	..	..	..
19 Assistance to Co-optex for taking shares in Vanavil Dyes and Chemicals.	..	..	1 Unit.	..	..	..	..
20 Tamil Nadu Zari .. .. .	..	..	..	..	..	..	..
21 Power loom Complexes .. .. .	..	5 Units	5	..	..	..	10 Power Complexes
VII. Welfare Schemes.—							
22 Weavers Housing .. .. .	..	2,000 Houses	1,000 Houses	1,000 Houses	1,000 Houses	..	5,000 Houses
23 Co-operative Handloom Weavers Savings and Security Scheme.	66,000 Weavers.	4,000	5,000	5,000	5,000	6,000	25,000

TABLE 14—X.
HANDLOOMS.

Additional Employment Generation during Sixth Plan.

(1)	(NUMBERS)				
	1980-81. (2)	1981-82. (3)	1982-83. (4)	1983-84. (5)	1984-85. (6)
1 Co-operative coverage	11,667	11,667	11,667	11,667	11,667
2 Design Centre	16	16	8	..	..
3 Managerial Assistance	100	100	100	100	100
4 Opening of New Show Room	200	234	268	302	336
5 Co-operative Spinning Mills	300	300	600	600	1,600
6 Tamil Nadu Handloom Development Corporation.	10	15	15	15	15
7 Powerloom Complexes	670	670	..	..	..
Total	12,963	13,002	12,658	12,684	13,318
Grand Total:	64,625.				

CHAPTER 15

MINING AND METALLURGICAL INDUSTRIES.

15.0 The exploitation and development of mineral resources in the State contributes to the overall industrial growth of the State. Tamil Nadu has ample scope for improving mineral based industries particularly those based on limestone, Kankar, Silica sand, dolomite, graphite, besides black and gray granites. Minerals, being non-renewable, extreme care is required for proper mining and utilisation of these resources.

15.1. The geology branch of Industries Department under U.N.D.P. programme have made important discoveries of mineral deposits in the State. The geology wing has well established laboratories, for chemical, geochemical, ore dressing and mineral treatment. The State Department has to be strengthened to explore and to undertake indepth studies.

15.2. Some of the ores for which activities have been started for mining and industrialisation and which require further action are :—

(a) Magnesite ores located in Tiruvannamalai area of North Arcot District and Nammakkal Taluk with a reserve of 100 million tonnes.

(b) Limestone deposits to the extent of 100 million tonnes near Ariyalur required for Cement Industry.

(c) Graphite deposits in Ramanathapuram and Madurai districts to the extent of 2,50,000 tonnes.

(d) Silica sands suitable for Glass industries and foundry purposes to the extent of 1,75,000 tonnes in Marakanam area of South Arcot District.

(e) Large deposits of black granite, which has a ready market for export.

15.3. In order to explore some of the Minerals for commercial exploitation a separate corporation **TAMIL NADU MINERALS LIMITED** has been formed. The Corporation has taken up exploitation of industrial minerals like high grade limestone Vermiculite, Quartz fieldspar, rose quartz, and silica sands besides black and gray granites.

It is at present operating 12 Black granite quarries in Dharmapuri, Salem, Periyar and Chengalpattu districts. There is a heavy demand for polished slabs of black granite in countries like Japan, USA and U.K. It is envisaged during the plan period to quarry at a rate of 3,000 cubic metres of black granite every year. The proposals therefore include :

(a) Mechanisation and development of 12 black granite quarries now existing.

(b) Developing the cutting and polishing units at Krishnagiri by equipping with modern machinery.

(c) Setting up a Central Stock yard for stocking Black granites produced in various quarries at Madras.

(d) Establishing a research and development wing for proper utilisation of the mineral wealth.

The total cost of this scheme during the plan period would be Rs. 390 lakhs out of which the equity capital would be Rs. 195 lakhs.

15.4. The total estimated reserves of Graphite ore is about one million tonnes in Sivaganga in Ramanathapuram district. Graphite to the extent of 2.5 lakhs tonnes for a depth of 15 metres is expected. There is an increasing demand for graphite and graphite products particularly for graphite crucibles in the country. At present about 1500 to 2000 tonnes of graphite are being imported from Korea, Ceylon and Madagascar. The scheme proposed by TAMIL NADU MINERALS LIMITED is to exploit the Sivaganga graphite and start the beneficiation plant. The total cost of the scheme is Rs. 179 lakhs of which equity contribution during the plan period would be Rs. 80 lakhs.

15.5 Lime or quick lime finds use in a large number of chemical industries, leather tanning, Pharmaceutical, in pesticides, softening of water etc. The demand is about 200 tonnes per day. There are a number of lime stone deposits in Tiruchi, Ramanad and Tirunelveli districts which

could be considered for lime manufacture. For exploiting these resources and for investigation in detail a provision of Rs. 5 lakhs is made in the plan period. Thus the outlay for TAMIN during 1980-85 would be Rs. 280 lakhs.

15.6. The geology branch of the Department of Industries and Commerce will continue the work relating to investigation on mineral deposits and research activity using the new techniques of aerial photography and satellite imagery. This wing would be strengthened by providing field and survey equipments; ore dressing equipments, atomic absorption spectrometer, and spares for

geophysical and micro analytical equipments. It is also proposed to re-structure the geology branch into a Directorate of Geology and Mining with offices in the districts. An outlay of Rs. 81.50 lakhs for existing schemes, and another Rs. 25 lakhs for strengthening of geology and mining wing in the Directorate of Industries and Commerce have been proposed during the plan period.

15.7. Summing up the total outlay for 1980-85 in respect of 'Mining and Metallurgy' would be Rs. 386.50 lakhs comprising of Rs. 280 lakhs for TAMIN and Rs. 106.50 lakhs for Geology wing of Industries and Commerce.

TABLE 15-I.

Projects proposed by Tamil Nadu Minerals Limited during 1980-85 (TAMIN).

<i>Serial number and name of the Scheme.</i>	<i>Location.</i>	<i>Persons to be employed.</i>	<i>Annual production.</i> (RUPEES IN LAKHS.)	<i>Estimated cost of Project.</i>
(1)	(2)	(3)	(4)	(5)
1 Scheme for the exploitation of Sivaganga Graphite	Sivaganga	500	162.00 (1,500 T. of Graphite Crucibles 2100 T. of Graphite)	179.00
2 Scheme for setting up a cutting and polishing industry for Granite at Krishnagiri.	Krishnagiri	100	106 (63,000 Sq. m.)	152.00
3 Research and Development Wing	Madras	20	....	26.00
4 Scheme for setting up a Central Stock-Yard for stacking Black Granites produced in various quarries.	Madras	40	....	69.00
5 Scheme for Mechanisation and Development of Black Granite Quarries.	..	250	Production will be increased in all the quarries.	143.00
6 Scheme for the establishment of an Industry for Quicklime ..	..	10	The Scheme will be implemented in the last year of the 6th Five-Year Plan.	5.00
	Total ..	920	Total ..	574.00

TABLE 15-II.

COST OF SCHEME AND SOURCES OF FINANCE—TAMIN.

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Capital cost.</i>	<i>Margin Required.</i>	<i>Total cost.</i>	<i>Equity Capital</i>	<i>Grant in aid.</i>	<i>other Sources Loans from Financial Insti- tutions etc.</i>	<i>Total.</i>
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Sivaganga Graphite Scheme ..	145	34	179	90	..	89	179
2	Cutting and Polishing, Krishnagiri ..	125	27	152	75	..	77	152
3	Research and Development Wing ..	25	1	26	..	25	1	26
4	Central Stockyard	68	1	69	25	..	44	69
5	Mechanisation of quarries	143	..	143	60	..	83	143
6	Quick lime Industry	5	..	5	5	..	..	5
	Total ..	511	63	574	255	25	294	574

TABLE 15-III.

SOURCE OF FINANCIAL ASSISTANCE FOR THE 1930-85 PLAN SCHEMES—TAMIN.

<i>Serial number and name of the Source.</i>	1980-81	1981-82	1982-83	1983-84	1984-85	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Equity Capital	15	105	110	20	5	255
2 Grants-in-Aid (Govt.) .. ..	..	..	15	10	..	25
3 Other Sources (Loan from Financial Institutions etc.)	9	130	133	22	..	294
Total ..	24	235	258	52	5	574

TABLE 15- IV.

Details of Finance Required for 1980-85 Plan: TAMIN.

Serial No. and Name of the Scheme. (1)	(RUPEES IN LAKHS.)											
	1980-81				1981-82				1982-83			
	E.	G.	L.	T.	E.	G.	L.	T.	E.	G.	L.	T.
(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
1 Sivaganga .. .. .	..	..	..	..	20	..	20	40	60	..	60	120
2 Cutting and Polishing	4	..	..	4	55	..	55	110	16	..	22	38
3 Research and Development .. .. .	..	..	..	..	..	..	..	..	..	15	1	16
4 Central Stockyard	11	..	9	20	10	..	15	25	4	..	20	24
5 Mechanisation of Quarries .. .. .	..	..	..	..	20	..	40	60	30	..	30	60
6 Quicklime .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	15	..	9	24	105	..	130	235	110	15	133	258

	(RUPEES IN LAKHS.)											
	1983-84				1984-85.				Total.			
	E.	G.	L.	T.	E.	G.	L.	T.	E.	G.	L.	T.
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	
1 Sivaganga	10	..	9	19	..	..	..	..	90	..	89	179
2 Cutting and Polishing .. .. .	..	..	..	..	..	..	..	..	75	..	77	152
3 Research and Development .. .. .	..	10	..	10	..	..	..	..	..	25	1	26
4 Central Stockyard .. .. .	..	..	..	..	..	..	..	..	25	..	44	69
5 Mechanisation of Quarries	10	..	13	23	..	..	..	..	60	..	83	143
6 Quicklime .. .. .	..	..	..	..	5	..	..	5	5	..	..	5
Total ..	20	10	22	52	5	..	..	5	255	25	294	574

ABBREVIATION

E—Equity Capital.

G—Grants-in-aid.

L—Other sources like loan from Financial Institutions and Self Generation Fund.

T Total.

TABLE 15-V.

Details of Projects Under Geology wing of the Directorate of Industries and Commerce during 1980-85.

Serial number and name of the Projects. (1)	Provision for.					
	1980-81 (2)	1981-82 (3)	1982-83 (4)	1983-84 (5)	1984-85 (6)	1980-85 (7)
RESEARCH AND DEVELOPMENT.						
(RUPEES IN LAKHS.)						
<i>A. Existing Schemes.</i>						
1 Expansion of State Geological Department	2.65	6.00	8.50	3.85	7.00	28.00
2 Mineral Development Project	3.00	7.00	3.50	2.50	2.50	18.50
3 Mineral Treatment Laboratory for Pilot Tests	4.90	9.98	9.30	5.82	5.00	35.00
Total (A) ..	<u>10.55</u>	<u>22.98</u>	<u>21.30</u>	<u>12.17</u>	<u>14.50</u>	<u>81.50</u>
<i>B. New Schemes.</i>						
4 Strengthening of Geology and Mining Wing .. .. .	..	10.00	5.00	5.00	5.00	25.00
Total (A+B) ..	<u>10.55</u>	<u>32.98</u>	<u>26.30</u>	<u>17.17</u>	<u>19.50</u>	<u>106.50</u>

Part II

SECTORAL PLANS

C. ECONOMIC OVERHEADS

PART II-C. ECONOMIC OVERHEADS

CHAPTER 16.

IRRIGATION AND FLOOD CONTROL

16.0 Since 95 per cent of the surface flow has been utilised already, there is no further scope for any new major river valley projects in the State. The limited flows available in tributaries of rivers and the flash flows in jungle streams are proposed to be harnessed for irrigation through medium and minor irrigation schemes.

16.1 In view of the marginal availability of untapped surface flows, the programme for modernisation of existing irrigation systems aimed at economy in the water use and extension of irrigation through the water thus saved have been given importance and 40 per cent of the total outlay on irrigation is earmarked for modernisation, in the Sixth Plan.

16.2 27 Major, Medium and Modernisation schemes, which were on-going at the commencement of the Sixth Plan will be completed and brought to beneficial use during the Sixth Plan. Out of 35 new Schemes in the Sixth Plan, 7 Schemes are targetted to be completed during the present Plan period and the remaining will spill over the subsequent Plan. Thus the Plan envisages creation of 66,000 hectares of Irrigation potential under Major and Medium schemes.

Diversion of West Flowing Rivers :

16.3 One of the important schemes envisaged in the Sixth Plan to meet the water requirements for irrigation in dry areas is diversion of surplus waters from the river basins outside this State. A provision of Rs. 20 crores is made for this programme.

State Tube Wells Corporation :

16.4 Another important scheme is the formation of State Tube wells Corporation, which will sink and maintain community wells with a view to help farmers in utilising ground water on a large scale for agriculture.

Flood control and Anti-sea erosion :

16.5 Under Flood control sector the outlay provides for completion of the on-going schemes at the beginning of the Sixth Plan and execution of new schemes in the Sixth Plan, which mainly aims to providing flood banks wherever necessary. Two schemes for diversion of flood waters from one river basin to another are also proposed with a view to utilising the flood waters for irrigation purposes.

16.6 Anti-Sea erosion works are executed in Kanyakumari, Madras, Thanjavur and Tirunelveli areas affected by sea-erosion. A length of about 2.65 kms. of sea wall has been constructed to check Sea erosion to the end of 1979-80. During Sixth Plan period, 32 kms, length of sea wall is proposed to be constructed to check Sea erosion in the affected areas.

Inland Waterways :

16.7 Improvements to the North and South Buckingham Canal and a scheme for drawal of coolant water from the Kalpakkam Atomic Power Plant to the Buckingham Canal to Supply brine water to the salt industry in the area are the three important schemes for which provision has been proposed in the Sixth Five-Year Plan.

TABLE 16.1.

SIXTH FIVE-YEAR PLAN 1980-85.

IRRIGATION AND FLOOD CONTROL—PROPOSED OUTLAY FOR SIXTH FIVE YEAR PLAN, 1980-85.

<i>Serial number and name of the Projects.</i>	<i>Outlay for Pre-Sixth Plan schemes.</i>	<i>Outlay for new schemes.</i>	<i>Total Outlay for 1980-85.</i>
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
A. Irrigation—			
I. Multipurpose Projects	194.00	..	194.00
II. Irrigation Projects—			
(a) Major Projects	1,266.00	2,000.00	3,266.00
(b) Medium Schemes	2,680.00	2,000.00	4,680.00
(c) Modernisation Schemes ..	7,606.00	1,000.00	8,606.00
(d) Scheme for conjunctive use ..	..	200.00	200.00
Total—II ..	11,552.00	5,200.00	16,752.00
A. IRRIGATION—TOTAL ..	11,746.00	5,200.00	16,946.00
B. Flood Control and Anti-sea erosion—			
I. Multipurpose Projects .. ..	..	..	..
II. Flood Control Schemes	213.50	2,186.10	2,399.60
III. Drainage Schemes	300.00	..	300.00
IV. Anti-Sea Erosion Schemes ..	69.34	530.16	599.50
B. FLOOD CONTROL AND ANTI-SEA EROSION—TOTAL ..	582.84	2,714.26	3,297.10
C. Inland Water Transport Schemes— ..	0.90	372.00	372.90
GRAND TOTAL (A+B+C) ..	12,329.74	8,286.26	20,616.00

TABLE 16.II.

SIXTH FIVE-YEAR PLAN, 1980-85
IRRIGATION AND FLOOD CONTROL.

SCHEMewise BREAK UP OF FINANCIAL OUTLAYS FOR THE SIXTH FIVE-YEAR PLAN 1980-85.

Serial number and name of the Scheme.	Outlay for 1980-85.	Serial number and name of the Scheme.	Outlay for 1980-85
(1)	(2)	(1)	(2)
(RUPEES IN LAKHS)		(RUPEES IN LAKHS.)	
<i>Irrigation.</i>			
A. Pre-Sixth Plan Schemes:			
<i>I. Multipurpose Projects—</i>			
1. Parambikulam Aliyar Project	194.00	17. Thumbalahalli Reservoir ..	180.34
Total I ..	194.00	18. Vaniar Reservoir	647.43
		19. Vembakottai Reservoir ..	303.38
		20. Kullur Sandai Reservoir ..	208.70
		21. Strengthening of Periyar Dam by providing R.C.C. capping on top of Dam.	47.00
		Total (b) ..	2,680.00
<i>II. Irrigation Projects—</i>			
<i>a. Major Projects—</i>		<i>c. Modernising Schemes—</i>	
1. Chittar-Pattanamkal ..	2.00	1. Modernising Vaigai channels	247.32
2. P.A.P. Extension of Ayacut	1,264.00	2. C.D.S.—Modernising Thanja- vur Channels.	1,752.68
Total (a) ..	1,266.00	3. Modernisation of Periyar— Vaigai System.	5,606.00
<i>b. Medium Schemes—</i>		Total (c) ..	7,606.00
1. Gatana Nadhi Reservoir ..	1.90	<i>d. Scheme for conjunctive use—</i>	
2. Marudhanadhi Reservoir ..	(—)60.15	Nil.	
3. Karuppanadhi Reservoir ..	(—)15.01	Total II (a+b+c+d) ..	11,552.00
4. Pilavukkal Scheme	5.70	Total A (I+II) ..	11,746.00
5. Palar-Porandalar Reservoir ..	2.52		
6. Kodaganar Reservoir ..	620.00		
7. Vattamalaikarai Odai Reservoir	0.26		
8. Varattupallam Reservoir ..	2.56	B. New Schemes of Sixth Plan(1980-85)	
9. Varadhanadhi Reservoir	1.00	<i>I. Multi-purpose Projects—</i>	
10. Excavation of Right side channal above Sathanur Pick up Anicut.	171.09	Nil	
11. Gunderipallam Reservoir ..	0.01	<i>II. Irrigation Projects—</i>	
12. Gundar Reservoir	51.15	<i>a. Major Projects—</i>	
13. P.T. Rajan Channel Scheme	(—)3.33	1. Diversion of west flowing rivers.	2,000.00
14. Kelavarapalli Reservoir ..	350.25	Total (a) ..	2,000.00
15. Improvements to Veeranam tank channels (Pilot study).	4.29	<i>b. Medium Schemes</i>	
16. Servalar (Hydro Electric-cum- Irrigation) Project.	160.91	1. Nagavathi Reservoir ..	..
		2. Ichambadi Anicut ..	..

<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85.</i>	<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85.</i>
(1)	(2)	(1)	(2)
(RUPEES IN LAKHS.)	(RUPEES IN LAKHS.)	(RUPEES IN LAKHS.)	(RUPEES IN LAKHS.)
<i>Medium Schemes—cont.</i>		<i>C. Modernisation schemes—cont.</i>	
3. Thoppaiyar Reservoir .. ..	.. ..	3. Modernisation of Cauvery Channels in Salem, Tiruchirappalli Districts.	.. ..
4. Excavation of a contour canal from P.T. Rajan channel.	.. ..	4. Modernisation of Lower Bhavani Project Canal.	.. ..
5. Cable Anchoring Periyar Dam.	.. ..	5. Modernising Ponnai river Channels below Sathanur Rear up to tail end.	.. ..
6. Uppar Reservoir .. ..	.. ..	6. Modernisation of Kodayar system.	.. ..
7. Sulagiri Chinnar Reservoir .. ..	.. ..	7. Grand Anicut Canal lining	.. ..
8. Noyyal Reservoir .. ..	.. ..	8. Modernising Lower Coleroon Anicut System.	.. ..
9. Siddamalli Reservoir .. ..	.. ..	9. Modernisation of Manimuthar Main Channel System.	.. ..
10. Irrukkankudi Reservoir .. ..	.. ..	10. Modernisation of Thambara-parani river system.	.. ..
11. Golwarpatti Reservoir .. ..	.. ..	11. Modernisation of Tank Irrigation.	.. ..
12. Anaikuttam Reservoir .. ..	.. ..	12. Remodelling irrigation system for adoption of War Bandhi or Rotational Water System.	.. ..
13. Anaimaduvu Reservoir .. ..	.. ..	
14. Kariyakoil Reservoir .. ..	.. ..	
15. Sothuprai Reservoir .. ..	.. ..	
16. Kuthiraiyar Reservoir .. ..	.. ..	
17. Maduranthagam Right side Channel.	.. ..	Total (c) ..	1,000.00
18. Audiappanur Odai Scheme .. ..	.. ..	
19. Solascolahalli Reservoir .. ..	.. ..	
20. Sannampatti Anicut Scheme .. ..	.. ..	
21. Maruthaiyar Reservoir .. ..	.. ..	<i>(d) Schemes for conjunctive use of Ground Water and Surface Water—</i>	<u>200.00</u>
22. Adavinainar Koil Reservoir .. ..	.. ..	1. Conjunctive use of Ground Water and Surface Water schemes in Tamil Nadu.	.. ..
23. L.S. Provision (Made in Budget Estimate, 1980-81).	.. ..	2. Formation of State Tube-well Corporation.	.. ..
Total (b) ..	2,000.00	3. Formation of a recharge reservoir across Palar near Pullur village, North Arcot district.	.. ..
<i>C. Modernisation Schemes—</i>	1,000.00	Total (d) ..	200.00
1. Remodelling Anandanar Channel and its branches under Kodayar system.	.. ..	Total II	
		(a+b+c+d) as well as	
		B (I+II). ..	5,200.00
2. Extension of Right Bank Canal of Thirupparappu Anicut across Kodayar.	.. ..	Grand Total (A+B) ..	16,946.00

<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85</i>	<i>Serial number and name of the scheme.</i>	<i>Out lay for 1980-85</i>
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS).		(RUPEES IN LAKHS).
FLOOD CONTROL, DRAINAGE AND ANTI-SEA EROSION PROJECTS.		B. Sixth Plan Schemes—	
PRE-SIXTH PLAN SCHEMES—		I. Multi-purpose Project—	
<i>I Multipurpose Projects</i> .. Nil.		Nil.	
II Flood Control Schemes—		II. Flood Control Schemes 2,186.10	
Cauvery Barrage and other flood control schemes in Cauvery Delta.	108.87	1. Diversion of flood flows from Vaigai Basin..	..
Improvements to Chembaram-pakkam tank.	97.23	2. Diversion of surplus floods from Koraiyar river.	..
Improvements to Otteri Nallah	7.40	3. Formation of a flood bank on the left margin of Gadilam to protect Panruti town.	..
Total II ..	213.50	4. Flood Bank to the right margin of Poonniar from Melkumaramangalam village to Pagandai village in South Arcot district.	..
III. Drainage Schemes—		5. Flood banks to Kosasthalaiyar in Ponneri limits in Chengalpattu district.	..
1. Drainage Scheme in Cauvery Delta.	300.00	6. Flood Banks to Araniar in Periyapalayam village in Chengalapattu district.	..
Total III ..	300.00	7. Flood banks to Vellar river below Sethiathope anicut upto Bhuvanagiri road bridge.	..
IV. Anti-Sea Erosion Schemes—		8. Flood banks to Vellar below Bhuvanagiri road bridge upto Bay of Bengal.	..
Construction of Rubble Mound Sea Wall, in Kanyakumari District at—		9. Improvements to Paravanar to provide drainage relief to ayacut lands of Perumal tank and straight cut to Paravanar in South Arcot district.	..
1. Muttomthurai	} 33.22	(i) Flood Protection Schemes in the Madras Metropolitan Area (Short-term Programme— Priority wise)—	
2. Enayampouthanthurai.			10. Short cut canal from North Buckingham Canal to sea in Thiruvotriyur area.
3. Between Gandhimandapam and Swimming-pool.	9.20	11. Removal of masonry weir below Maraimalai Adigal Bridge across Adyar.	..
4. Mulloorthurai	6.05	12. Formation of flood banks to Adyar river (Phase I and Phase II).	..
5. Enayam (Extension) ..	2.54	13. Velacheri Drainage Scheme..	..
6. Kadiapattinam	9.36	14. Extending Kotturpuram Flood Bank.	..
7. Ponnivaikkalin Rajakkamangalam.	5.42		
8. Pattamthurai	3.55		
Total IV ..	69.34		
Total—A (I+II+III+IV) ..	582.84		

<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85</i>	<i>Serial Number and Name of the Project.</i>	<i>Outlay for 1980-85</i>
(1)	(2)	(1)	(2)
			(RUPEES IN LAKHS)
15. New tank formation in Chembarambakkam river basin.	..	35. Formation of flood banks to left bank of Koratalayar from Erumaivettipalayam to Vallur Anicut and to the right bank from Erumaivettipalayam upto Nappalayam Causeway.	..
16. Vijayaraghavapuram, K.K. Nagar and Jafferkhanpet Drainage.	..		
17 Adambakkam Drainage	..	Total II	2186.10
18. Repairs to Cooum upto Chetput railway bridge.	..		
19. Repairs to North Buckingham Canal.	..	III. <i>Drainage Schemes</i> :... ..	Nil.
20. Permanent Improvements to Otteri Nullah.	..	IV. <i>Anti-Sea Erosion Schemes</i> :- ..	530.16
21. Diversion of Ambathur tank surplus into Cooum through Mogappair tank.	..	<i>Construction of Rubble Mound sea wall in Kanyakumari District at :</i>	
22. Diversion of Korattur floods to Madhavaram tank.	..	1. Chinnavilaithurai .. ..	..
23 Diversion of Madhavaram surplus into Red Hills.	..	2. Periyavilaithurai .. ..	..
24. Flood banks to Koratalayar in the Manali Housing Complex.	..	3. Periyakadu .. ..	..
25. Improvements to Banks of Cooum River	4. Neeradithurai .. ..	..
26. Lowering the bed pitching in Napier Bridge and cutting sheet piles	5. Puthanthurai .. ..	..
27. Additional canal to North Buckingham Canal	6. Kasanputhanthurai .. ..	..
		7. Melamanakudi .. ..	..
		8. Kovalam .. ..	..
		9. Pozhikkarai .. ..	..
		10. Vaniyakudi .. ..	..
		11. Ramanthurai .. ..	..
		12. Royapuram and Ennore at Madras .. ..	..
(ii) <i>Madras Metropolitan Area (Long term Programme—Priority wise).—</i>		13. Poompuhar in Thanjavur District .. ..	..
28. Modernisation of 9 large tanks in Chembarambakkam Minor basin	14. Twenty two Villages shore line in Kanyakumari District ..	..
29. Modernisation of 7 large tanks in Cooum Basin	15. Santhome in South Madras ..	..
30. Diversion of Cooum floods into Poondi Reservoir	16. Idinthakarai in Thirunelveli District .. ..	..
31. Modernisation of 9 large tanks in Adayar Minor Basin	Total IV	530.16
32. Diversion of Adayar Floods into Covelong Valley		
33. Channelising cooum from City limits upto Chetput Railway Bridge	Total 'B' (I+II+III+IV)	2,714.26
34. Improvements to Red hills course.	..	Grand Total (A+B)	3,297.10

<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85</i>	<i>Serial number and name of the scheme.</i>	<i>Outlay for 1980-85</i>
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS)		(RUPEES IN LAKHS)
INLAND WATER TRANSPORT.			
A. Pre-sixth Plan Schemes.			
1. Prototype studies for lining in the South Buckingham Canal M 6/5-6/7-330	0.90		
2. Improvements to North Buckingham Canal from M0/0/ to 10/1(I Phase) .. ..	..	
B. New schemes of Sixth Plan(1980-85)			
		1. Improvements to North Buckingham Canal beyond M10/1 upto Andhra State border (II Phase)	210.00
		2. Improvements to South Buckingham Canal from M1/1 to 31/0	130.00
		3. Drawal of coolant water from Kalpakkam to Buckingham Canal	32.00
		Total	372.90

CHAPTER 17.

POWER.

Brief Review of growth and energy generation since 1960 :

17.0. The installed capacity which was only 156 MW in the year 1950-51 has grown to 2,719 MW in the year 1979-80, thereby adding 2,563 MW in the course of last three decades. Though addition to the generating capacity has been the result of successive planning during the past five year plans, the demand for power is outstripping the availability necessitating restriction and imposition of power cuts since 1972-73

barring 1978-79. The shortfall in meeting the demand has been accentuated by the slippage of 470 MW, in the achievement of the targeted production by the Kalpakkam Atomic Station. Simultaneously with the increase in capacity, there has been a rise in demand from 139 MW in 1950-51 to 1,710 MW in the year 1979-80, indicating a rise by 153 per cent in the last decade alone. The growth of capacity, demand and connected load in the past three decades are as follows :—

(ALL IN MW.)

<i>End of year.</i>	<i>Installed capacity.</i>	<i>Per cent rise.</i>	<i>Peak demand.</i>	<i>Percent rise.</i>	<i>Connected load.</i>	<i>Per cent rise.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1950-51	156	..	139	..	633	..
1959-60	411	263	335	241	1,138	180
1969-70	1,720	418	1,116	333	3,695	325
1979-80	2,719	158	1,710	153	7,250	196

It may be seen from the above that during the decade 1970-80 there was an appreciable decline in the rate of growth of both installed capacity and peak demand. The installed capacity additions are not commensurate with the connected load additions.

17.1. It should, however be noted that the demand figures indicated above are only the power actually supplied and not the real demand in so far as much of the demand was suppressed due to power cuts and other restrictions.

17.2. Even with the restricted supply, the per capita consumption has been going up steadily from 60 units in 1960-61 to 175 units in 1978-79, against an all-India average of 118 units.

Present Power supply position :

17.3. In the matter of power supply the experience of Tamil Nadu has on the whole been one of hand to mouth existence. The extent of shortage has varied from year to year but between 1972 and 1977 power cut was more or less an annual feature, ranging from 15 per cent to as much as 75 per cent the maximum being on industrial and commercial sector during the year 1975.

17.4. The main sources of supply in Tamil Nadu are (a) 18 Hydro Electric Projects, (b) 4 Thermal Generating Stations including Neyveli

Thermal Station and (c) Purchase of power to a certain extent from Kerala and occasionally Karnataka.

17.5. In view of the vagaries of monsoon and the fact that of the 18 hydro projects—9 are irrigation tied, the contribution of hydro resources to total power supply has steadily decreased while Thermal Generation has proportionately increased. The percentage of installed capacities in both hydel and thermal were equal during 1978-79, the percentage of hydel capacity decreasing from 68 in 1955-56 to 50 in 1978-79 in contrast with thermal generation increasing from 32 per cent to 50 per cent in the same period.

Sources of supply—Relative position and trend.

17.6. (a) *Hydro source.*—The installed capacity in respect of 18 hydro projects of Tamil Nadu is 1,369 MW.

(b) *Thermal source.*—The Thermal Stations in the State are at Ennore, Basin Bridge and the newly commissioned Tuticorin, aggregating to total installed capacity of 750 MW.

17.7. Though the present installed capacity is 2,719 MW. including 600 MW. at Neyveli the grid capability during summer months is

around 1,040 MW. only. This is mainly because of hydro contribution falling to 595 MW due to non-availability of generation from 9 Hydro

stations (with 633 MW. installed capacity) which are tied up with irrigation requirements as shown under:—

Station.	Installed Capacity.	Capability.	
		During irrigation. (July-December).	During non-irrigation (January-June).
(1)	(2)	(3)	(4)
Nilgiris group (7 P.Hs.)	641	570	510
PAP Group (4 P.Hs.)	185	175	35
Mettur (2 P.Hs.), Periyar, Suruliar	240	135	10
Papanasam (3 P.Hs.)	203	100	..
Kodayar (2 P.Hs.)	100	40	40
Total ..	1,369	1,020	595

Further, slowing down of generation in thermal stations owing to one difficulty or other—break-down of machinery, lack of spare parts, inadequate supply of coal, etc., retards further contribution to meet the needs of the grid. The inadequacy of domestic supply has therefore to be made good by purchases from Neyveli and Kerala. In the four years 1976-77 to 1979-80 purchase from Neyveli accounted for about 14 to 30 per cent of the net availability (in MU) per year. But both in absolute terms and as a percentage of total availability in the State, the contribution from Neyveli has steadily declined, necessitating further restraints in the imposition of power cut. The main cause for slowing down production at Neyveli seems to be flooding of the open cast mines in the rainy season, which lowers the output of lignite and consequent generation of power at the Thermal Station.

17.8. The second source from where Tamil Nadu purchases power is Kerala. The surplus from Kerala is sold to Karnataka and Tamil Nadu and there appears to be no seasonal pattern or trend in supply.

Present Demand.—

17.9. A peak demand of nearly 1,800 MW. was recorded during the year 1978-79, which would have been much higher had there not been power cut during the summer months. Similarly the unrestricted demand during 1979-80 would have been around 2,000 MW. but for the power cuts and restrictions.

17.10. The estimated generation both from Hydro and Thermal sources during the year

1980-81 is around 9,543 mu. against the requirement of 12,447 mu. indicating still a gap to meet the requirements inspite of power being purchased from outside.

Power Requirement in next five years :

17.11. Taking into consideration the consumption requirements of 1979-80 and projecting on the basis of an overall growth rate of 10 per cent a year, the Revised estimates of the 11th Annual Power Survey (*vide* Table 3) show that the State will end up with a deficit of nearly 500 MW in terms of demand and 2,200 mu. in consumption by 1984-85 even after allowing for the on going/new schemes.

17.12. Summarising the position with regard to power supply and demand at the end of the plan 1980-85 would be as follows:—

	MW.
1 Present installed capacity (April 1980)	2,719
2 Additional capacity envisaged during the Plan period.	2,050
3 Total capacity available at the end of the plan (1+2).	4,769
4 Total demand which the available capacity will be able to meet at the end of plan.	2,861
5 Total expected unrestricted demand at the end of the plan, taking into consideration 1978-79 as base year.	3,221
6 Capacity needed to meet total demand mentioned in (5).	5,368
7 Gap in installed capacity (6)-(3)	599

Augmenting Power supply :

17.13 Given the present installed capacity in the State and anticipated increase in demand in the Sixth Plan period (1980-85), it will be necessary for the following measures to be taken:

1. Completing the schemes which have already been started, details of which are given separately.
2. Completing the schemes which are already started for which sanction is yet to be received—details separately indicated.
3. Initiating action on all new schemes during the Plan period itself.
4. Ensuring that the Central sector projects—Madras Atomic Power Project, and second mine cut at Neyveli—are completed in the Plan period, without which the gap in demand and supply will further widen.
5. In as much as the gap between demand and supply will continue to exist even at the end of the Plan period, it is imperative that the following schemes are taken up in the Central sector on a priority basis, if Tamil Nadu is to free itself from the necessity of periodical power cuts.

(a) Establishments of a second Atomic Station with an installed capacity of 1,000 MW.

in Kudankulam in Nanguneri Taluk, Tirunelveli District (site accepted as a promising one by the site Selection Committee of DAE).

(b) Expansion of MAPP by 500 MW. additional capacity. Feasibility of the same has been confirmed by MAPP authorities during informal discussions and it is understood to be under consideration of the concerned Ministry.

(c) Opening of the III minecut at Neyveli and establishment of a new thermal station with a capacity of 1,260 MW. initially and 2,000 MW. ultimately. This could be the mainstay in meeting future power needs of the State.

(d) Exploration and commercial utilisation of OTEC in which Tamil Nadu is advantageously placed with its long coastal line.

Forecast of Demand over the years 1980-85 :

17.14 There has been a growth in the pattern of consumption in the various sectors—domestic, commercial, industries, agriculture, etc., from year to year. The figures in the following table show that the aggregate growth rate is 10.5 per cent per year. It should be remembered that there was power cut in these years.

Sector.	Consumption pattern (m.u.)				Rate of growth (p.a.) (per cent).
	1974-75	Percent.	1978-79	Percent.	
(1)	(2)	(3)	(4)	(5)	(6)
1 Domestic	395	7.2	639	7.8	12.8
2 Commercial	420	7.7	560	6.9	7.4
3 Industries	2,363	43.3	4,140	50.8	15.0
4 Traction	39	0.7	48	0.6	5.3
5 Irrigation	1,847	33.8	2,156	26.5	4.0
6 Public Lighting	78	1.4	83	1.0	1.6
7 Miscellaneous	322	5.9	518	6.4	12.7
Total ..	5,464	100.0	8,144	100.0	10.5

17.15 The consumption forecast in the next five years in respect of some of the major sectors are as given below.

1. *Domestic*.—Considering the growth rate of 12.8 per cent for the period 1974-75 to 1978-79, it can be mostly assumed to be of the order of 12 per cent per annum in the next five years. Therefore on this the demand arising from the sector at the end of plan 1984-85 will be 1,262 mu.

2. (a) *Large Industries*.—In spite of restrictions in power consumption in the last decade, the number of registered factories in the State increased from 8,508 in 1977 to 9,139 in 1979. It is expected that the production of aluminium, fertilisers and chemicals would increase by more than 100 per cent in the Plan period. Considering the growth of 15 per cent observed during the period 1974 to 1979 the power requirement of heavy industries may be expected to reach 9,575 m.u. by 1984-85.

(b) *Small Scale Industries.*—Considering the large number of small scale units registered annually (2,990 units were registered during the year 1978-79 alone) at least 2,500 units may be safely expected to come up in the Plan period. If there are no power cuts and other restrictions the power required by this sector may be assumed to increase at the rate of 13 per cent and the power requirement at the end of Plan period would be around 1,165 m.u.

3. *Irrigation.*—Consumption of electricity by irrigation sector varies from year to year depending on the intensity of rainfall in the State. Out of 12 lakh irrigation wells in the State, 9 lakh pumpsets have already been electrified. Due to various factors like ground water discipline, it is proposed to limit the electrification of wells to about 30,000 pumpsets per annum during the Plan period and the power requirement at the rate of 2,450 units per pumpset would be 367 m.u.

17.16. In view of the above, the overall growth rate may be taken as around ten percent per annum. Calculating on this basis the anticipated generation requirement of power in Tamil Nadu over the next five years would be as follows:—

	M.U.
1980-81	12,447
1981-82	13,692
1982-83	15,062
1983-84	16,568
1984-85	18,225

Note.—This includes supply to Ponds and auxiliaries.

17.17. The general approach for the Sixth Plan in the matter of formulation of projects is to be—

(i) Completing the on-going schemes as quickly as possible for which fund requirements should be fully met.

(ii) Schemes already sanctioned and on which preliminary works have been taken up and discontinued for want of funds or for other reasons should receive the next priority.

(iii) New schemes pending sanction have to be considered as the capacity development contemplated from both on-going and sanctioned schemes will not be adequate to meet the anticipated demand by the end of the Sixth Plan and beyond.

17.18. *A. Continuing Schemes.*—(i) *Tuticorin Thermal Scheme.*—This scheme envisages the installation of two units of 210 MW each in First stage and 210 MW in II stage totalling 630 MW ultimately with an energy potential of 1,100 m.u. per unit. Though the scheme was started in 1973-74, due to limited financial provisions there was not much progress in the earlier years. The first unit of 210 MW started functioning in

1979-80, the second unit of the I stage and one unit of the second stage are expected to be ready by the end of 1980-81 and 1981-82 respectively. The revised cost of the project is Rs. 263.00 crores and the expenditure upto March 1980 is Rs. 208.54 crores. A sum of Rs. 54.46 crores is provided during the Sixth Plan 1980-85.

(ii) *Suruliyar H.E.S. in Madurai district (35 MW/114 m.u.)*—Utilising the run-off from the catchment area of 38 sq. kms. of Suruliyar, Eravangalar, etc., a single power house with an installed capacity of 35 MW is envisaged. The scheme which was started in 1972 began functioning in August 1978. The revised cost of the scheme is Rs. 26.62 crores. A sum of Rs. 3.36 crores is provided during the Sixth Plan 1980-85.

(iii) *Servalar H.E.S. in Tirunelveli district (20 MW/75 mu.)*—A single unit of 20 MW with energy benefits of 75 mu. is proposed utilising the entire water of Servalar and Thambaraparan over a gross head of 56.57 M. Though the approved outlay under the Fifth Plan was, Rs. 5.21 crores, for want of plan provisions, works were not continued during 1974-75 to 1976-77. Works were resumed in 1977-78 and the scheme is expected to be completed in 1983-84. A revised cost of the scheme is Rs. 21.57 crores. A sum of Rs. 16.43 crores is provided in the Sixth Plan 1980-85.

(iv) *Kadamparai Pumped storage H.E.S. in Coimbatore district (400 MW/79 mu.)*—To meet the peak demand, installation of 4 units of 100 MW each reversible turbine generator and construction of one reservoir are envisaged under the scheme. The annual energy benefits would be 79 mu. by conventional and 720 mu. by pumped storage. This scheme is expected to be completed in 1983-84. The expenditure incurred upto March 1980 is Rs. 30.58 crores as against the revised cost of Rs. 103.39 crores. A sum of Rs. 71.41 crores is allotted during the Sixth Plan 1980-85.

(v) *Pandiar-Punnappuzha in Nilgiris district (150 MW/391 mu.)*—This scheme envisages the installation of 2 units of 75 MW each with energy potential of 391 mu. Though this scheme was sanctioned in 1968 no regular works were undertaken for want of concurrence from Kerala Government for the modified scheme.

Tamil Nadu State Government are holding negotiation with Kerala Government to expedite the work on this scheme. The revised cost of the scheme is Rs. 100.00 crores but the expenditure incurred upto March 1980 is only Rs. 0.85 crores. The scheme is expected to be completed in 1986-87 and a sum of Rs. 69.09 crores is provided in the Sixth Plan 1980-85.

(vi) *Nellithorai H.E.S. in Coimbatore District (50 MW/109 mu.)*.

This scheme envisages the installation of one unit of 50 MW with an energy potential of 109 mu. by utilising a fall of 45 m between the tail race of Kundah Power House IV and FRL of Lower Bhavani Irrigation reservoir. The revised cost of the scheme is Rs. 20.77 crores. Though the Fifth Plan approved an outlay of Rs. 6.66 crores

due to limited budget provisions, the expenditure incurred upto March 1980 was only Rs. 0.46 crores. This scheme is expected to spill over beyond 1984-85. A sum of Rs. 19.65 crores is provided in the Sixth Plan 1980-85.

17-19 B. *Works taken up—Approval awaited—*
(i) *Lower Mettur H.E.P. in Salem and Periyar district (120 MW/537 mu).*—The drop available beyond the existing power houses and upto Bhavani Town is proposed to be utilised by constructing four power houses each with 30 MW of capacity, 537 mu of energy is expected to be generated. The revised cost of the project is Rs. 89.71 crores and is under consideration of Central Electricity Authority. A sum of Rs. 86.02 crores is provided in the Sixth Plan 1980-85.

(ii) *Mettur Thermal Power Project in Salem district (420 MW/2247 mu).*—The project envisages the installation of two units of 210 MW each with an energy potential of 2247 mu. An agreement with Messrs Singareni Collieries has been made for the supply of coal. This scheme is considered absolutely necessary to meet the loads and to maintain satisfactory voltage around Salem-Mettur especially because of the shut down of 200 MW Mettur Tunnel Power House during the irrigation closure. The revised cost of the project is Rs. 189.70 crores and a sum of Rs. 161.30 crores is provided in the Sixth Plan 1980-85.

(iii) *Upper Amaravathi H.E.P. in Madurai district (30 MW/104 mu).*—The project is to utilise the flows from Koniar, Palavachiar and Kubar tributaries of Amaravathi river at the higher elevations for power generation in the power house with an installed capacity of 30 MW and energy potential of 104 mu. The revised cost of the project is Rs. 15.78 crores and a sum of Rs. 15.36 crores is provided during 1980-85.

(iv) *Shanmuganadhi H.E.P. in Madurai district (30 MW/125 mu).*—This project with an estimated revised cost of Rs. 20.51 crores is located in the Palani Hills utilising flows of Palar and Porandalar with an installed capacity of 30 MW and energy potential of 125 mu. Provision for the Sixth Plan is Rs. 20.09 crores.

(v) *Parson's valley H.E.P. in Nilgiris district (30 MW/53 mu).*—The head of 224 mu. available between Parson's Valley and Emerald reservoirs is to be utilised and installation of one 30 MW at Parson's valley Power House with energy potential of 53 mu is proposed. The revised cost of the scheme is Rs. 11.56 crores. Project report is sent to Central Electricity Authority for approval. A sum of Rs. 10.50 crores is provided in the Sixth Plan 1980-85.

(vi) *Kundha Additional Unit at P.H.V. in Nilgiris district (20 MW/36 mu).*—One unit of 20 MW with energy benefit of 36 mu is envisaged under this Project. The cost of the scheme is Rs. 5.63 crores and it is targetted for completion at the end of Plan period.

C. New Schemes.—

17. 20. (i) *New Thermal Station in North Madras. (630 MW/3370 mu)*

Three units of 210 MW with energy benefits of 3370 mu. is envisaged under this project. A detailed study of the potentialities of this scheme is made. This scheme is considered essential

in view of the additional loads expected under Madras Metropolitan Development Authority Programmes during VII Plan will be required even after implementation of the 630 MW terminal station at Neyveli with the opening of the second mine. The revised cost of the project is Rs. 273.37 crores. Project works will start from 1986-87.

(i) *A. Thermal Station Basin Bridge Power House (BBPH) Improvement and Replacement.*

The Project envisages replacing the existing low pressure 2 X 15 M.W. generating units and one 30 MW. unit at the Basin Bridge Power House with associated boilers by a high Pressure Turbo Generator set of 110 M.W. capacity with associated boiler. The existing units have already served over 25 to 30 years and complete their useful life by the time the replacement unit is installed.

The Basin Bridge Power station is located in the heart of Madras City with nucleus of 33 MW. Systems feeding the various parts of the metropolitan area and is a vital installation to ensure adequate power supply to essential services. The Project covers the modification to the existing system such as Coal, Water and Ash disposal.

During the Plan period 1980-85, Rs. 0.80 Crores is provided for improvements and Rs. 41.33 Crores for the replacement programme.

(ii) *Cholathipuzha H.E. P. in Nilgiris District (60 MW/225 mu)*

This power house is proposed to be located on the left bank of the Chaliyar within Kerala State with the installed capacity of 60 MW and the energy potential of 225 mu. The cost of the scheme is Rs. 23.46 crores and the provision for the period 1980-85 is Rs. 20.00 crores.

(iii) *Pykara Dam Micro Hydel Station in Nilgiris district.*

The project envisages construction of a power house with an installed capacity of 2 MW at the toe of the existing Pykara Dam utilising the discharges of the Pykara Power House. The power house will generate 10 mu per annum; the cost of the project is Rs. 1.45 crores. The benefits of the project are expected to become available first beyond the Plan period.

(iv) *Lower Bhavani Micro Hydel station in Coimbatore District.*

This is another micro hydel project similar to the as mentioned above in this 4x2 MW generating units will be installed at the toe of the existing Lower Bhavani Dam utilising the irrigation discharges in the Bhavani river. The power house will generate 39 mu. per annum and the cost of the scheme is Rs. 5.78 crores. The benefits of the project is expected to be available first beyond the Plan period.

(v) *Vaigai Dam Micro Hydel Power House in Madurai district.*

This project seeks to establish a micro power house with an installed capacity of 2x3 MW at the toe of the existing Public Works Department Vaigai reservoir utilising the irrigation discharges from Vaigai Dam. The Power House will generate 24 mu of energy per annum and the project will cost Rs. 3.76 crores. The benefits will be available beyond the Plan period 1980-85.

(vi) *Hognekkal H. E. P.—Dharmapuri district* (250 MW/854 mu).

Hognekkal Hydro Electric Project on the Cauvery river is now contemplated as an inter-state project on the basis of regional approach suggested by the Ministry of Irrigation and Power. Revised cost of the scheme is Rs. 75.00 crores and a sum of Rs. 22.50 crores is provided in the Sixth Plan, 1980-85.

17.21 D. Advance Action.

(i) *Nirar-Nallar H.E.P. in Coimbatore District* (155 MW/373 mu)

This scheme envisages the utilisation of the surplus water in Tamil Nadu Sholayar reservoir at a cost of Rs. 18.33 crores. It is contemplated to divert the extra waters to Nallar basin utilising the waters for power generation in two power houses with an installed capacity of 155 MW and energy potential of 373 mu.

(ii) *Ocean Thermal Energy Conversion (OTEC) Scheme.*

In view of the dwindling availability of fossil fuels for generating power, alternate schemes for power generation are being thought of. One such scheme envisages the using of Solar Power, whereby electricity is generated by utilising the difference in temperature in the Ocean. The Tamil Nadu Electricity Board has proposed a detailed scheme costing Rs. 100 crores including cost of submarine cables, to generate 25 MW of power. The Union Energy Ministry is keen on this project, being first of its kind in the country. A sum of Rs. 80 crores is provided in the Sixth Plan for advance action relating to Nirar-Nallar and Ocean Thermal Energy Conversion schemes.

OUTLAY

17.22. In all, an outlay of Rs. 730.58 crores is proposed for generation schemes, of which Rs. 257.80 crores is for approved and on going schemes, Rs.298.30 crores for works taken up in anticipation of approval, Rs. 94.48 crores for works relating to new schemes and Rs. 80 crores for investigation and advance action on schemes on self identified as probables.

Improving Operational efficiency.

(A) *Transmission and Distribution.*

17.23. Tamil Nadu has a well-knit transmission system inter connecting various power systems and substantial in the grid. This state is a constituent of the Southern Regional grid, requiring extension and strengthening of the transmission system for effective regional grid operation.

For the first time 400 KV of transmission system would be introduced in Tamil Nadu grid.

17.24. The length of kms. as on 30th March 1980 in Tamil Nadu grid are as follows :

230 KV lines DC	50 kms.
230 KV lines SC	1929 kms.
110 KV lines SC	3274 kms.
110 KV lines DC	1501 kms.
66 KV lines SC	2406 kms.
66 KV lines DC	422 kms.

In addition, there is a vast net work of sub-transmission lines of 33, 22 and 11 KV lines.

17.25. The Transmission and Distribution plan envisages erection of E.H.T. lines and substations besides improvement measures in distribution. Both the 400 KV and 230 KV systems will ensure satisfactory evacuation of power besides reliability and security of supply.

17.26. The transmission and distribution programme contemplated completing the on-going schemes to the extent of 1433 km of EHT lines comprising 837 lines of 230 KV, 550 lines of 110 KV, 46 lines of 66 KV, besides completing 29 lines EHT substations.

17.27. In view of the proposed second mine cut at Neyveli and commissioning of Kalpakkam atomic station there will be an addition of power to the extent of 890 MW to the grid. Action is being taken for the erection of EHT line and substations to meet the generation needs of the ongoing and new schemes, apart from inter-state power transfer. In this context, 400 KV EHT lines to the extent of 568 kms is proposed during the Plan. In addition to 1710 lines of 230 KV, 1871 lines of 110 KV, 365 lines of 66 KV for distribution of power are proposed during the Plan period.

17.28 For the above programme during the Plan period 1980-85 an outlay of Rs. 407 crores is proposed. The details of the schemes, phasing-out of the programme, and financial outlay, are furnished in separate statements enclosed.

17.29 This outlay, includes provision for improvements for reducing the line losses, likely to arise because of addition of new lines both EHT and sub-transmission to the grid, every year. The following measures are contemplated.

(a) Based on computer studies, action has been taken to procure 250 MVAR synchronous condenser and 200 MVAR shunt capacitors for erection at this station.

(b) Further 39,000 L.T. shunt capacitors totalling 63 MVAR have been erected at consumers premises and 35,250 capacitors of 1 to 5 MVAR are proposed to be erected during this year.

(c) Rural Electrification Corporation has financed schemes costing Rs. 12.55 crores and 19 system improvement schemes are under execution to reduce the line losses.

(d) Erection of additional substations and lines.

(e) Execution of H. T. and E. T. improvement works.

Rural Electrification :

17.30. The present status in the Rural Electrification in Tamil Nadu is as follows :—

Serial number and item.	Existing in the State (1971 census.)	Electrified.			Per cent.	Balance as on 1st August 1980.
		as on 31st March 1980.	From 1st April to 31st July 1980.	Total as on 31st July 1980.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Towns	439	439	..	439	100.00	Nil.
2 Census villages ..	15,735	15,550	20	15,570	98.95	165
3 Hamlets	47,836	47,439	5	47,444	99.18	392
<i>Total</i> ..	<i>64,010</i>	<i>63,428</i>	<i>25</i>	<i>63,453</i>	<i>99.13</i>	<i>557</i>
4 Harijan Colonies.	25,526	25,526*	..	..	100.00	Nil.
Newly sprung up HCs. (1st April 1979.)		127	20	147		
5 Pumpsets ..	12 lakhs wells (Estt.)	8,87,227	12,889	9,00,116	75.00	

* already electrified by end of March 1979.

17.31. More than 90 per cent villages and hamlets and 100 per cent Harijan colonies have been electrified, still there is need to extend power for intensive area development programme, with the assistance from Rural Electrification Corporation of the Government of India.

17.32. The programme for the Plan 1980-85 envisages electrification of balance number of villages and hamlets newly created besides energisation of 30,000 pumpsets per annum.

General Issues:

17.33. Tamil Nadu has been relying, to augment its own resources, on supplies from outside states, Karnataka and Kerala. Karnataka, once traditionally a surplus state, is now a deficit state and though Kerala has surplus power, all this power is not available to this state, as Karnataka is a contender for the same. Outside relief of more than 15 per cent of this State's requirements which it is now getting may also not be available in future. It is, therefore, necessary to execute all the schemes programmed during the Plan period and further expedite the Central Projects like Kalpakkam and further expansion of Neyveli Thermal Station, also it is important to conclude agreements with Karnataka for generation of power at Hogenekkal, taking the project outside the purview of the Cauvery water dispute. A second nuclear station in the South, at Kundankulam in Tirunelveli taluk for a 1,000 MW installed capacity, would ease to a great extent the rapidly accelerating power requirements of the State.

Solving the problems of generating stations, both Hydro and Thermal:

17.34. The problems of shortage in Hydro generation in the summer months because of the linking up of the hydro projects with irrigation needs will be eased greatly by the completion of the new schemes proposed under the 1980-85 Plan. It will also help to maintain a balance between hydro and thermal generation.

17.35. In respect of Thermal station at Ennore with a capacity of 450 M.W., the generation had not stabilised to the extent required, due to basic design defects, notwithstanding marginal improvements carried out in collaboration with Bharat Heavy Electricals Limited. The Czech experts have now studied the various problems and plant betterment works are on hand with the assistance of the experts. When completed, improvement in performance may be expected.

17.36. Incidentally various other problems confronting the generating stations are under study in the department of Research in Tamil Nadu Electricity Board and are detailed below:

Research and Development :

17.37. Under power research studies, the following are undertaken by the Research and

Development Directorate of the Tamil Nadu Electricity Board:—

1. Insulation studies of the power equipments.
2. Power Research and Consultancy Centre.
3. Problems relating to implementation and control systems.
4. Study of failure of 6.6. K. V. Motors.
5. Improving efficiency of electro static precipitators.
6. Study of problems of hot line maintenance techniques and development of ind^egerous equipments.
7. Study of failure of condenser tubes in Thermal Stations.
8. Study of service life of generator insulation.
9. Evaluation of life of station battery and measures prolonging their useful life.
10. Relay and Protection Problems under frequency relay problems and improving on the same.

17.38. In addition to the above, action has been initiated for research work on problems in Hydro and Thermal station, some of which are:

Thermal.

1. Study of boiler tube failures.
2. Wear and tear of coal conducts.
3. Cooling water problems - Contamination, etc.
4. Instrumentation and control systems.

Hydro.

1. Corrosion and tuberculation of penstock pipes.

In addition problems in transmission and distribution such as—

- (a) Insulator contamination.
- (b) Vibration of O.H. conductors.
- (c) Evaluation of longevity of fluorescent tubes are under research.

Man power and Training :

17.39. With vast net work of EHT lines, sub-stations and distributions, the need for training the personnel to man the power houses, and to attend to the various problems confronting the grid is felt keenly.

17.40. In order to promote operating efficiency of the Board, an Officer training Institute has been set up at Madras. The Directorate

of Training in the Tamil Nadu Electricity Board contemplates the following activities:—

1. To conduct technical training to the Engineers at various levels in the technical institute and training centres of Tamil Nadu Electricity Board.

2. Depute technicians, Officers and Engineers for various seminars on Management Training and training in specific courses for Officers abroad.

3. Re-Organisation of training on specific courses utilising trained man power of the Board for—

(a) operation and maintenance of power houses, and in fields of transmission and distribution systems.

(b) Operation and maintenance of power equipments in various sub-stations up to 230 K.V.

17.41. During the Plan period, for the various programmes mentioned above an outlay of Rs. 9 crores has been proposed.

Sixth Plan at a Glance :

17.42. Summing up the revised Sixth Plan 1980—85 proposals under 'Power' envisage harnessing of benefits from 10 approved and on-going projects totalling to 840 MW during

this Plan. This excludes 2 Central Sector projects namely Kalpakkam Atomic Power Station (470 MW) and Neyveli Lignite Corporation Hind mine-cut (630 MW) 2 schemes with 150 MW which will spill over.

17.43. Works on 6 generation projects have also been taken up in anticipation of approval from Central Electricity Authority/Planning Commission and programmed to yield a benefit of 320 MW during 1980-85 and 330 MW beyond the Plan period.

17.44. Nine new schemes with a total installed capacity of 1221 MW will be initiated, including three Micro Hydel Dam Power Houses, for benefits beyond Plan period.

17.45. In total works on 23 schemes totalling 3156 MW will be under execution, out of which nine schemes totalling 1160 MW will be commissioned during Sixth Plan Period.

17.46. The financial outlay proposed for the Sixth Plan is Rs. 1,318.14 crores of which Rs. 730.58 crores is proposed for generation schemes, Rs. 407 crores for Transmission and Distribution Programmes, Rs. 170 crores for Rural Electrification works and Rs. 10.56 crores for Investigation, Research and Development and Training Programmes.

TABLE 17-I.

State: Tamil Nadu

FIVE-YEAR PLAN 1980—85 : POWER PROGRAMMES : OUTLAY AND EXPENDITURE (REVISED)*

Schemes.	Location. (District.)	Benefits MW/m.u.	Estimate cost.		Expenditure upto March 1980.	Balance as on 1st April 1980.
			As investment approved by P.C.	Revised Cost (latest)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN CRORES.)						
<i>I. Generation.</i>						
A. Completed Schemes	(Kundah III Stg., P.A.P., M.P.E., Kodayar, E.T.S., E.T.S Extn., Kundah IV Stg., Naduvattam Diversion.)					
B. Approved and ongoing :						
1. Improvement at E.T.S. ..	Chingleput .. ..		..	..	..	..
2. Improvement at B.B.P.H. ..	Madras .. ..		..	..	..	..
3. T.T.P.P. I Stage	Tirunelveli	420/2200	152-30	178-00	160-07	17-93
4. T.T.P.P. II Stage	Do.	210/1100	71-21	85-00	48-47	36-53
5. Suruliyar	Madurai	35/114	25-05	26-62	22-19	4-43
6. Melkodmund and Lone Valley Diversion Stage I and II.	Nilgiris	—/27	1-50	1-48	1-09	0-39
7. Servalar	Tirunelveli	20/75	21-57	21-57	5-14	16-43
8. Kadamparai	Coimbatore	400/79	103-39	103-39	30-58	72-81
9. Pandiyar—P. Puzha	Nilgiris	150/391	73-90	100-00	0-85	99-15
10. Nellithorai	Coimbatore	50/109	18-15	20-77	0-46	20-31
Sub-Total (A+B)		1285/4095	467-07	536-83	268-85	267-98

TABLE 17.I.—contd.

State; Tamil Nadu.

FIVE YEAR PLAN 1980— 85 : POWER PROGRAMMES : OUTLAY AND EXPENDITURE (REVISED) *

Schemes.	Location district.	Estimated outlay for					Total for five years. [(8) to (12)]	Balance. [(7)—(13)]	Completion.	
		1980-81.	1981-82.	1982-83.	1983-84.	1984-85.			As per plan discussion.	As now* anticipated.
(RUPEES IN CRORES).										
		(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<i>I. Generation.</i>										
A. Completed Schemes	.. ..	0.17	1.00	1.00	1.00	1.00	4.17	..	..	..
B. Approved and Ongoing										
1. Improvement at E.T.S.	.. Chingleput	0.15	3.85	7.45	4.01	2.58	18.04	..	..	..
2. Improvement at B.B.P.H.	.. Madras	..	0.30	0.50	..	..	0.80	..	..	..
3. T.T.P.P. I Stage	.. Tirunelveli	17.20	0.73	..	..	..	17.93	..	1979-80	1980-81
4. T.T.P.P. II stage	.. Do.	24.70	10.00	1.83	..	..	36.53	..	1980-81	1981-82
5. Suruliyar	.. Madurai	1.47	0.41	0.52	0.49	0.47	3.36	1.07	1978-79	1978-79
6. Melkodmund and Lone Valley and Diversion Stage I and II.	.. Nilgiris	0.17	0.15	0.07	..	..	0.39	..	1980-81	1980-81
7. Servalar	.. Tirunelveli	3.17	6.74	3.81	2.29	0.42	16.43	..	1982-83	1983-84
8. Kadamparai	.. Coimbatore	14.72	27.36	24.30	3.25	1.78	71.41	1.40	1982-83	1983-84
9. Pandiyar—P. Puzha	.. Nilgiris	0.05	13.89	18.00	18.40	18.75	69.09	30.06	1985-86	1986-87
10. Nellithorai	.. Coimbatore	0.01	3.65	6.24	6.52	3.23	19.65	0.66	1985-86	1986-87
Sub-total (A+B)	..	61.81	68.08	63.72	35.96	28.23	257.80	33.19		

(1)	(2)	(3)	(4)	(5)	(6)	(7)
C. Works taken up—Approval awaited—						
1. Lower Mettur	Salem and Periyar	120/537	83·60	89·71	3-23	86·48
2. Mettur Thermal	Salem	420/2247	..	189·70	..	189·70
3. Upper Amaravathi	Madurai	30/104	..	15·78	..	15·78
4. Shanmuganathi	Madurai	30/125	..	20·51	..	20·51
5. Parsons Valley	Nilgiris	30/53	..	11·56	..	11·56
6. Kundah Additional Unit at P.H.V.	Nilgiris	20/36	5·03	5·03	..	5·03
Sub-Total C—		650/3102	88·63	332·29	3-23	329·06
D. New Schemes :—						
1. North Madras	Chingleput	630/3370	..	273·37	..	273·37
2. Thermal Station B.B.P.H. (Replacement)	Madras	110/550	..	53·56	..	53·56
3. Cholathipuzha	Nilgiris	60/225	..	23·46	..	23·46
4. Chinnar-Chittar Division	Coimbatore	—/19	..	1·15	..	1·15
5. Pykara Dam Micro Hydrel	Nilgiris	2/10	..	1·45	..	1·45
6. Lower Bhavani Micro Hydrel	Coimbatore	8/39	..	5·78	..	5·78
7. Vaigai Dam	Madurai	6/24	..	3·76	..	3·76
8. Hogenekkal	Dharmapuri	250/864	..	75·00	..	75·00
Sub-Total—D		1066/5101	..	437·53	..	437·53

<i>Schemes.</i>	<i>Location (Dist.).</i>	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
C. Works Taken up-Approval awaited :—										
1 Lower Mettur	Salem and Periyar ..	17.63	16.11	48.78	2.50	1.00	86.02	0.46	1981-82	1983-84
2 Mettur Thermal	Salem	4.00	14.40	50.56	54.50	37.90	161.30	28.40	..	1984-85; 1985-86; 1985-86
3 Upper Amaravathi	Madurai	0.05	2.45	5.53	4.90	2.43	15.36	0.42	1983-84	1985-86
4 Shanmuganathi	Madurai	0.05	2.45	6.22	6.34	5.03	20.09	0.42	1983-84	1985-86
5 Parsons Valley	Nilgiris .. .. .	..	1.00	2.00	4.50	3.00	10.50	1.06	1983-84	1985-86
6 Kundah Additional Unit at P.H.V.	Nilgiris	0.10	1.97	1.01	1.00	0.95	5.03	..	..	1984-85 (Since approved).
	Sub-Total—C ..	21.83	38.38	114.04	73.74	50.31	298.30	30.76		
										Works to commence in 1986-87.
D. New Schemes :—										
1 North Madras	Chingleput .. .. .	..	..	..	..	..	..	273.37	..	1989-90
2 Thermal Station (Replacement). B.B.P.H.	Madras .. .. .	..	..	4.83	19.50	17.00	41.33	12.23	..	1986-87**
3 Cholathipuzha	Nilgiris .. .. .	..	..	2.00	8.00	10.00	20.00	3.46	..	1986-87
4 Chinnar-Chittar Division	Coimbatore .. .. .	..	0.43	0.54	0.18	..	1.15	..	..	1983-84
5 Pykara Dam Micro Hydrel	Nilgiris .. .. .	..	0.20	0.40	0.50	0.20	1.30	0.15	..	1985-86
6 Lower Bhavani Micro Hydrel	Coimbatore .. .. .	..	0.80	1.00	1.20	2.00	5.00	0.78	..	1985-86
7 Vaigai Dam Micro Hydrel	Madurai .. .. .	..	0.40	1.80	1.00	1.00	3.20	0.56	..	1985-86
8 Hogenekkal	Dharmapuri .. .. .	..	..	..	7.50	15.00	22.50	52.50	..	1985-86 T. N. share
	Sub-Total—D. ..	..	1.83	9.57	37.88	45.20	94.48	343.05		

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
E. <i>Advance Action (on New Schemes)</i>							
Nirar-Nallar Coimbatore			155/373	..	18.33	}	
O.T.E.C. and Others							
Total Generation (A to E)			3156/12671	555.70	1,324.98	272.08	1,034.57
II ₂ T & D.			-
III RE. and LL.			-
IV. Misc.—							
(a) Investigation							
(b) R & D & Training							
Sub Total—IV.. .. .							
Grand Total (I to IV)			3156/12671	555.70	1,324.98	272.08	1,034.57

<i>Schemes.</i>	<i>Location (Dist.)</i>	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
<i>E. Advance Action (on new schemes)</i>										
Nirer-Nallar	Coimbatore ..	}	20.00	20.00	20.00	20.00	80.00	..	..	..
O.T.E.C. & Others										
Total Generation (A to E)		83.64	128.29	207.33	167.58	143.74	730.58	407.00		
II. T & D.		74.00	81.00	81.00	84.00	87.00	407.00			
III. RE. & LL.		21.50	28.50	35.00	40.00	45.00	170.00			
IV. Misc.—										
(a) Investigation		0.30	0.46	0.43	0.23	0.14	1.56			
(b) R & D Training		0.50	1.00	2.50	2.50	2.50	9.00			
Sub Total IV		0.80	1.46	2.93	2.73	2.64	10.56			
Grand Total (I to IV)		179.94	239.25	326.26	294.31	278.38	1,318.14	407.00		

*As per discussions in State Working Group (1st Sep. 80) and with CEA. (5th & 6th Sep. 80).

†as per A.P. 80-81 discussions (12/79).

**Cost & benefits to be shared by T.N. & Kerala.

TABLE 17-II.
POWER GENERATION PROJECTS ; PHASING OF BENEFITS (MW).

(Revised.)

STATE—TAMIL NADU.

Name of Scheme.	Proposed capacity.	Capacity added upto end of 1979-80.	1980-81. Target.	1981-82. Target.	1982-83. Target.	1983-84. Target.	1984-85. Target.	Total 1980-85 (4 to 8).	Spill over beyond 1984-85 (2-9).	Remarks.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. Approved/ongoing—										
1 Tuticorin Thermal Power Project I Stage.	420	210	210	..	..	..	..	210	..	210 MW. I Unit commissioned in 1979-80.
2 Tuticorin Thermal Power Project II Stage.	210	..	..	210	..	..	..	210	..	..
3 Suruliar	35	35	..	..	..	..	..	..	..	Commissioned in 1978-79.
4 Melkodmund and Lone Velley Diversion.	27 m.u.	11 m.u.	16 m.u.	..	..	..	..	16 m.u.	..	Completed in 5/80.
5 Servalar	20	..	..	..	..	20	..	20	..	..
6 Kadamparai	400	..	..	..	..	100	300	400	..	..
7 Pandiar-Punnampuzha	150	..	..	..	..	..	..	..	150	..
8 Nellithorai	50	..	..	..	..	..	..	..	50	..
Sub Total	1,285	245	210	210	..	120	300	840	200	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
B. Work taken up—approval awaited—										
1 Lower Mettur	120	..	..	..	..	30	60	90	30	..
2 Mettur Thermal	420	..	..	..	..	..	210	210	210	..
3 Upper Amaravathi	30	..	..	..	..	..	..	..	30	..
4 Shanmuganathi	30	..	..	..	..	..	..	..	30	..
5 Parson's Valley	30	..	..	..	..	..	..	..	30	..
6 Kundah Additional Unit at PH. V.	20	..	..	..	..	..	20	20	..	..
Sub Total	650	..	..	..	..	30	290	320	330	
C. New Schemes—										
1 North Madras	630	..	..	..	..	..	..	..	630	..
2 Thermal Station at B.B.P.H. (Replacement).	110	..	..	..	..	..	..	..	110	..
3 Cholathipuzha	60	..	..	..	..	..	..	..	60	..
4 Chinnar-Chittar Diversion	19 m.u.	..	..	..	..	19 m.u.	..	19 m.u.	..	..
5 Pykara Dam Micro Hydel	2	..	..	..	..	..	..	..	2	..
6 Lower Bhavani Micro Hydel	8	..	..	..	..	..	..	..	8	..
7 Vaigai Dam Micro Hydel	6	..	..	..	..	..	..	..	6	..
8 Upper Cauvery (Hogenakkal)	250	..	..	..	..	..	..	..	250	..
9 Nirar-Nallar	155	..	..	..	..	..	..	..	155	..
Sub Total	1,221	..	..	..	..	..	..	..	1,221	..
Grand Total	3,156	245	210	210	..	150	590	1,160	1751	..

TABLE No. 17-III.
POWER PROSPECTS (1980—1985).

(1)	1980-81.		1981-82.		1982-83.		1983-84.		1984-85.	
	MW.	m.u.	MW.	m.u.	MW.	m.u.	MW.	m.u.	MW.	m.u.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A. T.N.E.B.										
Requirement (11th APS) ..	2,490	13,087	2,727	14,334	2,979	15,657	3,270	17,187	3,624	19,063
Availability	1,481	9,543	1,748	10,972	1,848	12,927	2,341	14,374	2,723	16,039
Deficits)	(1,009)	(3,544)	(979)	(3,362)	(1,131)	(2,730)	(929)	(2,813)	(901)	(3,024)
Percentage	(40.5)	(27.1)	(35.9)	(23.5)	(38.0)	(17.4)	(28.4)	(16.37)	(24.9)	(15.9)
B. TNEB at 10 per cent plus over 1979-80 (U.R.)—										
Requirement (11th APS) ..	2,200	12,447	2,420	13,692	2,662	15,062	2,928	16,568	3,221	18,225
Availability	1,481	9,543	1,748	10,972	1,848	12,927	2,341	14,374	2,723	16,039
Deficits)	(719)	(2,904)	(672)	(2,720)	(814)	(2,135)	(587)	(2,194)	(498)	(2,186)
Percentage	(32.7)	(23.5)	(27.8)	(19.9)	(30.6)	(14.2)	(20)	(13.2)	(15.5)	(12)
C. C.E.A.										
Requirement	2,162	11,691	2,314	12,513	2,452	13,254	2,579	13,945	2,726	14,740
Availability	1,481	9,543	1,748	10,972	1,848	12,927	2,341	14,374	2,723	16,039
Surplus/(Deficits)	(681)	(2,148)	(566)	(1,541)	(604)	(327)	(238)	429	(3)	(1,299)
Percentage	(31.5)	(18.4)	(24.5)	(12.3)	(24.6)	(2.5)	(9.2)	3.1	(0.1)	(8.8)

(Requirement includes Pondy and auxiliaries.)

TABLE 17. IV.

TRANSMISSION AND DISTRIBUTION FINANCIAL ABSTRACT.

Serial number and description.	Outlay (Rs. Cr.)					Total (1980-85)
	1980-81.	1981-82.	1982-83.	1983-84.	1984-85.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Ongoing Lines.—						
400 KV. .. .. .	..	..	..	..	..	..
230 KV.	6.26	2.20	..	..	..	8.46
110 KV.	1.99	1.19	..	..	..	3.18
66 KV.	0.10	0.05	..	..	..	0.15
Sub-stations.—						
400 KV. .. .. .	..	..	..	..	..	..
230 KV.	5.13	3.29	1.16	1.00	..	10.58
110 KV.	2.60	0.50	..	..	..	3.10
66 KV.	0.17	0.25	..	..	..	0.42
Sub-total (A) ..	16.25	7.48	1.16	1.00	..	25.89
B. New Lines.—						
400 KV.	2.00	4.65	5.25	6.24	16.51	34.65
230 KV.	8.75	10.90	4.15	3.12	3.19	30.11
110 KV.	4.43	6.96	7.18	3.33	1.05	22.95
66 KV.	1.48	0.60	0.73	0.29	..	3.10
Sub-stations.—						
400 KV.	0.10	1.75	5.50	8.00	8.83	24.18
230 KV.	0.64	2.81	6.95	7.49	4.89	22.78
110 KV.	9.56	9.81	9.59	10.62	8.42	48.00
66 KV.	1.00	1.21	1.64	2.06	0.84	6.75
Sub-total (B) ..	27.96	38.69	40.99	41.15	43.73	192.52
Total (A + B) ..	44.21	46.17	42.15	42.15	43.73	218.41
C. Improvements (Details).—						
(i) Enhancement of Power Tr. Addl. breakers, etc.	4.81	5.32	5.86	6.44	7.10	29.53
(ii) Syn. Condensers	0.76	1.80	1.30	0.95	..	4.81
Sub-total (C) ..	5.57	7.12	7.16	7.39	7.10	34.34

TABLE 17. IV—*cont.*
TRANSMISSION AND DISTRIBUTION FINANCIAL ABSTRACT—*cont.*

Serial number and description.	Outlay (Rs. Cr.)					Total. (1980-85)
	(1) 1980-81. (2)	(3) 1981-82. (3)	(4) 1982-83. (4)	(5) 1983-84. (5)	(6) 1984-85. (6)	
Carrier Communication	0.73	0.38	0.19	0.33	0.33	1.96
<i>Distribution.—</i>						
(i) Urban Development	3.22	3.42	3.44	3.31	3.22	16.61
(ii) 33 KV Line and S.S.	3.00	4.00	4.50	5.00	6.00	22.50
(iii) HT and LT feeder improvements	17.00	20.00	23.50	26.00	27.00	113.50
Sub-total (E) ..	23.22	27.42	31.44	34.31	36.22	152.61
Total (C + D + E) ..	29.52	34.92	38.79	42.03	43.65	188.91
Grand Total—(A to E) ..	73.73	81.09	80.94	84.18	87.38	407.32

TABLE 17. V.

TRANSMISSION AND DISTRIBUTION PHYSICAL-ABSTRACT.

Description.	1980-81.	1981-82.	1982-83.	1983-84.	1984-85.	Total.
	(1)	(2)	(3)	(4)	(5)	1980-85. (7)
A. Ongoing Lines—						
400 KV. Nos.
Length Km.
Circuit Km.
230 KV Nos.	..	5	..	..	..	5
Length Km.	..	837	..	..	..	837
Circuit Km.	..	837	..	..	..	837
110 KV. Nos.	..	24	2	..	..	26
Length Km.	..	488	62	..	..	550
Circuit Km.	..	553	62	..	..	615
66 KV. Nos.	..	3	1	..	..	4
Length Km.	..	40	6	..	..	46
Circuit Km.	..	40	6	..	..	46
Sub-total Nos.	..	32	3	..	..	35
Length Km.	1,365	68	..	..	1,433
Circuit Km.	1,430	68	..	..	1,498
Sub-Stations—						
400 K.V. Nos.
Capacity (MVA)
230 KV. Nos.	..	8	1	..	1	10
Capacity (MVA)	..	400	100	..	100	600
110 KV. Nos.	..	17	..	..	..	17
Capacity (MVA)	..	160	..	..	..	160
66 KV. Nos.	..	4	..	..	..	4
Capacity (MVA)	..	20	..	..	..	20
Sub-total Nos.	..	29	1	..	1	31
Capacity (MVA)	..	580	100	..	100	780

Description.	1980-81. 1981-82. 1982-83. 1983-84. 1984-85.					Total.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>New Lines.—</i>							
400 KV. Nos. .. .. .	..	..	..	..	..	3	3
Length Km. .. .. .	..	..	..	..	..	568	568
Circuit Km. .. .. .	..	..	..	..	..	568	568
230 KV. Nos.	1	6	5	6	5	23	23
Length Km.	25	415	162	158	113	873	873
Circuit Km.	25	618	171	198	136	1,148	1,148
110 KV. Nos.	5	27	18	24	3	74	74
Length Km.	37	599	255	430	30	1,321	1,321
Circuit Km.	41	620	278	456	60	1,395	1,395
66 KV. Nos.	2	7	8	2	..	19	19
Length Km.	38	141	110	30	..	310	310
Circuit Km.	38	141	110	30	..	319	319
Sub-total Nos.	8	40	31	32	8	119	119
Length Km.	100	1,155	527	618	681	3,081	3,081
Circuit Km.	104	1,379	559	684	700	3,430	3,430
<i>Stations:—</i>							
400 KV. Nos. .. .. .	..	..	..	..	3	3	3
Capacity (MVA) .. .. .	..	..	..	..	1,300	1,300	1,300
230 KV. Nos. .. .. .	..	3*	4	6	4	17	17
Capacity (MVA) .. .. .	..	..	320	200	320	840	840
110 KV. Nos.	3	21	20	15	..	59	59
Capacity (MVA)	110	518	430	200	..	1,258	1,258
66 KV. Nos.	2	5	7	2	..	16	16
Capacity (MVA)	25	31	57	15	..	128	128
Sub-total Nos.	5	29	31	23	7	95	95
Capacity (MVA)	135	549	807	415	1,620	3,526	3,526

Total Lines.—

400 KV. Nos.	..	..	..	..	..	..	..	..	..	3	
Length Km.	..	..	..	..	..	..	..	..	..	568	568
Circuit Km.	..	..	..	..	..	..	..	..	..	568	568
230 KV. Nos.	..	..	..	..	..	6	6	5	6	5	21
Length Km.	..	..	..	..	..	862	415	162	158	113	1,710
Circuit Km.	..	..	..	..	..	862	618	171	198	136	1,985
110 KV. Nos.	..	..	..	..	..	29	29	18	24	..	100
Length Km.	..	..	..	..	..	525	661	255	430	..	1,871
Circuit Km.	..	..	..	..	..	504	682	278	456	..	2,020
66 KV. Nos.	..	..	..	..	..	5	8	8	2	..	23
Length KM.	..	..	..	..	..	78	147	110	30	..	365
Circuit Km.	..	..	..	..	..	78	147	110	30	..	365

Sub-stations.—

400 KV. Nos.	..	..	..	..	..	..	..	..	..	3	
Capacity (MVA)	..	..	..	..	..	..	..	..	..	1,300	1,300
230 KV. Nos.	..	..	..	..	..	8	4	4	7	4	27
Capacity (MVA)	..	..	..	..	..	400	100	320	300	320	1,440
110 KV. Nos.	..	..	..	..	..	20	21	20	15	..	76
Capacity (MVA)	..	..	..	..	..	270	518	430	200	..	1,418
66 KV. Nos.	..	..	..	..	..	6	5	7	2	..	20
Capacity (MVA)	..	..	..	..	..	45	31	57	15	..	148

Grand total.—

Lines Nos.	..	..	..	..	..	40	43	31	32	8	154
Length Km.	..	..	..	..	..	1,465	1,223	527	618	681	4,514
Circuit KM.	..	..	..	..	..	1,534	1,447	559	684	704	4,928
Sub-stations Nos.	..	..	..	..	..	34	30	31	24	7	126
Capacity (MVA)	..	..	..	..	..	715	649	807	515	1,620	4,296

* Extension.

TABLE 17. VI.
TRANSMISSION AND SUB-STATION

STATE—TAMIL NADU.

Serial number and name of the Scheme.	Cost as appd. by Planning Commission.	Revised cost.	Expr. upto 1979-80.	Financial Estimate (Rs. in Crores).				
				1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Lines.								
A. Continuing Schemes.								
a. 400 KV ..	..	..	..	..	..	..	..	..
b. 230 KV.	..	..	..	..	..	..	..	..
1. Korattur-Chingleput (SC)	1.53	1.53	1.38	0.15	..	..	..	..
2. Tuticorin Madurai (SC)	3.11	3.11	3.11	..	..	..	..	..
3. Kundah-Ingur-Mettur (SC)	3.11	3.11	3.00	0.11	..	..	..	..
4. Kalpakkam-Villupuram-Neyveli (SC).	3.89	3.89	1.86	1.50	0.53	..	..	..
5. Tuticorin-Karaikudi-Thiruvarur-Neyveli (SC).	8.86	8.86	5.07	3.00	0.79	..	..	..
6. Kalpakkam-Arni (SC) ..	2.78	2.78	0.40	1.50	0.88	..	..	..
<i>Total</i> ..	..	23.28	14.82	6.26	2.20	..	..	..
c. 110 KV lines as a whole ..	..	7.17	..	1.99	1.19	..	..	..
d. 66 KV lines as a whole ..	..	0.24	..	0.10	0.05	..	..	..

TABLE 17. VI—contd.

Serial number and name of the Scheme.	Length in Km.	Completed to end of 1979-80	Physical progress.					Target.	Remarks.
			1980-81	1981-82	1982-83	1983-84	1984-85		
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
I LINES :									
A. Continuing Schemes.									
a. 400 KV .. ..		..	..	..	..	..	..	..	..
b. 230 KV									
		PER CENT.	PER CENT.						
1 Korattur-Chingleput .. (SC)	55	S.S. 100 T.E. 90 Stg. 40	T.E. 10 Stg. 60	..	..	..	..	80-81	Evacuation of power from M.A.P.P.
2 Tuticorin-Madurai (SC)	150	..	..	..	..	..	..	..	Completed.
3 Kundah-Ingur-Mettur (SC)	172	S.S. 95 T.E. 90 Stg. 80	S.S. 5 T.E. 10 Stg. 20	..	..	..	..	80-81	Evacuation of Power from Kundah IV stage.
4 Kalpakkam-Villupuram- Neyveli SC	140	S.S. 95 T.E. 30 Stg. 20	S.S. 5 T.E. 70 Stg. 80	..	..	..	..	80-81	Evacuation of Power from M.A.P.P.
5 Tuticorin-Karaikudi- Thiruvarur-Neyveli SC	370	S.S. 80 T.E. 60 Stg. 15	S.S. 20 T.E. 40 Stg. 85	..	..	..	..	80-81	Evacuation of power from TTPP II stage.
6 Kalpakkam-Arni (SC)..	100	S.S. 20	S.S. 80 T.E. 100 Stg. 100	..	..	..	..	80-81	..
Total ..	987								
c. 100 KV lines as a whole..	550								
d. 66 KV lines as a whole ..	46								

TABLE 17. VI—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
B. New Schemes.								
(a) 400 KV.								
1. Neyveli-Salem (SC)	..	9.76	..	..	1.00	1.25	1.75	5.76
2. Salem-Udumalpet (SC)	..	9.64	..	2.00	2.65	2.00	1.99	1.00
3. Neyveli-Madras (SC)	..	15.25	..	..	1.00	2.00	2.50	9.75
<i>Total</i>	..	34.65	..	2.00	4.65	5.25	6.24	16.51
(b) 230 KV.								
1. Kayathar-Madurai (DC)	..	6.03	..	3.80	2.23	..	..	..
2. Tuticorin-Kayathar II Ct. (SC).	..	1.46	..	1.00	0.46	..	..	..
3. Kadamparai-Udumalpet (DC).	..	1.65	..	0.80	0.85	..	..	..
4. Looping in and Looping out of Madurai-Thudiyalur (SC) line at Kadamparai and Udumalpet.	..	1.94	..	0.90	1.04	..	..	..
5. Link lines to Singarapet Korattur (SC).	..	0.75	..	0.75	..	..	..	..
6. Looping in and Looping out of S.P. koil-Korattur line at Kadaperi.	..	0.19	..	..	..	0.19	..	..
7. Looping in and looping out of Madurai-Sabari giri line at Madurai switching station.	..	0.24	..	..	..	..	0.24	..

TABLE 17. VI—contd.

B. NEW SCHEMES.	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
a. 400 KV.									
1 Neyveli-Salem (SC) ..	160	..	..	Sy. 100	S.S. 100	T.E. 50	T.E. 25	84-85	..
2 Salem-Udumalpet (SC)	158	..	S.S. 100 T.E. 25	T.E. 75	Stg. 25	Stg. 25	—	84-85	..
3 Neyveli-Madras (SC) ..	250	..	..	Sy. 100	S.S. 100 T.E. 25	T.E. 50 Stg. 25	T.E. 25 Stg. 75	84-85	..
<i>Total.</i>	<u>568</u>								
b. 230 KV.—									
1 Kayathar-Madurai (DC)	124	Sy. 100	S.S. 100 T.E. 25	T.E. 75 Stg. 100				81-82	Evacuation of Power from TTPH
2 Tuticorin-Kayathar II Ct. (SC).	52	Do.	S.S. 100	T.E. 100 Stg. 100	..	..	..	81-82	Do.
3 Kadamparai-Udumalpet (DC)	34	..	Sy. 100	S.S. 50	..	..	—	81-82	Evacuation of power from Kadamparai P.H..
4 Looping in and Looping out of Madurai-Thudiyalur (SC) line at Kadambarai and Udumalpet.	40	..	Sy. 100 S.S. 100	T.E. 100 Stg. 100				81-82	Evacuation of power from Kadamparai PH.
5 Link lines to Singara- pet-Korattur (SC).	25	Sy. 100	S.S. 100 T.E. 100 Stg. 100	..	..	—	—	81-81	Strengthening of power system.
6 Looping in and Looping out of S.P. koil-Korattur line at Kadaperi.	4	..	..	—	Sy. 100 S.S. 100 T.E. 100 Stg. 100	..	—	82-83	Do.
7 Looping in and Looping out of Madurai-Sabarigiri line at Madurai switching station.	5	..	..	..	Sy. 100	S.S. 100 T.E. 100 Stg. 100		83-84	Do.

TABLE 17. VI—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8. Looping in and looping out of Madurai-Tuticorin line at Madurai switching station.	--	0.24	--	--	0.24	..	..	..
9. Looping in and looping out of one of the two circuits of Ennore-Korattur (DC) line at Tondiarpet.	..	0.24	--	--	--	0.24	..	..
10. Salem 400 KV Auto SS-Salem 230 KV SS two link feeders.	..	0.39	--	..	..	..	..	0.39
11. Udumalpet 400 KV Auto SS-Udumalpet 230 KV Auto SS 2 link feeder (DC).	..	0.24	..	..	..	..	..	0.24
12. Kalpakkam- S. P. Koil III Circuit.	..	0.98	--	..	..	..	0.60	0.38
13. Rerouting of Madurai Thudiyalur line to Madurai switching Station.	..	0.22	..	..	..	..	0.22	
14. Rerouting of existing Madurai-Trichy line to Madurai switching station.	..	0.22	--	--	--	0.10	0.12	..
15. Mettur Thermal Station Mettur Auto SS (DC)	..	0.48	..	..	--	..	..	0.48
16. Mettur Thermal Station Salem (SC) line.	..	1.12	..	..	..	..	0.12	1.00

TABLE 17. VI—contd.

	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
8 Looping in and looping out of Madurai-Tuticorin line at Madurai switching Station.	5	..	..	Sy. 100 S.S. 100 T.E. 100 Stg. 100	..	..	..	81-82	Strengthening of power System.
9 Looping in and looping out of one of the two circuits of Ennore Korattur DC line at Tendiarpet.	5	..	..	Sy. 100 S.S. 25	S.S. 75 T.E. 100 Stg. 100	..	..	82-83	Do.
10 Salem 400 KV Auto SS—Salem 230 KV S.S. two link feeders.	8	..	..	..	..	Sy. 100	S.S. 100 T.E. 100 Stg. 100	1984-85	Do.
11 Udumalpet 400 KV Auto S. S.-Udumalpet 230 KV Auto S.S. 2 link feeder D.C.	5	..	..	..	..	Sy. 100	S.S. 100 T.E. 100 Stg. 100	1984-85	..
12 Kalpakkam. S.P. koil III Circuit.	35	..	..	..	Sy. 100	S.S. 100 T.E. 100 Stg. 100	..	1983-84	..
13 Rerouting of Madurai Thudiyalur line to Madurai Switching Station	8	..	..	..	Sy. 100 S.S. 25	S.S. 75 T.E. 100 Stg. 100	..	1983-84	..
14 Rerouting of existing Madurai-Trichy line to Madurai switching station.	8	..	..	Sy. 100	S.S. 100 T.E. 100 Stg. 100	..	..	1982-83	..
15 Mettur Thermal Station Mettur Auto S.S. (D.C.)	10	..	..	..	..	Sy. 100 S.S. 25	S.S. 75 T.E. 100 Stg. 100	1984-85	..
16 Mettur Thermal Station Salem SC line.	40	..	..	..	..	Sy. 100 S.S. 50	S.S. 50 T.E. 100 Stg. 100	1984-85	..

TABLE 17-VI—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17 Tiruchy-Udumalpet (SC)	..	4.48	.	1.50	2.98	..	..	..
18 Ingur-Udumalpet (SC)	2.10	..	..	1.10	1.10	..	..
19 Karaikudi-Tiruchy (SC)	2.10	..	..	0.50	1.00	0.60	..
20 Villupuram-Arni (SC)	1.96	..	..	1.00	0.96	..	..
21 Loop-in and loop-out of Kerala feeder at Theni for a 230 KV Auto SS close to Theni	..	0.96	..	..	0.60	0.35	..	..
22 Loop-in and loop-out of Tiruchy-Naveli line near about Perambur for a 230 KV Auto S.S.	..	0.72	..	..	..	0.20	0.52	..
23 Arni-Thiruvalam (SC)	1.40	..	..	..	..	0.70	0.70
Total	30.11	.	8.75	10.90	4.15	3.12	3.19

TABLE 17-VI—cont.

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
			PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.		
17 Tiruchy-Udumalpet (SC) ..	160	..	Sy.100 SS 100	TE100 Stg.100	..	-	-	81-82	Completed for VII Plan but included for this plan period due to grid operation, condition and strengthening of power system.
18 Ingur-Udumalpet (SC) ..	75	..	..	Sy.100 SS-50	SS50 TE100 Stg.100	-	-	82-83	Do.
19 Karaikudi-Tiruchy (SC) .	75	.	.	.	Sy.100 SS.50	SS50 TE100 Stg100	..	83-84	Do.
20 Villupuram-Arni (SC) .	70	..	..	Sy.10 SS.50	SS.50 TE 100 Stg. 100	-	-	82-83	Do.
21 Loop in and loop out of Kerala feeder at Theni for a 230 KV. Auto S.S. close to Theni.	20	..	..	..	Sy.100	SS.100 TE.100 Stg.100	..	83-84	Do.
22 Loop in and loop out of Tiruchy-Neyveli line near about Perambur for a 230 KV. Auto S.S.	15	.	.	..	Sy.100 S.S.100	TE.100 Stg.100	..	83-84	Do.
23 Arni-Thiruvalam (SC)	50	..	.	..	.	Sy.100 S.S.100	TE.100 Stg.100	84-85	....
Total	873								

TABLE 17-VI—cont.

C I	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Inter State.</i>								
587C-6-24A	Idukki-Udumalpet Scheme . . .	..	3.58	0.42	0.02	0.14	..	..	..
	110 KV. lines as a whole . . .	-	22.95	..	4.43	6.96	7.18	3.33	1.05
	66 KV. lines as a whole . . .	..	3.10	..	1.48	0.60	0.73	0.29	..
	II. SUB-STATIONS CONTINUING SCHEMES.								
	(a) 400 KV.								
	(b) 230 KV.								
	1 Tuticorin . . .	0.63	1.77	1.77	.	.	..	..	..
	2 Karaikudi .. .	1.63	1.69	1.27	0.38	0.12	..	.	..
	3 Tiruvarur .. .	1.61	1.46	0.98	0.48	..	-	-	..
	4 Villupuram . . .	1.81	1.88	0.36	1.00	0.52	..	.	..
	5 Ingur . . .	1.71	1.84	0.26	1.00	0.64	.	-	..
	6 Arni . . .	1.50	1.50	0.12	0.52	0.86	.	..	..
				

TABLE 17-VI—cont.

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.		
<i>Inter -State.</i>									
Idukki-Udumalpet Scheme ..	30	..	..	..	..	..	..	..	..
110 KV. lines as a whole ..	1,321	..	..	..	..	..	..	..	....
66 KV. lines as a whole ..	319	..	..	..	..	..	..	..	....
II. SUB-STATIONS CONTINUING SCHEMES.									
<i>(a) 400 KV.</i>									
<i>(b) 230 KV.</i>									
1 Tuticorin .. ..	..	..	..	..	..	..	..	..	Completed.
2 Karaikudi .. ..	..	CW.90	CW.10 SW.50 SG.100 TE.50	TE. 15	..	..	..	80-81	....
3 Tiruvarur .. ..	..	CW.90 SW.75	CW.10 SW.25 SG.100 TE.50	TE.50	..	..	..	80-81	....
4 Villupuram .. ..	..	CW.50	CW.50 SG.50 TE. 50	SG.50 TE.50	..	..	..	80-81	....
5 Ingur .. ..	..	CW.80 SW.75	CW.20 SW.25 SG.50 TE.50	SG.50 TE.50	..	..	..	80-81	....
6 Arni .. ..	..	CW.20	CW.80 SW.50 SG. 50 TE.50	SW.50 SG. 50 TE.50	..	..	..	81-82	....

TABLE 17-VI—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7 Udumalpet	..	4-91	0-20	1-40	1-15	1-16	1-00	..
8 Extension at Kundah	..	0-12	0-11	0-05	..	..	..	..
9 Extension at Mettur	..	0-12	0-11	0-03	..	..	..	..
10 Extension at Neyveli	..	0-11	0-11	0-01	..	..	..	..
11 Extension at Korattur	..	0-11	0-20	0-01	..	..	..	..
Total	..	15-58	5-00	5-13	3-29	1-16	1-00	..
c. 110 KV. SS. as a whole (22 Nos.).	..	8-09	..	2-60	0-50	..	..	..
d. 66 KV. SS. as a whole (4 Nos.).	—	1-08	—	0-17	0-25	..	..	..
CW.—Civil Works.	SW.—Structure Erection.	SG.—Switch gear works.	TE.—Transformer Erection.					

TABLE 17-VI—cont.

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		PFR CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.		
7 Udumalpet	CW.50	CW.50 SW.50	SW.50 SG.25	SG.75 TE.50	TE.50	..	83-84	....
8 Extension at Kundah	CW.100 SW.100	SS.100 TE.100	..	..	..	..	80-81	....
9 Extension at Mettur	SW.100	SG.100	..	..	..	..	80-81	....
10 Extension at Neyveli	SW.100 SG.100	..	..	..	..	80-81	....
11 Extension at Korattur	SW. 100 SG.100	..	..	..	..	80 81	....

Total

c. 110 KV. SS. as a whole (22 Nos.).

d. 66 KV. SS. as a whole (4 Nos.).

TABLE 17. VI—cont.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>B. New Schemes :</i>									
<i>(a) 400 KV</i>									
1. Madras ..	—	—	8.45	..	0.10	0.40	2.50	2.50	2.95
2. Salem	8.20	..	..	1.10	1.50	3.50	2.10
3. Udumalpet	—	—	7.53	..	..	0.25	1.50	2.00	3.78
Total	—	..	24.18	..	0.10	1.75	5.50	8.00	8.83
<i>(b) 230 KV</i>									
1. Tondiarpet (instead Red Hills).	2.75	..	0.1	1.00	1.65	..	..
2. Kadaperi	2.78	..	0.10	0.40	1.00	1.28	..
3. Madurai switching station.	2.17	..	..	0.25	1.92	..	..
4. Theni Auto S.S.	2.75	..	..	..	0.50	1.00	1.25
5. Perambalur Auto S.S.	2.75	..	..	0.50	1.00	1.25	..

TABLE 17-VI—cont.

(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)		
			(PER CENT)	(PER CENT)	(PER CENT)	(PER CENT)	(PER CENT)				
<i>B. New schemes :</i>											
a. 400 KV—											
1. Madras	CW100 SW50	SW50 SG100 TE100	1984-85	..		
2. Salem	CW50	CW50 SG100	TE100	1984-85	..		
3. Udumalpet	CW50	CW50	SW25	SW75 SG100 TE100	1984-85	..		
Total ..											
b. 230 KV—											
1. Tondiarpet (instead of Red Hills)	CW100	SW100 SG50	SG50 TE100	1982-83
2. Kadaperi	CW100	SW100 SG100	TE100	1982-83
3. Madurai Switching Station	CW50	CW50 SW100 SG100	—	—	—	1981-82		
4. Theni Auto S.S.	CW100	SW100 SG100 TE50	TE50	1983-84	Contemplated for VII Plan but included for the plan period due to grid operation condition.	
5. Perambalur Auto S.S.	CW100 SW25	SW75 SG100 TE00	..	1983-84	Do.	

TABLE 17.VI—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
230 KV in Extension in existing S.S.—cont.								
6. Tuticorin Thermal Power Project.	..	0.22	..	0.31	0.31	..	..	..
7. Kayathar 3 Nos.	..	0.66	..	0.33	0.33	..	..	..
8. S. P. Koil	..	0.22	..	..	..	..	0.22	..
9. Kalpakkam	..	0.22	..	..	..	..	0.22	..
10. Ennore Thermal Station Station.	..	0.22	..	..	..	0.22	..	..
11. Salem 2 Nos.	..	0.44	..	..	..	..	..	0.44
12. Extension at Trichirappalli 2 Nos.	..	0.44	..	..	..	0.22	0.22	..
13. Extension at Karaikudi	..	0.22	..	..	..	0.22	..	..
14. Extension at Ingur	..	0.22	..	..	0.22	..	..	..
15. Extension at Villupuram	..	0.22	..	..	..	0.22	..	..
16. Gobichettipalayam	..	3.25	..	..	..	..	1.65	1.60
17. Hosur	..	3.25	..	..	..	..	1.65	1.60
Total	22.78	..	0.64	2.81	6.95	7.49	4.89
c. 110 KV SS as a whole (60 Nos).	..	48.00	..	9.56	9.81	9.59	10.62	8.42
d. 66 KV SS as a whole (17 Nos).	..	6.75	..	1.00	1.21	1.64	2.06	0.84

TABLE 17-VI—cont.									
(1)—cont.	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
230 KV Extension in existing	S.S.—		PERCENT	PERCENT	PERCENT	PERCENT			
6. Tuticorin Thermal Power Project.	SG50 SW50	SW50 SG50	..	..	..	1981-82	....
7. Kayathar 3 Nos.	SG50 SW50	SW50 SG50	..	..	..	1981-82	....
8. S. P. Koil	SW100 SG100	..	1983-84	....
9. Kalpakkam	SW100 SG100	..	1983-84	....
10. Ennore Thermal Station.	SW100	SG100	1984-85	....
11. Salem 2 Nos.	1984-85	....
12. Extension at Trichirappalli 2 Nos.				SW100	SG100	1983-84	{ Contemplated for seventh Plan but included for the plan period due to grid operation condition.
13. Extension at Karaikudi	SW100	SG100	..	1983-84	
14. Extension at Ingur	SW50	SW50 SG100	..	..	1982-83	
15. Extension at Villupuram	SW100	SG100	..	..	1982-83	Do.
16. Gobichettipalayam	CW100 SW50	SW50 SG100	1984-85	Do.
17. Hosur	CW100 SW50	SW50 SG100	1984-85	Do.

TABLE 17-VII.

TRANSMISSION AND DISTRIBUTION PROGRAMME FOR REDUCING LOSSES.

EXPENDITURE ON EQUIPMENTS AND WORKS INCURRED FOR REDUCING TRANSMISSION LOSSES.

(RUPEES IN LAKHS)

1979-80.		1980-81.		1981-82.		1982-83.		1983-84.		1984-85.	
<i>Actual.</i>	<i>Percentage of losses.</i>	<i>Estimate.</i>	<i>Percentage of losses.</i>	<i>Estimate.</i>	<i>Percentage of losses.</i>	<i>Estimate.</i>	<i>Percentage of losses.</i>	<i>Estimate.</i>	<i>Percentage of losses.</i>	<i>Estimate.</i>	<i>Percentage of losses.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
329.87	18.40	2,000	18.35	2,400	18.30	2,800	18.25	3,100	18.20	8,300	18.15

Measures of Improvement—

1. Based on computer studies action has been initiated to procure 250 MVAR of synchronous condensers (10 Nos. 25 MVAR each) and 220 MVAR of HT shunt capacitors.
2. 39,000 Nos. L.T. shunt capacitors totalling 63 MVAR have been erected as on 31st March 1980 across the consumers installation.
3. Another 35,250 Nos. (1 to 5 KVAR) LT shunt capacitors totalling 61.8 MVAR have been ordered during 1978-79 and supplied.
4. 17 Nos. REC SS schemes costing Rs. 434 lakhs and 19 Nos. 'SI' schemes costing Rs. 1,255 lakhs are under execution as on 31st March 1980 to reduce the losses.
5. System wise line loss study has been taken up by providing metering equipment in all the HT feeders and in suspected LT distributions to determine the actual quantum and pattern of losses.
6. Erection of sub-stations and lines under normal programme/Master Plan, subject to availability of funds.
7. Execution of HT and LT improvements in a planned manner with a separate allotment of funds.
8. Number of shunt capacitors ordered during 1979-80—NIL.

TABLE 17-VIII.

RURAL ELECTRIFICATION PROGRAMME.

(For pumpset energisation, village electrification and service connections).

Physical programme/achievement.	During 1979-80.	Cumulative progress upto 31st March 1980 (Provi- sional).	Number of pumpsets/Tube wells energised during.					Remarks.
			1980-81 (Target).	1981-82 (Estimate).	1982-83 (Estimate).	1983-84 (Estimate.)	1984-85 (Estimate).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(a) Programme of pump-sets/Tube wells energisa- tion under—								
(i) Normal state plan funds (for Rural Electrifi- cation).	33,187	8,12,535	19,000	19,000	19,000	19,000	19,000	Progress for 1980-81 tenta- tive.
(ii) REC normal programme	13,171	65,460	11,000	11,000	11,000	11,000	11,000	..
(iii) MNP								Programme from 1981-82 onwards assumed to be same as for 1980-81.
(iv) DPAP/SFDA/MFLA *								Target for 1980-81—1984-85 reduced from 50,000 to 40,000 due to the price hike and shortage of raw materials like steel, cement, etc.
(v) Tribal/Hill area plan *								
(vi) Service connections under normal distribution .. .. .	..	..	..	..	..	..	..	..
(vii) Institutional finances like IDA/ARDC/LDB/ commercial banks/OCB *	312	9,232 (included in normal).	..	..	..	..	..	..
(viii) Other sources (like consumer deposits scheme etc. (Please specify source). .. .. .	..	..	..	..	..	..	..	..
(ix) Total (i) to (viii)	46,670	8,87,227	30,000	30,000	30,000	30,000	30,000	..
(x) Total by end of the year .. .. .	..	8,87,227	9,17,227	8,47,227	9,77,227	10,07,227	10,37,227	..

TABLE 17-VIII—cont.

Physical Programme Achievement.	During 1979-80.	Cumulative progress up to 31-3-80 (provisional).	Number of pumpsets/Tube wells energised during					Remarks																														
			1980-81 (Target).	1981-82 (Estimate).	1982-83 (Estimate).	1983-84 (Estimate).	1984-85 (Estimate).																															
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)																														
b. Village electrification under (Nos).	125 Nos. census villages will remain to be electrified after 31st March 1981. These Villages are located in Tribal area and will be electrified subject to funds made available by the State Government from the tribal sub-plan. Targets can be fixed after a decision by Government.																																	
(i) Normal State Plan	15,528																														
(ii) REC Programme	50																														
(iii) MNP																														
(iv) DPAP/SFDA/MFLA*																														
(v) Tribal/Hill area Plan*	22	10																														
(vi) Normal distribution programme																														
(vii) Institutional finances like ARDC/LDB/CB/CCB*																														
(viii) Other sources like consumer deposits, etc. (Please specify source).	<table border="1"> <thead> <tr> <th></th> <th>Total No. existing.</th> <th>During 1979-80.</th> <th>Electrified as on 31-3-80</th> <th>Balance.</th> </tr> </thead> <tbody> <tr> <td>Towns ..</td> <td>439</td> <td>..</td> <td>439</td> <td>..</td> </tr> <tr> <td>Villages ..</td> <td>15,735</td> <td>25</td> <td>15,550</td> <td>185</td> </tr> <tr> <td>Hamlets ..</td> <td>47,870</td> <td>8</td> <td>47,439</td> <td>431</td> </tr> <tr> <td>Total ..</td> <td>64,044</td> <td>33</td> <td>63,428</td> <td>616</td> </tr> <tr> <td>H.C. ..</td> <td>25,526</td> <td>127</td> <td>25,526</td> <td>..</td> </tr> </tbody> </table>					Total No. existing.	During 1979-80.	Electrified as on 31-3-80	Balance.	Towns ..	439	..	439	..	Villages ..	15,735	25	15,550	185	Hamlets ..	47,870	8	47,439	431	Total ..	64,044	33	63,428	616	H.C. ..	25,526	127	25,526	..
	Total No. existing.	During 1979-80.	Electrified as on 31-3-80	Balance.																																		
Towns ..	439	..	439	..																																		
Villages ..	15,735	25	15,550	185																																		
Hamlets ..	47,870	8	47,439	431																																		
Total ..	64,044	33	63,428	616																																		
H.C. ..	25,526	127	25,526	..																																		
(ix) Total (i to Viii)	15,550	60																														
(x) Total by end of the year	15,550	15,610																														
(xi) Rural population benefited according to 1971 census by end of year (in lakhs).	286.52																														
c. End benefits by end of the year	All the 25,526 Nos. existing H.Cs. were electrified as on 31st March 1979. In-addition to this 127 Nos. newly sprung up Harijan colonies were electrified during 1979-80. All the newly sprung up HCs. will be electrified as and when the applications are received from the Panchayats.																																	
1. Small Industries (L. T. Indl).	1.64 Lakhs																														
a. No. of connections																														
b. Connected Load (MW)	894																														
2. Domestic and Commercial services (Nos.)	2.72 lakhs																														
3. Street lights (Nos.)	0.39 lakhs																														
4. Other rural connections (Nos.)	16,676																														
5. Harijan Bastis in Nos.																														

TABLE 17-IX.

STATE : TAMIL NADU.

RURAL ELECTRIFICATION.

Financial Allocation Expenditure on rural electrification

<i>Programme.</i>	1980-81 (Approved).	1981-82	1982-83 (Proposed).	1983-84 (Estimate).	1984-85 (Estimate).	1980-85 Total for 5 years.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN CRORES.)					
a. Outlay within the normal State Plan for RE works (approved by Planning Commission).	21.50	28.50	35.00	40.00	45.00	170.00
b. (i) REC normal loans (approved by Planning Commission).	3.03	3.00	3.00	4.50	4.50	22.53
(ii) Outside Plan (SPA Schemes)	1.50	1.50	1.50			
c. DPAP/SFDA/MFLA/MNP .. .. .	..	..	..	..	..	..
d. Tribal/Hill Area Plans	0.60	0.60	0.60	0.60	0.60	3.00
e. Funds utilised for RE Works from within the provision under normal development, sub-transmission and distribution.	..	..	..	..	..	..
f. Institutional finance from ARDC/LDB/CB/CCB	..	..	..	..	..	..
g. Other sources like consumers' deposit scheme etc. (Please specify source in each case) subsidy from State Government for Harijan Colonies electrification.	..	..	..	..	..	..
Total—(a to g) ..	26.63	33.60	40.10	45.10	50.10	195.53
Limited to ..	21.50	28.50	35.00	40.00	45.00	170.00*

Excluding REC and other institutional finances.

Assumption: REC loan and tribal plan for 1981-82 onwards will be at the same level as 1980-81.

TABLE 17-X.
INVESTIGATION AND SURVEYS.

STATE : TAMIL NADU.

Serial number and Schemes under investigation.	Outlay.					Total. 1980-85
	1980-81	1981-82	1982-83	1983-84	1984-85	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
				(Rupees in lakhs.)		
1 Chinnar-Chittar Diversion Project .. ..	..	3.00	1.00	..	..	4.00
2 Kundah ultimate stg. H.E. Project	3.67	8.00	5.00	5.00	3.00	24.67
3 Pykara ultimate stg. H.E. Project	5.00	2.00	..	..	..	7.00
4 Lower Moyar H. E. Project	0.83	1.00	1.00	1.00	1.00	4.83
5 Upper Nirar H.E. Project	1.67	5.00	5.00	4.00	3.00	18.67
6 Kundah Additional Diversion Project	5.33	8.33	6.67	6.00	3.00	27.33
7 Koniar H. E. Project	1.67	1.67	1.00	1.00	1.00	6.34
8 Nirar-Nallar Diversion H.E. Project	3.33	6.67	5.00	4.00	1.00	20.00
9 Valar Pumped Storage Project .. ..	..	..	..	2.00	2.00	4.00
0 Upper Pandiyar H.E. Project	2.50	3.33	5.00	..	..	10.83
1 Hogenakkal H. E. Project .. ..	..	5.00	13.33	..	..	18.33
2 Mettur Thermal Power Station	4.00	..	..	..	..	4.00
3 North Madras Thermal Power Station	4.00	2.00	..	..	..	6.00
Total ..	30.00	46.00	43.00	23.00	14.00	156.00

Note.— Cost estimate for investigation not prepared schemewise.

TABLE 17-XI.

POWER : MAN POWER PLANNING AND REQUIREMENTS.

STATE : TAMIL NADU

Category/Type of skill.	Man power required during construction.		1980-81		1981-82	
	Peak requirement.	No. in position as on 31-3-80.	Number required.	No. required during operation and maintenance.	No-required for construction.	No-required for O and M.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Pandiar Pundapuzha (100 MW).—						
1 Technical	118	..	47	..	94	..
2 Non-Technical	50	..	20	..	40	..
3 Skilled and Semi skilled	750	..	300	..	600	..
4 Unskilled	500	..	200	..	400	..
Total ..	1418	..	567	..	1,134	..
2. Nellithurai (50 MW)—						
1 Technical	118	..	..	..	47	..
2 Non-Technical	50	..	..	..	20	..
3 Skilled and Semi skilled	750	..	..	..	300	..
4 Unskilled	500	..	..	..	200	..
Total ..	1,418	..	..	..	567	..
3. Lower Mettur H.B. P. (120 MW)						
1 Technical	150	..	135	..	135	..
2 Non-Technical	150	..	150	..	150	..
3 Skilled and Semi skilled	1,000	..	1,000	..	1,000	..
4 Unskilled	2,000	..	1,700	..	1,700	..
Total ..	3,300	..	2,985	..	2,985	..
4. Mettur Thermal (2X 210 MW)—						
1 Technical	355	..	170	..	245	..
2 Non-Technical	321	..	160	..	225	..
3 Skilled and Semi-skilled	2,600	..	1,300	..	1,800	..
4 Unskilled	1,440	..	700	..	1,000	..
Total ..	4,716	..	2,330	..	3,370	..

TABLE 17- XI—cont.
POWER : MAN POWER PLANNING AND REQUIREMENTS.

STATE : TAMIL NADU

Category/Type of skill.	1982-83		1983-84		1984-85		Remarks.
	No- required for construc- tion (8)	No- required for O and M. (9)	No- required for construc- tion. (10)	No- required for O and M. (11)	No- required for construc- tion. (12)	No- required for O and M. (13)		(14)
<i>Pandiar Punnampuzha (100 MW)—</i>							
1 Technical	94	..	94	..	118	..	
2 Non-Technical	40	..	40	..	50	..	
3 Skilled and Semi skilled	600	..	600	..	750	..	
4 Unskilled	400	..	400	..	500	..	
Total ..	<u>1,134</u>	..	<u>1,134</u>	..	<u>1,418</u>	..	
<i>Nellithorai (50 MW)—</i>							
1 Technical	94	..	94	..	118	..	
2 Non-Technical	40	..	40	..	50	..	
3 Skilled and Semi skilled	600	..	600	..	750	..	
4 Unskilled	400	..	400	..	500	..	
Total ..	<u>1,134</u>	..	<u>1,134</u>	..	<u>1,418</u>	..	
<i>Lower Mettur H.E.P. (120 MW)—</i>							
1 Technical	150	..	..	47	..	47	
2 Non-Technical	150	..	..	30	..	30	
3 Skilled and Semi skilled	1,000	..	..	144	..	144	
4 Unskilled	2,000	..	..	100	..	100	
Total ..	<u>3,300</u>	..	..	<u>321</u>	..	<u>321</u>	
<i>Mettur Thermal (2 X 210 MW)—</i>							
1 Technical	355	..	355	..	320	192	
2 Non-Technical	321	..	321	..	295		
3 Skilled and Semi skilled	2,600	..	2,600	..	2,300	550	
4 Unskilled	1,440	..	1,440	..	1,300		
Total ..	<u>4,716</u>	..	<u>4,716</u>	..	<u>4,215</u>	<u>742</u>	

TABLE 17. XI—cont.

POWER—cont.

Category/Type of skill.	Man power required during construction.		1980-81		1981-82	
	Peak requirement.	No-inposition as on 31-3-80	Number required.	No-required, during operation and maintenance.	No-required for construction.	No-required for O and M.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
5. Upper Amaravathi (30 MW)—						
1 Technical	61	..	26	..	61	..
2 Non-Technical	24	..	10	..	24	..
3 Skilled and Semi-skilled	420	..	180	..	420	..
4 Unskilled	280	..	120	..	280	..
Total ..	785	..	336	..	785	..
6. Shanmuga Nathi (30 MW)—						
1 Technical	61	..	26	..	61	..
2 Non-Technical	24	..	10	..	24	..
3 Skilled and Semi-skilled	420	..	180	..	420	..
4 Unskilled	280	..	120	..	280	..
Total ..	785	..	336	..	785	..
7. Parsons Valley (20 MW)—						
1 Technical	40	..	16	..	33	..
2 Non-Technical	20	..	8	..	15	..
3 Skilled and Semi-skilled	300	..	120	..	240	..
4 Unskilled	200	..	80	..	160	..
Total ..	560	..	224	..	448	..
8. Kundah Additional Unit at PH V (20 MW)—						
1 Technical	51	..	51	..	51	..
2. Non-technical	25	..	25	..	25	..
3. Skilled and Semi-skilled.. .. .	30	..	30	..	30	..
4. Unskilled	20	..	20	..	20	..
Total ..	126	..	126	..	126	..

TABLE 17-XI—cont.

Power—cont.

Category/Type of skill.	1982-83		1983-84		1984-85		Remarks.
	No- required for construc- tion.	No- required for O and M.	No- required for construc- tion.	No- required for O and M.	No- required for construc- tion.	No- required for O and M.	
(1)	(8)	* (9)	(10)	(11)	(12)	(13)	(14)
<i>Upper Amaravathi (30 MW)—</i>							
1 Technical	61	..	61	..	26	13	..
2 Non-Technical	24	..	24	..	10	15	..
3 Skilled and Semi-skilled	420	..	420	..	180	12	..
4 Unskilled	280	..	280	..	120	8	..
Total ..	785	..	785	..	336	48	..
<i>Shanmuganathi (30 MW)—</i>							
1 Technical	61	..	61	..	26	13	..
2 Non-Technical	24	..	24	..	10	15	..
3 Skilled and Semi-skilled	420	..	420	..	180	12	..
4 Unskilled	280	..	280	..	120	8	..
Total ..	785	..	785	..	336	48	..
<i>Parsans Valley (20 MW)—</i>							
1 Technical	40	..	33	13	..	13	..
2 Non-technical	20	..	15	15	..	15	..
3 Skilled and Semi-skilled	300	..	240	12	..	12	..
4 Unskilled	200	..	160	8	..	8	..
Total ..	560	..	448	48	..	48	..
<i>Kundah Additional Unit at PH V (20 MW)—</i>							
1 Technical	No additional operating staff required, since it is only an additional unit.						
2 Non-technical							
3 Skilled and Semi-skilled							
4 Unskilled							

TABLE 17-XI—cont.

Category/Type of skill.	Man power required during construction.		1980-81		1981-82	
	Peck requirement.	No-inposition as on 31-3-80.	Number required.	No-required during operation and maintenance.	No-required for construction.	No-required for O and M.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
9. North Madras (3X210 MW)						
1. Technical	355	..	..	..	..	..
2. Non-technical	321	..	..	..	..	..
3. Skilled and Semiskilled	2,600	..	..	..	..	..
4. Unskilled	1,440	..	..	..	..	..
Total ..	4,716	..	..	..	..	..
10. New Thermal Station Near BBPH (2X60 MW)						
1. Technical	213	..	..	..	..	..
2. Non-technical	200	..	..	..	..	..
3. Skilled and Semi-skilled	1,560	..	..	..	..	..
4. Unskilled	864	..	..	..	..	..
Total ..	2,837	..	..	..	..	..
11. Cholathipuzha (60 MW)						
1. Technical	118	..	..	..	..	..
2. Non-technical	50	..	..	..	..	..
3. Skilled and Semiskilled	750	..	..	..	..	..
4. Unskilled	500	..	..	..	..	..
Total ..	1,418	..	..	..	..	..
12. Akkamalai (25 MW)						
1. Technical	66	..	..	..	..	..
2. Non-technical	25	..	..	..	..	..
3. Skilled and Semi-skilled	450	..	..	..	..	..
4. Unskilled	300	..	..	..	..	..
Total ..	841	..	..	..	..	..

TABLE 17-XI—cont.

STATE : TAMIL NADU

POWER: MAN POWER PLANNING AND REQUIREMENTS.

Category/Type of skill. (1)	1982-83		1983-84		1984-85		Remarks. (14)
	No- required for construc- tion. (8)	No- required for O and M (9)	No- required for construc- tion. (10)	No- required for O and M (11)	No- required for construc- tion. (12)	No- required for O. and M. (13)	
North Madras (3 x 210 MW)—							
1. Technical	170	..	245	..	355	..	..
2. Non-technical	160	..	225	..	321	..	..
3. Skilled and Semi-skilled..	1,300	..	1,800	..	2,600	..	..
4. Unskilled	700	..	1,000	..	1,440	..	..
Total ..	2,330	..	3,370	..	4,716	..	..
New Thermal Station near BBPH (2x60 MW)—							
1. Technical .. .. .	..	..	..	..	100	..	..
2. Non-technical .. .. .	..	..	..	..	100	..	..
3. Skilled and Semi-skilled	..	..	..	..	800	..	..
4. Unskilled .. .. .	..	..	..	..	420	..	..
Total ..	..	..	..	..	1,420	..	..
Cholathipuzha (60 MW)—							
1. Technical	47	..	94	..	94	..	..
2. Non-technical	20	..	40	..	40	..	..
3. Skilled and Semi-skilled..	300	..	600	..	600	..	..
4. Unskilled	200	..	400	..	400	..	..
Total ..	567	..	1,134	..	1,134	..	..
Akkamalai (25 MW)—							
1. Technical	26	..	52	..	52	..	..
2. Non-technical	10	..	20	..	20	..	..
3. Skilled and Semi-skilled	180	..	360	..	360	..	..
4. Unskilled	120	..	240	..	240	..	..
Total ..	336	..	672	..	672	..	:

TABLE 17-XI—cont.

POWER : MAN POWER PLANNING AND REQUIREMENTS.

STATE : TAMIL NADU

Category/Type of skill.	Man power required during construction.		1980-81		1981-82	
	Peak requirement.	No-inposition as on 31-3-80.	Number required.	No.required during operation and maintenance.	No. required for construction.	No-required for O and M.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
13. Chinnar Chittar (19 mu)—						
1. Technical	51	..	..	..	24	..
2. Non-technical	25	..	..	..	14	..
3. Skilled and Semi-skilled ..	60	..	..	..	30	..
4. Unskilled	200	..	..	..	100	..
Total ..	336	..	..	..	178	..
14. Pykara Dam Micro Hydel (2 MW)—						
1. Technical :	34	..	..	..	..	..
2. Non-technical	22	..	..	..	..	..
3. Skilled and Semi-skilled ..	60	..	..	..	..	..
4. Unskilled	40	..	..	..	..	..
Total ..	156	..	..	..	..	..
15. Vaigai Dam Micro Hydel (6 MW)—						
1. Technical	51	..	..	..	34	..
2. Non-technical	25	..	..	..	14	..
3. Skilled and Semi-skilled ..	60	..	..	..	30	..
4. Unskilled	40	..	..	..	20	..
Total ..	176	..	..	..	98	..
16. Upper Thambaraparani (165 MW)—						
1. Technical .. .. .	..	..	..	..	28	..
2. Non-technical .. .. .	..	..	..	..	12	..
3. Skilled and Semi-skilled ..	..	..	..	..	320	..
4. Unskilled .. .. .	..	..	..	..	..	..
Total ..	..	..	..	..	360	..

TABLE 17-XI—cont.

Category/Type of skill.	1982-83		1983-84		1984-85		Remarks.
	No. required for construction.	No. required for O and M.	No. required for construction.	No. required for O and M.	No. required for construction.	No. required for O and M.	
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
3. Chinnar Chittar (19 mu)—							
1. Technical	51	..	12	..	..	..	..
2. Non-technical	25	..	11	..	..	..	..
3. Skilled and Semi-skilled.. .. .	60	..	10	..	..	..	..
4. Unskilled	200	..	..	..	..	..	..
Total ..	336	..	33	..	..	..	..
4. Pykara Dam Micro Hydel (2 MW)—							
1. Technical	17	..	34	..	34	..	Remote control P.H.
2. Non-technical	11	..	22	..	22	..	No operating staff required.
3. Skilled and Semi-skilled	30	..	60	..	60	..	..
4. Unskilled	20	..	40	..	40	..	..
Total ..	78	..	156	..	156	..	..
5. Vaigai Dam Micro Hydel (6 MW)—							
1. Technical	51	..	51	..	..	..	Remote control P.H.
2. Non-technical	25	..	25	..	..	..	No operating staff required.
3. Skilled and Semi-skilled	60	..	60	..	..	..	..
4. Unskilled	40	..	40	..	..	..	..
Total ..	176	..	176	..	..	..	..
6. Upper Thambaraparani (165 MW)—							
1. Technical*	53	..	66	..	66	..	..
2. Non-technical	24	..	24	..	2	..	..
3. Skilled and Semi-skilled	640	..	800	..	800	..	..
4. Unskilled .. .. .	..	..	..	..	..	..	..
Total ..	717	..	890	..	898	..	..

TABLE 17-XI—cont.

Category/Type of skill.	Man power required during construction.		1980-81		1981-82	
	Peak requirement.	No imposition as on 31-3-80.	Number required.	No required during operation and maintenance.	No required for construction.	No required for O and M.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
17. Manimuttar (45 MW)—						
1 Technical	40	..	..	..	..	..
2 Non-Technical	20	..	....	..	..	..
3 Skilled and Semi-skilled	500	..	..	..	..	..
4 Unskilled .. .. .	..	..	..	..	..	..
Total	560	..	..	..	..	..
18. Hogenakkal (420 MW)—						
1 Technical	272	..	..	..	..	..
2 Non-Technical	344	..	..	..	..	..
3 Skilled and Semi-skilled	1,012	..	..	..	..	..
4 Unskilled	964	..	..	..	..	..
Total	2,592	..	..	..	..	..
19. Nirar Nallar (155 MW)—						
1 Technical .. .. .	..	..	..	..	..	..
2 Non-Technical .. .. .	..	..	..	..	..	..
3 Skilled and Semi-skilled .. .. .	..	..	..	..	..	..
4 Unskilled .. .. .	..	..	..	..	..	..
Total .. .. .	..	..	..	..	..	..
20. Upper Nirar (30 MW)—						
1 Technical .. .. .	..	..	..	..	..	..
2 Non-Technical .. .. .	..	..	..	..	..	..
3 Skilled and Semi-skilled .. .. .	..	..	..	..	..	..
4 Unskilled .. .. .	..	..	..	..	..	..
Total .. .. .	..	..	..	..	..	..

Table 17.XI *contd.*

Category/type and skill (1)— <i>cont.</i>	1982-83		1983-84		1984-85		Remarks. (14)
	No. required for construction. (8)	No. required for O and M. (9)	No. required for construction. (10)	No. required for O and M. (11)	No. required for construction. (12)	No. required for O and M. (13)	
Manimuttar (45 MW)—							
1 Technical	16	..	33	..	40	..
2 Non-Technical	8	..	15	..	20	..
3 Skilled and semiskilled	200	..	400	..	500	..
4 Unskilled
Total	224	..	448	..	560	..
Hogenakkal (420 MW)—							
1 Technical	102	..	272	..	272	..
2 Non-Technical	144	..	344	..	344	..
3 Skilled and Semiskilled	254	..	1,012	..	1,012	..
4 Unskilled	138	..	964	..	964	..
Total	638	..	2,592	..	2,592	..
Nirar Nallar (155 MW)—							
1 Technical	28	..	53	..
2 Non-Technical	12	..	24	..
3 Skilled and Semiskilled	320	..	640	..
4 Unskilled
Total	360	..	717	..
Upper Nirar (30 MW)—							
1 Technical	16	..	33	..
2 Non-Technical	8	..	15	..
3 Skilled and Semiskilled	200	..	400	..
4 Unskilled
Total	224	..	440	..

Table 17.XI—contd.

Category/type of skill	Man power required during construction		1980-81		1981-82	
	Peak requirement	No. in position as on 31-3-80	Number required	No. required during operation and maintenance.	No. required for construction	No. required for O and M.
	(2)	(3)	(4)	(5)	(6)	(7)
21. Lower Bhavani Micro Hydel (8 MW)—						
1 Technical	34	..	..	..	..	..
2 Non-Technical	22	..	..	..	..	..
3 Skilled and Semiskilled	60	..	..	..	..	..
4 Unskilled	40	..	..	..	..	..
Total ..	156	..	..	..	..	..

Category type and skill	1982-83		1983-84		1984-85		Remarks.
	No. required for construction	No. required for O and M	No. required for construction	No. required for O and M	No. required for construction	No. required for O and M	
	(8)	(9)	(10)	(11)	(12)	(13)	
21. Lower Bhavani Micro Hydel (8 MW)—							
1 Technical	17	..	34	..	34	..	Remote control P.H.
2 Non-Technical	11	..	22	..	22	..	No operating staff required.
3 Skilled and Semiskilled	30	..	60	..	60	..	..
4 Unskilled	20	..	40	..	40	..	..
Total ..	78	..	156	..	156	..	..

* N.B.—(1) Man power shown in this statement does not include contract labour.

(2) Total generation of employment potential will be less, as once the project is completed, the same man power is transferred to the new project by the Board.

(3) Categorisation of staff furnished in line with the categorisation now obtaining man power optimisation not taken into account.

CHAPTER 18.

ROADS AND BRIDGES.

18.0 The construction and maintenance of a proper road net work is one of the effective ways of promoting social and economic development of a country. Roads and Road Transport form the basic infrastructure in such a development. One of the major tasks of the country is to make the infrastructure road facility to be in harmony with the other developmental activities in different sectors like agriculture, irrigation, industries, forestry, fisheries, etc., by constructing new roads and improving the existing net work of roads.

Present position :

18.1 The length of roads in the State has more than doubled since 1961. The total length of roads, in the State in March, 1961 was 38,192 kms. and this had increased to 81,617 kms. in March 1974 and to 93,313 kms. in March 1979. The density of road km. in the Tamil Nadu per lakh of population is 249 kms. against the All India figure of 391.7 kms. per lakh of population and the intensity per hundred sq. km. area in Tamil Nadu is 78.9 kms. against the All India figure of 65.3 kms. However, much remains to be done in improving the quality of roads and also in the widening of road network, especially to cater to the needs of people in rural areas. The Table below shows the length of roads in the State by type of surface as on 31st March, 1961, 31st March, 1974, and 31st March, 1979.

Length of Roads in Tamil Nadu (in kms.)

Type of surface.	As on 31st March		
	1961.	1974.	1979.
(a) Cement concrete.	530	417	394
(b) Black topped.	12,402	25,844	31,794
(c) Water bound macadam.	16,054	23,372	24,584
(d) Unsurfaced	9,206	31,984	36,541
Total ..	38,192	81,617	93,313

18.2 It may be observed that while the length of unsurfaced roads had increased by more than 3 times, during 1961-1979, the rate of increase in the length of surfaced roads is very much less. Hence improvements to unsurfaced roads on a large-scale is necessary to make them fit for all weather traffic. About 35 per cent of the total length of roads is unsurfaced. It may, however, be noted that these unsurfaced roads which

came under the control of Panchayat Union remain neglected due to the limited resources of the Local Bodies. Further nearly 70 per cent of the population in the State live in rural areas. Both as a social objective and also to serve as a lever for economic development, distribution and extension of road net work to rural areas, would receive high priority during 1980-85. The Expert Committee set up by the Government under the Chairmanship of Thiru C.R. Pattabiraman to suggest ways for improving the working of the State Transport Corporations, have observed among other things that "the present classification of roads adopted in 1943 requires re-examination in view of urbanisation, intensity of traffic, location of several industries, etc. Upgradation of other District Roads to Major District Roads and Major District Roads to State High ways may be taken at the rate of 5 to 6 per cent for about 5 years from 1980-81 and then at the rate of 3 per cent steadily in subsequent years". In this connection, it is also to be noted that in respect of the targets set by the "Bombay Plan" for upgrading roads to next higher category, Tamil Nadu is lagging behind (vide Table below :)

Upgrading of Different classes of roads (in kms.)

Classification of Roads.	(1)	Length proposed as on 31st March 1981.	Length as on 31st March 1979.
		(2)	(3)
National Highways ..		3,220	1,865
State Highways		4,871	1,814
Major District Roads ..		20,300	13,948
Other District Roads and Village Roads.		20,648	17,569
Panchayat Union and Panchayat Roads.		20,947	58,117
Total ..		69,986	93,313

Considering these aspects, programmes for Sixth Plan 1980-85 are proposed.

Progress during the Fifth Plan :

18.3 As against a sum of Rs. 54.60 crores provided for road development during V Plan (1974-79) the expenditure incurred for the period 1974-79 was Rs. 80.90 crores, which was 48.1 per cent above the Fifth Plan provision. As

regards physical achievements, nearly 80 per cent increase in surfaced roads under State Highways and 100 per cent increase in surfaced roads under Major District Roads against the Fifth Plan target are considered to be good. The achievements in total road programmes was 63.5 per cent against the Fifth Plan target.

Schemes proposed during 1980-85 :

Development of National Highways Urban Links:

18.4. A provision of Rs. 2 crores made for works of original nature such as strengthening of the existing weak structures, widening and strengthening pavement and improvements to geometrics to meet the growing needs of traffic under this programme.

State Roads Programme (works on Government Roads):

18.5. During the Sixth Plan period (1980-85) it is proposed to upgrade other District Roads to Major District Roads and Major District Roads to State Highways at the rate of 5 to 6 per cent upto 1984-85 then at the rate of 3 per cent steadily in subsequent years. The Government maintain 35,196 kms. of roads comprising National Highways (Urban), State Highways, Major District Roads and other District Roads. Of them about 31,000 kms are black topped and 4,000 kms remain as Water Bound Macadam. Some of the roads end abruptly without a link to another road. Many streams and river crossings remain unbridged, thus interrupting traffic, several times during monsoon. Roads connecting industrial areas are found inadequate to withstand the movement of vehicles carrying heavy loads of machinery and equipment.

18.6. The value of spill over works as on 1st April 1980 was Rs. 2.08 crores and a sum of Rs. 40 crores is provided during 1980-85 to remove the existing deficiencies in the road net work such as carrying out improvements to the geometrics, strengthening pavements, replacing old and narrow bridges and providing new structures, etc., schemes sanctioned and awaiting sanction to the extent of Rs. 29.60 crores are already available. According to the present road statistics there are still 3,656 kms. of roads with metalled surface and 266 kms with unmetalled surface under other District Road and 209 kms of road with metalled surface and 17 kms. in unmetalled surface under Major District Road which remain to be taken up and improved and Black topped. The work of black topping the metalled roads and metalling the unmetalled roads would be gradually taken up.

Other Roads Programme (works on Panchayat and Panchayat Union Roads).

18.7. Works of original nature on Panchayat and Panchayat Union Roads which cost more than Rs. 50,000 are taken up for execution under this scheme so as to relieve the financial burden

on the Panchayat Unions. The roads and Bridges taken up and improved under this scheme are handed over back to the local bodies for future maintenance. A sum of Rs. 30 crores is proposed for this scheme.

Over/under Bridges:

18.8. The cost of construction of over/under bridges in lieu of existing level crossing is borne jointly by State Government and Railways and also Municipalities in the case of works falling within the Municipal limits. 14 works that were taken up under this scheme are under various stages of implementation. Of the 14, three Railway over-bridges are under execution. Four more have been included in the work programme of the Railway for the year 1980-81 but are yet to be taken up for execution. The remaining seven are under various stages of investigations. Apart from, there are not less than 20 works which require immediate consideration. The outlay proposed for the works mentioned above is Rs. 8 crores.

18.9. In addition to this, two schemes in Madras City at a cost of Rs. 3.00 crores under the World Bank Project are also under implementation.

Integrated Urban Development Programme:

18.10. The major road and bridge works within Madras City were originally carried out under the head "Metropolitan Road Development Programme" till 1976-77. From 1977-78 the development of net works within Madras City has been taken up under the Integrated Urban Development Scheme. During 1977, the Government desired the Integrated Urban Development Programme, be extended to cover Madurai and Coimbatore Metropolitan Areas. At Present 14 works are at various stages of implementation in Madras and it is proposed to take up more works in Madurai and Coimbatore. The outlay proposed is Rs. 3 crores.

Tools and Plants:

18.11. Every year there is an increase in the length of roads under massive rural development programme to open out more bus routes. It becomes necessary to increase and modernise the tools and plants which are required for maintenance and construction. A sum of Rs. 15 crores is provided mainly for the purchase of road Rollers, bitumen mixing plants and stone crushers.

Rural Roads Programme and Fair Weather Programme (Minimum Needs Programme):

18.12. It is the object of the Government to provide access to all villages however small they may be. In view of the huge cost involved, it is proposed to provide all weather roads

in the first phase to villages, having population of 1,500 and above under "Minimum Needs Programme". It is assessed that as on 1st April 1980, 1,611 villages with population 1,500 and above would require roads involving a length of 3,445 kms. Up to 31st March 1980 a total length of 3,514 kms. of roads have been taken up and completed under the scheme. Including the value of spill over schemes, a sum of Rs. 30 crores is provided for metalling of rural roads during 1980-85.

Avenues:

18.13. Plantations of avenues on road margins with a view to beautify the long stretches of roads besides giving a resting places for the road users needs to be taken up on a large scale. It is proposed to plant on a large scale several lakhs of palmyrah and other trees of timber, fuel, oil, fruit, flower values at a cost of Rs. 2 crores during the plan period.

Way side Amenities Including improvements to Travellers' Bungalows:

18.14. Provision of basic facilities such as rest sheds and motels with toilet facilities, light refreshment stalls, etc. to the crew of lorries and buses and also spare parts shops, fuel station etc. at desirable intervals on all the important Highways of this State is proposed. To make modest beginning a provision of Rs. one crore is made for 1980-85.

Tribal Area Sub-Plan:

18.15. This scheme is intended to facilitate the tribal people in remote hill areas to have link with the plains. The movement of Agricultural produce from the hills to the plains and human requirements from plain to the hills is very much handicapped for want of proper communication facilities. During the Plan 1980-85, it is proposed to implement 10 road improvement works in Tribal areas of Salem, Dharmapuri, South Arcot and Tiruchirappalli Districts covering a distance of 146 kms. at a cost of Rs. 1.49 crores. In addition to this, at the instance of the Forest Department it is proposed to open out larger areas in Kalrayan Hills for a length of 45 kms. at a cost of Rs. one crore. A sum of Rs. 7 crores is provided during 1980-85 including the value of spill over works of Rs. 0.30 crore.

Central Road Fund Works:

18.16. As per the recent guide lines, the Central Road Fund will be utilised for Research and Development Programmes, especially on such projects as would promote inter-state facilities or open up backward areas and wayside amenities, service roads for bye-passes, etc. as against works such as formation of ghat roads, construction of bridges, etc., undertaken so far. A sum of Rs. 8 crores is provided for this scheme.

Formation of feeder Roads to Fisherman Hamlets:

18.17. Due to the lack of communication facilities fishermen find it difficult to transport the fish catches to the marketing centres. The plan schemes so far had not made adequate and exclusive provision for the improvements of communication to Fishermen Hamlets. In order to provide communication to all such villages an amount of Rs. 2 crores is earmarked for this purpose. This expansion of road net work to the fisherman villages will facilitate transport of fish, the production of which is contemplated to reach per capita annual consumption to 17.58 kg. from the present standard of 7.9 kg.

Research and Development:

18.18. The Highways Research Station established in 1957 has been of great assistance in attending to investigation, testing and Research both in the field and in laboratory for the last two decades. Their expertise is being utilised by the various private and Government Institutions in the State and also by other neighbouring States. Highways Research Schemes such as fly ash utilisation, precast construction, traffic studies, structural analysis, etc., are proposed with funds under Central Road Fund to augment such research and testing facilities. A sum of Rs. 2 crores is provided under this scheme for 1980-85.

Centrally Sponsored Schemes:

Hill area Development Programme in Nilgiris district—

18.19. The development of roads in Hilly areas in Tamil Nadu has engaged the attention of Government of India, for several years since 1965. After discussions with the State Government the Union Planning Commission has agreed to aid the development of roads in Nilgiris district only. 47 works costing Rs. 272.05 lakhs, have been so far sanctioned under this scheme from 1975. An expenditure of Rs. 137.36 lakhs was incurred up to 31st March 1980. 20 works out of 47 have been completed and the remaining works are in various stages. Since the benefits of this scheme is to be extended to other hilly areas in the State, an outlay of Rs. 5 crores is proposed for 1980-85.

Western Ghat Road Development Scheme:

18.20 Under this scheme, the roads that are required to be formed and improved in the Western Ghat area to transport hill produce to the plains are taken up with the financial assistance of the Government of India. 25 taluks in six Districts have been tentatively included in the Western Ghats region. Under this scheme only

One work namely improvement to Sirumalai Ghat roads in Madurai district at a cost of Rs. 15 lakhs was executed during Fifth Plan. During the Plan 1980-85 it is proposed to include eight works at a cost of Rs. 7 crores in Madurai and Nilgiris district besides completing the three works which are under various stages of implementation.

Sixth Plan, 1980-85, works out to Rs. 150 crores as shown below:—

*Proposed
outlay
1980-85
(Rs. in
crores).*

Improvements to the East Coast Road from Madras to Kanyakumari:

18-21. Development of East Coast Road from Madras to Kanyakumari to National Highways Standard passing through the districts of Chingleput, Thanjavur, Ramanathapuram, Tirunelveli and Kanyakumari is the most important road link. The total length is about 773.2 kms. in which the improvements are to be carried out for 719.95 kms. The Government of India have already sanctioned 38 bridge works in the East Coast Stretch of Madras to Ramanathapuram with a loan assistance of Rs. 2.61 crores under Economic and inter-state Scheme and all these works have been completed. To improve the East Coast Road to National Highways Standard for double lane traffic, a sum of Rs. 80 crores is proposed for this purpose during the Plan 1980-85.

Economic and Interstate Importance Scheme:

18-22. Under this scheme, the Government of India have selected schemes of Economic and Inter-state Importance every year. For example roads which connect two or more states for ensuring through communications, roads and bridges required for opening of new areas to which railway facilities cannot be provided, roads and bridges contributing materially for the rapid Economic Development in hilly areas are taken up under this scheme. At present there are no ongoing works under this scheme. Six works at a cost of Rs. 16 crores in Ramanathapuram, Chingleput, Madurai and Nilgiris districts are proposed to be taken up for 1980-85.

World Bank assisted schemes:

Madras Urban Development Project—

18-23. In the first phase of the World Bank assisted Madras Urban Development Project, works to the tune of Rs. 718 lakhs were commenced in 1977-78. In the second phase of the Project two works costing Rs. 640 lakhs have been selected and expected to complete during the Sixth Plan period. Many more subways widening of bridges and road over bridges and widening and strengthening of pavement have to be taken up in Madras City for which a provision of Rs. 40 crores is provided for this purpose.

Total Cost:

18-24. The outlay on schemes on roads and bridges proposed under State Sector during the

I. State Sector Scheme—

1. National Highways Urban Links.	2.00
2. State roads Programme (Works on Government roads)	40.00
3. Other roads programme (works on Panchayat and Panchayat Union Roads).	30.00
4. Over/Under bridges ..	8.00
5. Integrated Urban Development Programme.	3.00
6. Tools and Plant	15.00
7. Rural roads Programme and Fair Weather Programme (Minimum Needs Programme)	30.00
8. Avenues	2.00
9. Way side amenities ..	1.00
10. Tribal sub-plan	7.00
11. Research and Development.	2.00
12. Central Road Fund Scheme.	8.00
13. Fisheries (Road Development works).	2.00
Total: State Sector Schemes ..	150.00

II. Centrally Sponsored Schemes—

1. Hill area Development Programme.	5.00
2. Western Ghat Roads Development Programme.	7.00
3. Improvements to the East Coast Road from Madras to Kanyakumari.	80.00
4. Economic and Inter-State Importance Scheme.	16.00
Total: Centrally Sponsored Schemes.	108.00

III. World Bank assisted Scheme:

1. Madras Urban Development Schemes.	40.00
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Table—18-I.

STATE ROADS SCHEME.

FIVE YEAR PLAN 1980-1985.

(T.R.10)

COMMUNICATIONS.

(Rs. IN CRORES.)

<i>Schemes.</i>	<i>Total cost.</i>	<i>Fifth Plan Outlay.</i>	<i>Expenditure upto 1979-80 in case of spill over schemes.</i>	<i>Value of spill over as on 1st April 1980.</i>	<i>Proposed outlay 1980-85.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1 N.H. Urban	0.09	..	0.07	0.02	2.00
2 State Roads Programme	7.69	18.50	5.61	2.08	40.00
3 Other Roads Programme	3.38	3.60	1.14	2.24	30.00
4 Over/Under Bridges	4.27	1.70	0.81	3.46	8.00
5 Integrated Urban Development Programme	2.69	..	0.96	1.73	3.00
6 Tools and Plants	2.20	4.95	1.73	0.47	15.00
7 Metalling R.R. Scheme	10.70	23.00	6.90	3.80	30.00
8 Avenues .. .. .	..	0.15	..	..	2.00
9 Wayside amenities including improvements to T.Bs. .. .. .	..	0.05	..	..	1.00
10 Tribal Sub-Plan	1.48	..	1.18	0.30	7.00
11 Research and Development .. .. .	..	0.50	..	..	2.00
12 Central Road Fund Scheme	5.05	6.00	1.85	3.20	8.00
13 Fisheries (Road Development)	0.94	..	0.15	0.79	2.00
Total	38.49	58.45	20.40	18.09	150.00

Table—18-I—cont.

Schemes. (1)	Outlays.				
	1980-81. (7)	1981-82. (8)	1982-83. (9)	1983-84. (10)	1984-85. (11)
1 N. H. Urban	0.10	0.15	0.50	0.50	0.75
2 State Roads Programme	1.93	5.00	8.07	10.00	15.00
3 Other Roads Programme	2.15	5.25	7.00	10.60	5.00
4 Over/Under Bridges	0.08	0.20	1.72	2.50	3.50
5 Integrated Urban Development Programme	0.55	0.45	0.65	0.75	0.60
6 Tools and Plants	0.78	2.00	3.50	4.00	4.72
7 Metalling R.R. Scheme	6.00	6.00	6.00	6.00	6.00
8 Avenues	0.45	0.50	0.50	0.30	0.25
9 Wayside amenities including improvements to T. Bs. .. .. .	..	0.30	0.30	0.20	0.20
10 Tribal Sub-Plan	0.32	1.20	1.31	1.72	2.45
11 Research and Development	0.09	0.20	0.56	0.75	0.40
12 Central Road Fund Scheme	0.45	1.00	2.15	2.10	2.30
13 Fisheries (Road Development)	0.35	0.50	0.50	0.35	0.30
Total	13.25	22.75	32.76	39.77	41.47

FIVE-YEAR PLAN

RURAL ROADS OUTLAY EXPENDITURE

(RS. IN CRORES.)

Schemes.	Total cost.	Fifth Plan. Outlay.	Expenditure upto end of 1979-80.	Value of spill over as on 1-4-80.	Proposed outlay 1980-85.	Outlay.				
						1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
TOTAL RURAL ROADS OF WHICH—										
1 M.M.P. (Metalling Rural Roads)	10.70	23.00	6.90	3.80	30.00	6.00	6.00	6.00	6.00	6.00
2 Other than EMP (Other Roads Scheme) ..	3.38	3.60	1.64	2.24	30.00	2.15	5.25	7.00	10.60	5.00
(Works on Panchayat and Panchayat Union roads)										
Total ..	14.08	26.60	8.04	6.04	60.00	8.15	11.25	13.00	16.60	11.00

TABLE 18—III.

(T.R.10)

CENTRAL SECTOR SCHEME

FIVE-YEAR PLAN 1980-85.

Communications.

(RS. IN CRORES.)

Scheme.	Total cost.	Fifth Plan Outlay.	expenditure upto 1979-80.	Spill over as on 1-4-80.	Proposed outlay 1980-85.	Outlay.				
						1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1 Hill Area Development Programme ..	2.61	..	0.82	1.79	5.00	0.60	0.74	1.00	1.20	1.46
2 Western Ghat Development Programme ..	1.52	..	0.10	1.42	7.00	0.50	0.75	1.50	2.00	2.25
3 Economic and Inter-state Importance Scheme .. .. .	..	..	..	..	16.00	..	2.41	2.50	4.00	7.09
4 East Coast Road .. .. .	..	..	..	..	80.00	..	13.00	15.00	22.80	29.20
Total ..	4.13	..	0.92	3.21	108.00	1.10	16.90	20.00	30.00	40.00

WORLD BANK SECTOR.

FIVE-YEAR PLAN 1980-85.

(RUPEES IN CRORES.)

Scheme.	Total cost.	Fifth Plan Outlay.	Expenditure upto 1979-80 in case of spill over Schemes.	Spill over as on 1-4-80.	Proposed outlay 1980-85.	Outlay.				
						1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
World Bank Project.	8.99	..	3.68	5.31	40.00	2.04	5.00	7.50	10.46	15.00

TABLE 18—V.

ABSTRACT.

FIVE-YEAR PLAN 1980-85.

Communications.

..

Scheme.	Total cost.	Fifth Plan outlay.	Expenditure upto 1979-80 in case of spill over schemes.	Value of spill over as on 1st April 1980.	Proposed outlay 1980-85.	Outlay.				
						1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(RUPEES IN CRORES.)										
1 State Sector Scheme	38.49	58.45	20.40	18.09	150.00	13.25	22.75	32.76	39.77	41.47
2 Central Sector Scheme	4.13	..	0.92	3.21	108.00	1.10	16.90	20.00	30.00	40.00
3 World Bank Project	8.99	..	3.68	5.31	40.00	2.04	5.00	7.50	10.46	15.00
Total ..	51.61	58.45	25.00	26.61	298.00	16.39	44.65	60.26	80.23	96.47

TABLE 18—VI.

EMPLOYMENT CONTENT OF PLAN SCHEMES 1980-85.

Outlay and Expenditure and Targets and Achievements.

<i>Name of the scheme.</i>	<i>Outlay and expenditure.</i>				<i>Total Direct Employment Generation.</i>	
	1978-79 <i>Actual expenditure.</i>	1979-80 <i>Actual expenditure.</i>	1980-81 <i>proposed.</i>	1980-85 <i>outlay.</i>	1978-79 <i>Actuals.</i>	
					<i>Construction person days.</i>	<i>Continuing person years.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN CRORES.)						
<i>1. State Sector Scheme.—</i>						
1 National Highways Urban links .. ..	..	9.18	10.51	200.00	..	-
2 State Roads Programme (Works on Govern- ment Roads).	62.33	218.60	139.92	4,000.00	3,11,650	..
3 Other Roads Programme (Works on Panchayat and Panchayat Union Roads).	51.46	81.17	214.70	3,000.00	2,57,300	..
4 Over/Under Bridges	16.77	28.00	19.60	800.00	83,850	..
5 Integrated Urban Development Programme ..	5.01	55.60	55.13	300.00	25,050	..
6 Tools and Plants	19.80	35.55	57.18	1,500.00	..	20
7 Rural Roads Programme and Fair Weather Programme.	300.65	299.25	600.00	3,000.00	15,03,250	..
8 Avenues	6.99	37.25	43.80	200.00	34,950	..
9 Tribal Sub-Plan	22.14	37.91	31.87	700.00	1,10,700	..
10 Research and Development .. .. .	..	4.69	8.60	200.00	..	..

TABLE 18·VI—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)
12 Fisheries Feeder Roads .. .. .	..	15·42	30·00	200·00	..	..
13 Wayside amenities .. .. .	..	..	..	100·00	..	..
<i>II. Central Sector Scheme.—</i>						
1 Hill Area Development Programme	20·04	31·38	60·00	500·00	1,00,200	..
2 Western Ghat Road Development Programme.	2·12	10·85	50·01	700·00	10,600	..
3 Improvements to the East Coast Road from Madras to Kanyakumari.	..	..	..	8,000·00	..	..
4 Economic and Inter State Importance Scheme.	50·81	14·10	0·02	1,600·00	2,54,050	..
<i>III. World Bank Project Sector.—</i>						
Madras Urban Development Programme in Madras only.	162·01	190·47	248·96	4,000·00	8,10,050	..

TABLE-18 VI—cont.

Name of the scheme.	Total Direct Employment Generation.					
	1979-80 Actuals.		1980-81.		1980-85 Target.	
	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.
(1)	(8)	(9)	(10)	(11)	(12)	(13)
I. STATE SECTOR SCHEME.						
1. National Highways Urban Links	45,900	..	52,550	..	10,00,000	..
2. State Roads Programme (works on Government Roads).	10,93,000	..	6,99,600	..	2,00,00,000	..
3. Other Roads Programme (works on Panchayat and Panchayat Union Roads).	4,05,850	..	10,73,500	..	1,50,00,000	..
4. Over/Under Bridges	1,40,000	..	98,000	..	40,00,000	..
5. Integrated Urban Development Programme ..	2,78,000	..	2,75,650	..	15,00,000	..
6. Tools and Plants .. .. .	..	35	..	55	..	1,500
7. Rural Roads Programme and Fair Weather Programme.	14,96,250	..	30,00,000	..	1,50,00,000	..
8. Avenues	1,86,250	..	2,19,000	..	10,00,000	..
9. Tribal Sub-Plan	1,86,550	..	1,59,350	..	35,00,000	..
10. Research and Development .. .. .	..	5	..	10	..	200
11. Central Road Fund Scheme .. .. .	..	..	16,00,000	..	40,00,000	..
12. Fisheries Feeder Roads	77,100	..	1,50,000	..	10,00,000	..
13. Wayside Amenities .. .. .	..	..	..	..	5,00,000	..

TABLE 18.IV—cont.

(1)	(8)	(9)	(10)	(11)	(12)	(13)
II. Central Sector Scheme.						
1. Hill Area Development Programme	1,56,900	..	3,00,000	..	25,00,000	..
2. Western Ghat Road Development Programme	54,250	..	2,50,050	..	35,00,000	..
3. Improvement to the East Coast Road from Madras to Kanyakumari.	..	..	..	..	40,00,000	..
4. Economic and Inter State Importance scheme ..	70,500	..	..	..	80,00,000	..
III. World Bank Project Scheme.						
Madras Urban Development Programme in Madras only.	9,52,350	..	12,44,800	..	20,00,000	..

CHAPTER 19.

ROAD TRANSPORT AND INLAND WATERWAYS.

19.0. In respect of Road Transport, the Sixth Five-year Plan of Tamil Nadu 1980-85, has the following objectives and priorities :—

(a) To concentrate on the improvement of transport facilities in the smaller and medium-sized towns so that migration from the villages to the cities could be prevented.

(b) Priority to be given to strengthening the services on the existing routes and extending them to semi-urban areas.

(c) The plan shall be distinctly rural biased, and employment-oriented, so as to confer as much benefit as possible on persons below the poverty line.

(d) Provision for Minimum Needs Programme particularly in the area of rural transport facilities, is to be adequately made.

19.1. In pursuance of the Government's policy of Nationalisation of passenger bus transport, Eight Transport Corporations have been set up under "The Companies Act", covering the different regions of the State and they are committed to the socio-economic objective of providing cheap and efficient transport services to the public. Of the Eight Transport Corporations, one is exclusively operating Express services throughout the State and another has two wings, namely Madras Metropolitan Wing (Urban) and Madras District Wing (Mofussil).

19.2. The budget provision for Road and Water Transport services during the Fifth Plan (1974-79) was Rs. 32.80 crores. More than 90 per cent of the budget provision was for share capital contribution of the Transport Corporations and utilized for replacement of old buses and augmenting the fleet. The expenditure during 1974-79 was Rs. 40.38 crores. For the various schemes involving a cost of Rs. 2,09.31 crores proposed for the Sixth Plan, 1980-85, the financial commitment of the State will be of the order of Rs. 77.50 crores.

Transport Corporations—Non-Metropolitan :

19.3. As on 1st April 1980, the mofussil Transport Corporations had a fleet strength of 4,712 buses which run over 13.74 lakh kilometres per day carrying about 34.73 lakh passengers. They operate 2,477 routes of which 1,735 are unremunerative routes as against 742 remunerative routes. They provide cheap transport facilities to the public living in the interior villages.

19.4. The labour force engaged in operating these services is 34,215 strong. The State Transport Corporations which account for about 41.2 per cent of total fleet strength in the non-Metro area

of the State (56 per cent including Metro) are committed to the social objectives of providing cheap rural transport services to thousands of villages providing mobility to people in these areas and ushering in economic development and social changes in society. As at present the mofussil Corporations operate 1,735 unremunerative routes as against 742 remunerative routes. The fare now being charged by these corporations is the lowest compared to other States in the country and the Railways. The Corporations have recently embarked upon the scheme of running mini buses to remote interior villages as yet another measure to achieve their social objective. The State Transport Corporations are assisted by Engineering Corporations for keeping the technical standard of maintenance at a high level and also by the Institute of Road Transport for Research, Development and Training. In respect of financing capital programmes, the Transport Corporations are assisted by the Tamil Nadu Transport Development Finance Corporation, a unique institution of the type started in 1975 with a Government equity of Rs. 122 lakhs. It has now a resource base of about Rs. 19.62 crores including deposits from public. So far it has rendered financial assistance to the State Transport Undertakings to the tune of Rs. 54 crores, which have enabled the State Transport Undertakings to purchase more than 3,000 new buses for their replacements/augmentation programme.

Development Programme for 1980-85 :

19.5. The studies carried out with the aid of Ford Foundation show that "aggregate passenger traffic" increased at annual rates varying from 6.5 per cent to 12.5 per cent in the quinquenniums ending 1955-56, 1960-61 and 1965-66. In the three years ending 1968-69 it was little over 6 per cent. Considering the past growth in the passenger traffic and anticipated growth resulting from urbanisation, industrialisation, and increase in population and per capital income, it is reasonable to assume that the total road passenger traffic on an average will grow at 6 per cent per annum. Moreover, the services to rural areas have to be increased to prevent migration to cities. Already the district head-quarters of Madurai, Tiruchirappalli, Coimbatore and Salem have become quite congested. Interior villages with population of more than 500 and located beyond 2 kilometres from a bus route have to be provided with bus facility. Hence, in order to achieve the objective of covering the unserved sectors, detailed comprehensive survey of the entire State was taken up in a scientific manner and the result processed and analysed with the aid of a computer. The survey revealed that out of 12,239 village Panchayats in the State, 8,034 are already served by the transport. The details of the

remaining 4,205 village Panchayats, which require road improvements for introduction of bus service are as follows :—

Serial number and Population range.	Number of Panchayats.	Length of roads to be improved, upgraded, etc. (Kms.)	First Estimate of cost. (Rs. in lakhs.)
(1)	(2)	(3)	(4)
1 3,000 and more ..	461	1,550	861
2 2,500 to 2,999 ..	227	744	467
3 2,000 to 2,499 ..	477	1,589	1,040
4 1,500 to 1,999 ..	823	2,712	1,699
5 1,000 to 1,499 ..	1,229	4,029	2,687
6 Less than 1,000 ..	988	3,312	2,334
Total ..	4,205	13,936	9,088

The survey also revealed that out of the above 4,205 village Panchayats, 968 would be served by bus transport immediately with some little improvements to the link roads. These are in the process of implementation.

19.6. Taking all these factors into consideration it is proposed to augment the fleet at 6 percent per year. Total number of buses to be purchased during the plan period works out to 6775 for augmentation and replacement of which 1620 are for augmentation (non-metro) and 655 for metro.

Replacement Programme.

19.7. With the objective of ensuring safe and trouble free travel to the public and also to economise the cost of operation, it is proposed to replace the very old buses. Out of the total fleet of 6395 buses, 346 are more than 12 years old and 280 are more than 10 years. As the optimum life of a vehicle is found to be 7 years, it is proposed to replace these old vehicles in a phased manner. Express buses running long distances will be replaced after 2 years. But the replaced buses will be utilised by other Corporation for another 4 years. 4,500 buses are required for replacement during 1980-85.

19.8. The year-wise requirement of buses for augmentation and replacement programmes of Transport Corporations (non-metro) is shown in Table 19-1 appended to this Chapter.

19.9. With the above assumptions in mind, the capital outlay on buses has been worked out. 4543 buses are required in the non-metro area during the plan period, of which 1493 are for augmentation and 3050 are for replacement. The cost per bus which is now Rs. 2.25 lakhs is expected to rise by about 10 percent every year during the plan period.

19.10. As the fleet strength increases, of a number infrastructural facilities like depots, terminals, etc., have to be increased so as to have effective organised control for maintenance, repairs, and garaging. It has been observed that the optimum number of buses in a mofussil depot is about 50. On this basis 30 additional depots are required,

Madras Metropolitan Transport :

19.11. The Madras Metropolitan area covers, 1,167 square kilometres. The population of Metropolitan area which was 35 lakhs in 1971, is expected to reach 49.5 lakhs in 1985. Further unlike other Metropolitan cities in India where major portion of passengers traffic is catered to by the railways, the urban transport in Madras is heavily dependent on buses. The existing metre-gauge electric train service from Madras Beach to Tambaram (29 kilo meters) is able to meet only 20 percent of the total traffic in a day. Pallavan Transport Corporation (Metro) meets the balance 80 percent of the total traffic with its 1683 buses operating in 304 routes and covering a distance of over 3.15 lakhs kms. a day. About 26 lakhs passengers per day utilise this metropolitan transport services.

19.12. The fleet strength of 1683 buses in the Corporation at present is not adequate to meet the needs of the public in full especially during the peak hours. For safe and quick travel the present permitted maximum loading of 100 persons per buses observed during peak period has to be reduced to at least 80 persons per bus. Further, special services to school going children and working women have to be provided during peak hours both in the morning and evening. Taking into account the population increase in the metropolitan area and also the above objectives the traffic growth during this plan period is assumed at 6.8 percent per year and on this basis about 655 additional buses will be required during 1980-85. Besides increasing the fleet strength, construction of 6 depots and 40 terminals to service and maintain the buses efficiently and also about 500 shelters to meet the needs of passengers, are necessary. With the enlarged fleet, two more workshops are needed for body building and reconditioning of parts. In order to ensure smooth running of the services, it is necessary to maintain an effective communication system for which a two way radio communication with two separate channels is proposed. The expenditure on different items envisaged during the period 1980-85 is shown in the table below:—

<i>Item.</i>	<i>Proposed during (1980-85) (IN NOS).</i>	<i>Cost during 1980-85 (RUPEES IN CRORES)</i>
(1)	(2)	(3)
(i) Buses—		
(a) Augmentation ..	655	} 47.08
(b) Replacement of buses more than 8 years old.	1,050	
(ii) Depots	6	1.80
(iii) Terminals	40	2.00
(iv) Shelters	500	0.18
(v) Central Workshop ..	1	0.40
(vi) Two way Radio communication system.	1	0.50
(vii) Electronic speed regulator and fire extinguishers.	..	1.14
Total capital outlay required for Madras Metropolitan Transport during 1980-85.		53.10

19.13. As against the total capital outlay of Rs. 53.10 crores the total internal generation of Pallavan Transport Corporation (Metro) during 1980-85 will be only Rs. 18.00 crores, even though a fare revision is contemplated leaving a gap of Rs. 35.10 crores. This large gap is mainly due to subsidised fare rates particularly for students and monthly season ticket holders. As the internal generation of resources is not sufficient, World Bank was approached for financial assistance. Details about the year-wise requirement of buses, capital outlay, internal generation as well as gap in resources for Metropolitan Transport are shown in Table 19. II appended to this Chapter.

WORLD BANK PROJECT FOR METROPOLITAN TRANSPORT.

19.14. The world Bank which examined the proposal from both operational and financial angles and in relation to the complimentary programme of road improvement, financed the first Phase Project. Also, the World Bank has agreed in principle to finance, as the Second Phase Project for the Madras Metropolitan Area, the purchase of 555 buses at a cost of Rs. 5.27 crores which does not include the excise duty, since the buses are exempted from the levy of excise duty. In real terms, the project is for Rs. 9 crores.

Long term measures to relieve congestion in the metropolitan Traffic

19.15 (i) Developing the inner corridor connecting Mount Road with Tiruvellore Road:— This will link the Guindy Industrial Estate, AnnaNagar Arumbakkam and Villivakkam so that traffic will be diverted on orbital roads relieving congestions in the radial roads leading to the Central Business district. As the development of the corridor may take a number of years, advance action may have to be taken even now to get the full benefits at least at the turn of the plan period.

(ii) Metropolitan Rapid Transport System:— As against the expected traffic intensity of more than 15 lakh trips a day in the north-South eastern corridor (Tiruvottiyur to Kasturiba Nagar) by 1985, the bus transport system in this region as at present available can provide only around six lakh trips.

The balance has to be met by metropolitan railways. The Metropolitan Rapid Transport System could be implemented in stages taking up Madras Beach to Luz (8.4 km.) in the first stage. In the second and third phases, Luz to Kasturiba Nagar (4.3 km.) and Tiruvittiyur to Madras Beach (9.3 km.) would be covered. With the completion of electrification of Madras Tiruvellore-Arkonam and Madras—Gummidipundi lines and the linking of the broadgauge system with the existing metregauge system at Madras Beach, commuters from four different directions could be served.

Financing the Programme :

19.16. The cost of the schemes under both metropolitian and non-metropolitian transport in the five year period 1980-85 adds up to Rs. 209.31 crores. Internal resources are estimated at Rs 75 crores leaving thus a gap of Rs. 134.31 crores. The Tamil Nadu Transport Development Finance Corporation has extended financial assistance to the Transport Corporations to the extent of Rs. 54 crores from its inception. Since the equity base of the Transport Development Finance Corporation is augmented each year by Rs. 50 lakhs by the Government in the form of share capital assistance, the Transport Development Finance Corporation is at present assisting the Transport Corporations to the extent of Rs. 6 crores a year (net). It is hoped that L.I.C. may give Rs. 7.5 crores at the rate of about Rs. 1.5 crores a year. Even if the assistance from the World Bank is also taken into account the gap would still be Rs. 209. crores minus Rs. (7.5+30+7.5+9) crores =Rs. 87.5 crores, for which specific provision may have to be made in the plan as central assistance similar to contribution to Delhi Transport Corporation. Similar provision may also have to be made for other major city Corporations. Moreover a provision of Rs. 130 crores has been indicated in the same Draft Plan under the Railway Plan for contribution to the Capital of State Road Transport Corporations. But since the Transport

Corporations in Tamil Nadu have been formed under "The Companies Act" no railway contribution has been availed of so far. Hence a suitable provision has to be made in the Plan to reduce the gap of Rs. 87.5 crores. The Report of the National Transport Policy Committee published in May 1980, says that the Public Transport Undertakings may not be able to cover operating costs in metropolitan and larger urban areas, and that a direct exchequer subsidy either from State or Central Government is desirable in such cases.

Inland waterways—Improvements to Buckingham Canal (centrally sponsored scheme):

19.17. A Master Plan for widening and deepening both the North and South Buckingham Canal in Tamil Nadu limits, at a cost of Rs. 560 lakhs was approved by the Government of Tamil Nadu and forwarded to the Government of India, seeking full financial assistance for the scheme. Pending finalisation of the project in consultation with the Government of India, the State Government have undertaken improvement works to the North Buckingham Canal from MO/O to 10/1, upto Ennore South Lock and the works have been completed in 1979. The total expenditure so far incurred on this work is Rs. 103.17 lakhs.

19.18. The Union Ministry of Transport has since stated that the scheme for improvement of Buckingham Canal *below Madras in Tamil Nadu* has tentatively been included in the Draft five year 1978-83 plan proposals as a Centrally Sponsored Scheme at a cost of Rs. 190 lakhs, and that a provision of Rs. 95 lakhs has been suggested towards the 50 per cent cost of the scheme as Central loan assistance. The Government of India has further stated that the scheme will be considered only after the allocation is finalised. The inclusion of the scheme itself in the Sixth Five Year Plan is agreed to by the Planning Commission as a Centrally Sponsored Scheme. Considering the escalation in cost of materials, a provision of Rs. 310 lakhs would be necessary for the plan 1980-85.

Central sector—Sethusamudram ship canal project

19.19. This project is to cut a Navigational canal across the narrow strip of land near Pamban to link the Gulf of Mannar with the Palk Bay with the objective of reducing the travel distance by 300 to 350 miles for the ships sailing from the West Coast to the East Coast of India and vice-versa around Sri Lanka, a route which apart from distance is vulnerable to adverse weather conditions.

19.20. The High Level Committee headed by Sri C. V. Venkateswaran observed that the Tuticorin Harbour Project and Sethusamudram Project should be executed as part of a twin harbour-seaway project since the Sethusamudram would give a big boost to the Tuticorin

major port as a large number of ships using the seaway would call here for bunkering. Also according to the Managing Director, Poompuhar Shipping Corporation, if this project is implemented, the vessels can use the channel there by save approximately 660 nautical miles and 47 hours per voyage. The value savings on fuel is expected to be Rs. 1.37 crores per annum. Besides the canal will reduce the distance from Kānniyakumari (common point) for all traffic from the West to Ma ras Visakhapatnam and Calcutta by 353,260 and 259 nautical mile respectively. The saving in distance will be an additional 81 miles for ships to be chiring Tuticorin enroute.

19.21. The country too, as a whole, stands to benefit economically from this project. With a vast increase in World tonnage the number of ships transiting the canal is bound to be many more than envisaged originally and the resultant net revenue to the Government would be much more than the then estimated Rs. 162 lakhs. Most of these earnings will be in foreign exchange. Added to this are the military advantages since the Sethu canal is tailor-made for increasing mobility and quick movement of naval force.

19.22. In view of the many advantages, both economical and military, to the country at large and to the State in particular, the need for this vital but long-ignored project becomes all the more important and necessary. The estimated cost of the project at present would be of the order of Rs. 106 crores. Since this is a navigational scheme under water transport, this will have to be implemented by the Central Government.

RAILWAYS

19.23. The length of railway lines (route Kms.) in Tamil Nadu has almost been stagnant at 3,765 Kms. since 1973. Of this 876 kms. are broad gauge and 2,889 kms. are metre gauge. Thus the bulk of railway lines in this State is metre gauge; but the bulk of goods traffic moves from South to areas in the North all are served by broad gauge. This hampers quick movement of agricultural products and other goods. Considering the increased growth rate in passenger and goods traffic and also the preference by businessmen and traders for long distance road transport in the absence of well-connected broad gauge railway lines which is a must for the economic development of Tamil Nadu and particularly for the proper development of trade and commerce, the following formation of new broad-gauge railway lines and conversion of the existing metre-gauge lines into broad gauge lines are to be taken up in the state during 1980-85 :—

(i) Formation of a new railway line between Pondicherry and Bangalore (via) Thiruvananthapuram, Chengam, Krishnagiri, Hosur, etc.

(ii) Conversion of Madras—Villupuram—Chidambaram—Thanjavur — Tiruchirappalli—Madurai metre-gauge line into Broad-gauge line

(iii) Formation of a new railway line from Dindigul or Kodaikanal Road to Cumbum.

In addition to these, parallel broad-gauge lines to the existing metre-gauge lines in important parts of the State where traffic has increased significantly, as Tiruchirappalli-Madurai parallel broad-gauge lines and formation of new broad-gauge line from Chamaraja Nagar—Sathiamangalam—Tiruppur—Dharapuram—Palani and construction of a third line between Villivakkam and Thiruvellore and between Gummidipoondi and Basin Bridge are necessary.

19-24. Yards and terminals existing in Tamil Nadu are also to be improved in places like Erode, Jolarpet and Tondiarpet, besides terminals at Coimbatore, Madras, Egmore, Madras Beach etc.

19-25. Taking up the above works is vital from the point of view of the economic development of the State. It is necessary that the above projects are included in the Central Plan.

Table 19-I.

STATE ROAD TRANSPORT UNDERTAKINGS (NON-METRO)—REQUIREMENT OF BUSES, CAPITAL OUTLAY, INTERNAL GENERATION AND THE GAP IN RESOURCES—1980-85.

Year.	Requirement of buses (Number).			Total cost of buses.	Cost on civil works.	Total capital outlay.	Internal generation.	Gap.
	Augmentation.	Replacement.	Total.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN CRORES.)								
1980-81	289	690	979	22.03	2.37	20.40	11.20	13.20
1981-82	305	690	995	24.68	2.37	27.05	11.30	15.75
1982-83	321	690	1,011	27.50	2.37	29.87	11.40	18.47
1983-84	342	690	1,032	30.96	2.37	33.33	11.50	21.83
1984-85	363	690	1,053	34.64	2.39	37.03	11.60	25.43
Total	1,620	3,450	5,070	139.81	11.87	151.68	57.00	94.68

Table 19.II.

STATE ROAD TRANSPORT UNDERTAKINGS (METRO)—REQUIREMENT OF BUSES, CAPITAL OUTLAY, INTERNAL GENERATION AND THE GAP IN RESOURCES—1980-85.

Year.	Requirements of buses (Number).			Total cost of buses.	Cost on civil works.	Total capital outlay.	Internal generation.	Gap.
	Augmentation.	Replacement.	Total.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN CRORES.)								
1980-81	114	210	324	7.29	1.02	8.31	3.40	4.91
1981-82	123	210	333	8.26	1.25	9.51	3.50	6.01
1982-83	130	210	340	9.25	1.25	10.50	3.60	6.90
1983-84	140	210	350	10.50	1.25	11.75	3.70	8.05
1984-85	148	210	358	11.78	1.25	13.03	3.80	9.23
Total	655	1,050	1,705	47.08	6.02	53.10	18.00	35.10

Table 19-III.

FIVE YEAR PLAN 1980-85

ROAD TRANSPORT UNDERTAKINGS—OUTLAYS AND EXPENDITURE. (RUPEES IN LAKHS)

Serial number and Schemes	Total Cost.	Fifth plan outlay.	Expenditure up to 1979-80 in the case of spill over Schemes.	Proposed outlay 1980-85.	Outlay.					Employment potential in man days/Year. (Working days 273 'ays/Year (in lakhs).		
					1980-81	1981-82	1982-83	1983-84	1984-85	Unskilled	Skilled.	
											Tech.	Non-Tec.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Purchase of Buses—												
(a) For existing routes and new routes—												
(i) Number	2,275	403	428	451	482	511	0.93	0.63	36.02
(ii) Cost	6,322	907	1,061	1,227	1,446	1,681	..	..	..
b. Buses for replacement—												
(i) Number	4,500	900	900	900	900	900	..	..	..
(ii) Cost	12,366	2,025	2,232	2,448	2,700	2,961	..	..	..
c. Total—												
(i) Number	6,775	1,303	1,328	1,351	1,382	1,411	..	..	..
(ii) Cost	18,688	2,932	3,293	3,675	4,146	4,642	..	..	..
2. Purchase of Trucks, if any—												
(I) Number
(II) Cost
3. Workshop including work building				1,625	325	325	325	325	325	..	..	..
4. Staff quarters			
5. Other expenditure including purchase of Auxillary vehicles				606	126	120	120	120	120	..	..	..
6. Grand Total				20,919	3,383	3,780	4,120	4,591	5,087	..	..	..
7. Fleet at the end of the year—												
(i) Buses (Numbers)	8,746	6,874	7,301	7,753	8,235	8,746	..	..	..
(ii) Trucks (Numbers)

NOTE—1. For every bus augmented, employment potential generated is :

5.80 persons/bus for Skilled Non-Technical, 1.55 persons/bus for Skilled Technical and 0.15 persons/bus for Unskilled.

2. World Bank Project Assumed Rs. 5.27 crores during the plan period.

Table 19-IV.

REQUIREMENT OF BUSES.

Year.	Madras Metropolitan.			Express Services			Mofussil corporations			Total.		
	Replac- ment	Augumen- tation.	Total.	Replac- ment.	Augumen- tation.	Total.	Replac- ment.	Augumen- tation.	Total.	Replac- ment.	Augumen- tation.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1980-81	210	114	324	80	24	104	610	265	875	900	403	1,303
1981-82	210	123	333	80	24	104	610	281	891	900	428	1,328
1982-83	210	130	340	80	24	104	610	297	907	900	451	1,351
1983-84	210	140	330	80	27	107	610	315	925	900	482	1,382
1984-85	210	148	358	80	28	108	610	335	945	900	511	1,411
Total	1,050	655	1,705	400	127	527	3,050	1,493	4,543	4,500	2,275	6,775

CHAPTER 20.

PORTS, HARBOURS AND SHIPPING.

20.0 Tamil Nadu with a long coastline of nearly 1,000 kilometres, has at present two Major Ports one at Madras and the other at Tuticorin, two Intermediate Ports at Cuddalore and Nagapattinam and five Minor Ports at Pamban, Kilakarai, Rameswaram, Colachel and Kanyakumari. Rameswaram and Nagapattinam handle passenger traffic in addition to cargo traffic. The Major and Intermediate Ports serve as outlets for the export commodities of Tamil Nadu as well as the neighbouring States of Kerala, Karnataka and Andhra Pradesh.

20.1 The Minor Ports which are mostly in rural areas, cannot compete with Major Ports in the volume of loading and unloading. But they have the potential for development as deep water fishing harbours and for export and import of specific items which can be economically transported. Development of these minor ports will help to relieve congestion at the major ports. In this context the Government of India in their Ministry of Shipping and Transport D.O. letter No. PW. PTT-46/80, dated 14th August 1980 addressed to Chief Secretary of Tamil Nadu, have indicated their keerness on utilising the Minor Ports increasingly in order to relieve the congestion at the Major Ports and proposed to avail for handling specific types of Cargo, such as fertilisers, cement, etc. in some of the intermediate Ports as a beginning and increasing the Cargo traffic at Cuddalore and Nagapattinam.

20.2 During the Fifth Plan, (1974-79) a sum of Rs 518.95 lakhs was spent for the development of Ports, Harbours and Shipping as against the outlay of Rs. 347.00 lakhs provided in the Fifth Plan.

20.3 During Sixth Plan period (1980-85), an amount of Rs. 811 lakhs has been provided keeping in view the suggestions made by the Ministry of Shipping and Transport, referred to above, assuring necessary financial assistance wherever required for implementation of various New Schemes and completing the spill over schemes, as against the provision of Rs. 320 lakhs proposed for the Plan 1978-83. The main reasons for the difference in outlays between the Plan 1978-83 and the revised plan 1980-85 are due to—

(i) escalation in rates due to inflation in respect of works relating to Rameswaram, Pamban, Nagapattinam and Colachel Ports.

(ii) inclusion of New Schemes relating to Cuddalore Port at a cost of Rs. 270 lakhs and development of Valinokkam as a Port at a cost of Rs. 30 lakhs.

The details of new schemes proposed and the spill over schemes are as described below :—

A. *Ongoing Schemes.*—Provision of Rs. 26 lakhs is made during 1980-85 for the completion of the spillover works i.e. construction of cargo sheds and reversionment on the eastern bank of Uppanar for a length of 600 metres and the construction of staff quarters at Cuddalore and Nagapattinam Ports.

B. *New Schemes.*—Six New Schemes to the extent of Rs. 765 lakhs are proposed in the plan 1980-85. The salient features of the New Schemes are explained in brief as follows—

(i) *Rameswaram Port.*—Construction of a permanent pier for berthing ships at a cost of Rs. 250 lakhs is proposed. Once the Pamban road bridge now under construction is completed and Asian Highway No. 4 is connected to Rameswaram and through ferry to Sri Lanka, the Port at Rameswaram will have an International status. Even with all its existing disadvantages like anchoring of ships at a distance of 1.5k.m. from the shore and transporting of passengers by launch towed boats to these ships this port handles more than a lakh passengers per year. There is also potential for the railways to book through cargo to destinations in Sri Lanka and vice versa which may have to pass through the ferry plying at this Port. Considering the future potential of the international traffic, there is every possibility of this port, yielding satisfactory returns.

Execution of the works will generate employment in and around the port and will provide additional employment to an extent of 2.18 lakh person days for a period of 3 to 4 years, extending benefits to sufficient number of local people especially below the poverty line.

(ii) *Pamban Port.*—The main item of work is the Dredging of Pamban channel to 10 feet below low water level at a cost of Rs. 40 lakhs. Dredging of the Pamban channel, is vital not only in the interest of Fisheries and commercial vessels of below 10 feet draft but also from the strategic point of view, as such dredging would help the passage of naval vessels also. The deepening of this channel will boost the coastal traffic between the West Coast and East Coast and the Dry Dock at Mandapam will be made use of by vessels upto 10 feet draft for repair facilities.

(iii) *Nagapattinam Port.*—Construction and supply of one Cutter Suction Dredger, 10 Steel Barges and 3 Cranes at a cost of Rs. 125 lakhs is proposed. The dredger now available at Nagapattinam Port is more than 30 years old and not in a position to maintain the channel free of silt due to low dredging capacity. A net Cutter Suction Dredger is essential to keep the channel navigable as it is not possible for vessels to utilise the fishing harbour at 'Kuduvaiyar' and also the ice plant available there due to heavy silting in the approach to the harbour. The 10 Steel Barges are for replacement of wooden cargo boats now operated by private parties. This will help to improve the rate of loading and unloading and thereby quicken turnover of ships. In order to improve, the rate of loading and unloading of heavy cargo it is necessary to procure 3 cranes for this port.

(iv) *Cuddalore Port.*—The improvement of Cuddalore Port envisages provision of 10 Nos. of non propelled Steel Barges of 50 tonnes capacity for replacement of the existing 60 wooden cargo boats which are often under repairs and of low capacity. This will help to quicken the loading and unloading of cargo. Various other items of

construction work like cargo sheds, wharves, transit sheds, etc. and supply of Cutter Suction Dredger and cranes at an estimated cost of Rs. 270 lakhs is proposed for the development of Cuddalore Port. The new dredger will be used to dredge the Fishing Harbour and provide berthing facilities for mechanised fishing launches. These works will help to improve the overall utility of this port.

(v) *Colachel Port*.—The development of this minor port would involve construction of a permanent pier, to improve the rate of loading operations at a cost of Rs. 50 lakhs. This port handles about 50,000 tonnes of illuminite sand exported by the Indian Rare Earths Limited at Manavalakurichi which is 3 km. from Colachel. The ship to shore traffic is being handled at present by canoes of 1 to 3 tonnes capacity. The use of this method exposes the cargo to the risk of getting wet. The present mode of transport by canoes has to be replaced by bigger capacity cargo boats of 30 to 40 tonnes. For the movement of such bigger cargo boats there must be a pier or a wharf.

(vi) *Valinokkam*.—A sum of Rs. 30 lakhs is provided for in the plan 1980-85 for the development of Valinokkam so that it can operate major transshipment. The Tamil Nadu Salt Corporation has developed a big salt complex at Mariyur near Valinokkam with a targetted production of 40,000 tonnes of salt per year. In order to facilitate export of their produce it is necessary to develop Valinokkam as a Minor Port. For this, Hydrographic Survey has already been completed.

(vii) *Strengthening of the Engineering Division*.—This division was originally created to execute the development works of the Port Department. Since October 1976, all works of Fishing Harbours and Landing jetties of Fisheries Department have been entrusted to this Port Department. Fifteen more places have been selected by the Fisheries Department for development of landing facilities in the Sixth Plan period 1980-85. In order to carry out these works, the expansion of the existing Engineering Division is proposed involving a cost of Rs. 5 lakhs per annum.

20.4 The abstract of outlays on Ports and Harbours under the 1980-85 plan is given below:—

	Outlay for 1980-85 (RS. IN LAKHS.)
(A) Capital Outlay—	
(i) Spill over schemes	26
(ii) Rameswaram Port	250
(iii) Pamban Port	40
(iv) Nagapattinam Port	125

	Outlay for 1980-85 (RS. IN LAKHS.)
(v) Cuddalore Port	270
(vi) Colachel Port	50
(vii) Valinokkam Port	30
	791

(B.) Revenue Account (Recurring)—

Strengthening of Port Engineering Division—Establishment cost Rs. 5 lakhs per year..	20
Total	811

Shipping :

20.5 Development of coastal shipping is accorded priority in planning at National level. Tamil Nadu has made a good start by setting up the Poompuhar Shipping Corporation in April 1974 for the development of coastal shipping. The principal task of the Corporation is to arrange for transportation of coal from ports in the East coast to Madras and Tuticorin to cater to the needs of thermal power stations of the Tamil Nadu Electricity Board. The Corporation purchased two second hand vessels in December 1974 at a cost of Rs. 139 lakhs and Rs. 75 lakhs respectively and commenced operations. Subsequently it has also chartered a number of vessels to meet the growing requirements of the Tamil Nadu Electricity Board. The quantity of coal moved by the Corporation has increased from 0.13 lakh tonnes during 1974-75 to 1.41 lakh tonnes during 1979-80 and to 1.64 lakhs in 1980-81.

20.6 Due to absence of adequate number of railway wagons, the Electricity Board has to depend on sea transport for its coal requirement. In fact since March 1978 it has been using Shipping Corporation vessels. The Tuticorin Thermal Power Station under construction has 3 units of 210 MW each and the first unit was commissioned in July 1979. The second and third units are programmed to be commissioned within the plan period. To meet the coal requirements of Tamil Nadu Electricity Board the Corporation has programmed to transport the following quantity of coal on account of Tamil Nadu Electricity Board:—

Haldia—Tuticorin : 12 lakh tonnes per annum during 1981 and 19 lakh tonnes per annum from 1982 onwards.
Calcutta—Haldia—Tuticorin : 1 lakh tonnes per annum.

20.7 The two second hand vessels of the Corporation have become over-aged and have

been phased out of service. It is therefore necessary to acquire five bulk carriers to meet the trade requirement of Tamil Nadu.

20.8. The employment potential in this sector would be about 300 jobs. When the new ships are acquired and the trade is stabilised, further employment opportunities will be created in due course. The State Government have to invest 10 per cent of the cost of the vessels to be acquired as equity capital of the Corporation. The investment envisaged during 1980-85

is Rs. 7 crores, phased out during the plan period as follows :—

				(RS. IN CRORES.)
1980-81	..	..	-- --	2.5
1981-82	..	..	-- --	2.5
1982-83	..	..	-- --	2.0
				<hr/>
				7.0
				<hr/>

TABLE 20-I.
FIVE YEAR PLAN, 1980-85.
Minor Ports—Outlays and Expenditure.

<i>Schemes.</i>	<i>Proposed outlay 1980-85.</i>	<i>Outlay.</i>				
		1980-81	1981-82	1982-83	1983-84	1984-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Spill over schemes—</i>						
(RUPEES IN LAKHS.)						
1. Cuddalore Port	21·00	5·00	13·00	2·00	1·00	..
2. Nagapattinam Port	5·00	3·00	2·00	..	..	..
<i>New Schemes—</i>						
1. Rameswaram Port	250·00	..	10·00	40·00	100·00	100·00
2. Pamban Port	40·00	..	..	10·00	10·00	20·00
3. Nagapattinam Port	125·00	0·01	14·00	46·00	30·00	34·99
4. Cuddalore Port	270·00	..	33·18	93·34	77·84	65·64
5. Colachel Port	50·00	..	..	15·00	15·00	20·00
6. Valinokkam	30·00	..	..	10·00	10·00	10·00
7. Strengthening of Port Engineering Division	20·00	..	5·00	5·00	5·00	5·00
Total—Minor Ports ..	811·00	8·01	77·18	221·34	248·84	255·63

TABLE 20-II.

EMPLOYMENT CONTENT OF PLAN SCHEMES, 1980-85.

Outlay and Expenditure and targets and achievements.

Implementing Department—Tamil Nadu Port Department.

Employment Statement—
State—Tamil Nadu.

1. Amount Rs. in lakhs.
2. Employment figures in numbers.

Name of the schemes.	Outlay and expenditure.				Total direct employment generation.			
	1978-79 actual.	1979-80 actual.	1980-81 proposed outlay.	1980-85 proposed outlay.	1978-79 actual.		1979-80 actual.	
	(2)	(3)	(4)	(5)	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>I. Cuddalore Port—</i>								
1. Procuring non-propelled steel Barges of 50 tonnes capacity-10 Nos.	20.00	..	..	..	..
2. Construction of Transit shed along the northern Wharf-6 Nos.	9.00	..	..	..	..
3. Construction of Wharf alongside the western side of Uppanar adjoining the salt pan reclamation area 450 metres long.	0.01	30.00	..	..	..	..
4. Providing hardstanding adjoining new wharf	0.01	12.00	..	..	..	..
5. Providing lighting facilities along the proposed wharf adjoining the salt pan reclamation area.	0.01	3.00	..	..	..	..
6. Construction of cargo sheds of 2,000 Tonnes capacity in reclaimed area-6 numbers.	40.00	..	..	..	..
7. Extension of Railway line in the newly reclaimed area 3 K.M.	16.00	..	..	..	..

TABLE 20. II—cont.

Name of the Schemes.	Total direct employment Generation.			
	1980-81 Target.		1980-85 Target.	
	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.
(1)	(10)	(11)	(12)	(13)
I. Cuddalore Port :				
1. Procuring Non-propelled Steel Barges of 50 Tonnes capacity-10 numbers.	5,400	40
2. Construction of Transit shed along the northern Wharf-6 numbers.	21,600	..
3. Construction of Wharf along side the western side of Uppanar adjoining the salt pan reclamation area—450 Metres long.	40,950	..
4. Providing hardstanding adjoining new wharf.	24,570	..
5. Providing lighting facilities along the proposed wharf adjoining the salt pan reclamation area.	900	..
6. Construction of cargo sheds of 2,000 Tonnes capacity in reclaimed area-6 numbers.	27,300	..
7. Extension of Railway line to the near by reclaimed area 3 K.M.	13,650	..

TABLE 20. II.—cont.

Name of the schemes.	Outlay and expenditure.				Total direct employment generation.				
	1978-79 actual.	1979-80 actual.	1980-81 proposed outlay.	1980-85 proposed outlay.	1978-79 actual.		1979-80 actual.		
	(2)	(3)	(4)	(5)	Construction person days.	Continuing person years.	(7)	Construction person days.	Continuing person years.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
8. Construction and supply of one Cutter Suction Dredger.	..	0-01	..	75-00	..	..	..	..	..
9. Provision of 10 Tonnes cranes-3 Numbers.	30-00	..	..	..	..	..
10. Forming rubble mound breakwater underneath R.C.C. Pier.	20-00	..	..	..	..	..
11. Construction and supply of one Non-Propelled 50 Tonnes Water Barge.	5-00	..	..	..	..	..
12. Construction of Foreshore Boundary wall	10-00	..	..	..	..	..
<i>II. Rameswaram Port—</i>									
1. Construction of permanent pier for berthing ships alongside with connected structures including dredging.	..	0-01	..	250-00	..	..	..	..	..
<i>III. Pamban Port—</i>									
1. Dredging of Pamban Channel to 12 ft. below low water level.	40-00	..	..	..	..	..

TABLE 20.11—cont.

Name of the Scheme.	Total direct employment Generation.			
	1980-81 Target.		1980-85 Target.	
	Construction person days. (10)	Continuing person year. (11)	Construction person days. (12)	Continuing person years. (13)
<i>I. Cuddalore Port—</i>				
8. Construction and supply of One Cutter Suction Dredger.	27,300	25
9. Provision of 10 Tonnes cranes-3 numbers	8,190	6
10. Forming rubble mound breakwater underneath R.C.C. Pier.	54,600	..
11. Construction and supply of One Non-Propelled 50 Tonnes Water Barge.	2,250	..
12. Construction of Foreshore Boundary Wall	14,350	..
<i>II. Rameswaram Port—</i>				
1. Construction of permanent pier for berthing ships alongside with connected structures including dredging.	2,18,400	..
<i>III. Pamban Port—</i>				
1. Dredging of Pamban Channel to 12 ft. below low water level.	27,300	..

TABLE 20. II.—cont.

Name of the schemes.	Outlay and expenditure.				Total direct employment generation.			
	1978-79 actual,	1979-80 actual.	1980-81 proposed outlay.	1980-85 proposed outlay.	1978-79 actual.		1979-80 actual	
	(2)	(3)	(4)	(5)	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<i>IV. Nagapattinam Port—</i>								
1. Construction and supply of one Cutter Suction Dredger.	0.01	75.00	..	..	..	..
2. Construction and supply of Non-Propelled Steel barges of 50 Tonnes capacity— 10 Nos.	20.00	..	..	..	..
3. Provision of 10 Tonnes Cranes—3 Nos.	30.00	..	..	..	..
<i>V. Colachel Port—</i>								
1. Construction of a permanent pier or floating pier or any other mode of development to improve the rate of loading.	50.00	..	..	..	..
<i>VI. Valinokkam Port—</i>								
1. Development of Valinokkam as a Minor Port including construction of a jetty.	30.00	..	..	..	..
Total	0.06	765.00	..	..	..	..

TABLE 20.II—cont.

Total direct employment generation.

Name of the Schemes.	1980-81 Target.		1980-85 Target.	
	Construction person days.	Continuing person years.	Construction person days.	Continuing person years.
(1)	(10)	(11)	(12)	(13)
<i>IV. Nagapattinam Port —</i>				
1. Construction and supply of one Cutter Suction Dredger.	27,300	25
2. Construction and supply of Non-Propelled Steel barges of 50 tonnes capacity—10 Nos.	5,400	40
3. Provision of 10 tonnes Cranes—3 Nos.	8,190	6
<i>V. Colachel Port —</i>				
1. Construction of a permanent pier or floating pier or any other mode of development to improve the rate of loading.	54,300	..
<i>VI. Valinokkam Port —</i>				
1. Development of Valinokkam as a Minor Port including construction of a jetty.	54,600	3
Total	6,36,550	145

NOTE.—(1) Under Col. 12, the figures furnished are the anticipated persons that may be employed during construction period per day multiplied by the number of days anticipated for the completion of each scheme.

(2) Under Col. 13, the figures represent the number of persons to be employed continuously for the working and maintenance of the Machineries, etc.

Part II

SECTORAL PLANS

D. THE SERVICES SECTOR

PART II—D. THE SERVICES SECTOR.

CHAPTER 21.

GENERAL EDUCATION AND ART AND CULTURE

Review of the Past Performance :

21.0 Education and Man power planning are inseparable in the Indian economy. Elsewhere we are considering employment and manpower aspects. In this chapter the outlays on general education are dealt with.

21.1 The post-independence period in general and the Second and Third Plan periods in particular have been characterised by unprecedented expansion of educational facilities at all levels and certain new movements of great educational

significance were ushered in towards the realisation of the goal of universal and effective education. Consequent on the vast expansion of educational facilities during the sixties, rapid strides have been made in Tamil Nadu in the provision of schools and in the matter of enrolment of children in the age group 6-11, 11-14 and 14-17. As per the Third All India Educational survey carried out in 1973, there were 43,355 habitations in the rural areas of Tamil Nadu with a total population of 2.87 crores and the coverage of primary schools in these habitations was as follows :

TABLE 21.1.

<i>Classification.</i>	<i>Population above 5000.</i>	<i>Population 500-4999.</i>	<i>Population less than 500.</i>
(1)	(2)	(3)	(4)
1. Primary schools available in the habitation ..	147	16,167	8,043
2. Primary Schools available within 1 km. of habitation	3	1,438	10,161
3. Primary schools available within 1-2 km. of habitation	9	801	5,024
4. Primary schools available at a distance of more than 2 km. ..	..	..	1,562
	<u>159</u>	<u>18,406</u>	<u>24,790</u>

21.2 Out of a total of 43,355 habitations, only 1,562 habitations (each with a population of less than 300) did not have a primary school within 2 kilometres and the population in these habitations was only 1.87 lakhs which was only 0.65 percent of the total rural population.

Plan Outlay on Education:

21.3 Educational expenditure constitutes the highest single component in the budget. From the early sixties educational expenditure has continued to account for a steady 22.23 percent of the total

expenditure of the Tamil Nadu Government on the revenue account. The Tamil Nadu Plan outlays on education during the earlier Plans are given below :

<i>Plan period.</i>	<i>General Education</i>	<i>Art and culture</i>	<i>Total General Education and Art and Culture.</i>	<i>Technical Education</i>	<i>Total Education</i>	<i>Total Tamil Nadu State Plan</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
First Five-Year Plan	..	..	3.81	..	..	..
Second Five Year Plan	..	..	11.41	..	..	..
Third Five Year Plan	..	..	34.09	..	..	..
Annual Plans 1966-67 to 1968-69	..	..	18.47	..	..	..
Fourth Five-Year Plan	40.06	0.43	40.49	5.38	45.87	559
Fifth Five Year Plan (1974-75 to 1978-79)	47.15	0.72	47.87	4.04	51.91	1196
1979-80 (Revised Estimate)	17.34	0.28	17.62	1.00	18.62	347

(The figures of educational expenditure as given above do not include the expenditure on harijan welfare and backward class schools, scheduled tribes and backward class students and on a few social items, nor does it include the expenditure on Medical, Agricultural and Veterinary education. If all these items are also included in the educational expenditure, the proportion of the Tamil Nadu budget spent on education will be about 30 per cent.)

Plan and Non-Plan components.—

21.4 Under school education alone, the non-plan expenditure had increased by 58 per cent during 1973-74 from the position obtaining at the end of the First Five-Year Plan and in the subsequent years. The bulk of the non-plan expenditure is accounted for in the primary, secondary and university education sectors.

21.5 The Central Advisory Board of Education at its meeting held in November 1974, has observed that 'The distinction between plan and non-plan expenditure is an accounting matter and is irrelevant for educational development'. The

Committee for Economy in Educational Expenditure constituted by the Tamil Nadu Government in 1975 under Dr. M.S. Adiseshiah has also made the same point in its report. The Government are reviewing the non plan content of the budget from time to time with a view to delete redundant programmes, slow down low priority programme and use allocations of existing schemes/programmes for development purposes. The non-plan component of the budget being the salaries and wages of the staff and other items of expenditure of a recurring nature has not lent itself to any appreciable reduction.

21.6. The following table shows the plan and non-plan component of the education budget for the period from 1973-74 to 1979-80.

TABLE 21·III

Year-	Total expenditure from State Government Funds on Revenue account.	Expenditure on Education demand.	Percentage of total budget.	Plan expenditure component included in column, (3).
(1)	(2)	(3)	(4)	(5)
		(RS. IN CRORES)		
1973-74 (Actuals)	473	104	22.0	12
1974-75 "	528	115	22.0	7
1975-76 "	558	123	22.0	7
1976-77 "	628	143	23.0	7
1977-78 "	706	163	23.0	..
1978-79 "	754	186	24.8	13
1979-80 (Revised Estimate)	884	212	23.9	12

Approach to the Plan 1980—85:—

21. 7. The Educational policies of the Government of Tamil Nadu during the earlier plans were directed towards universalisation of elementary education for all the children up to the age of 14 and to remedy the educational deprivation of the adult population. However, the targets could not be achieved in these directions due to constraints on resource availability. Therefore, a more determined effort will be made with emphasis

on universalising elementary education, vocationalisation at the secondary stage and effecting improvements of quality at the secondary stage and higher education.

Plan Programme for 1980-85.—

21. 8. The outlays proposed under each sector of education are as below :—

TABLE 21·IV

Serial number and Sector.	Outlay for 1980-85
(1)	(2)
	(RS. IN LAKHS.)
1 Elementary Education	2805
2 Secondary Education (including SCERT).	1200
3 Higher Secondary Education ..	4000
4 Government Examinations ..	40
5 Non formal and Adult Education ..	400
6 Higher Education	1850
7 Sports and Youth Welfare ..	300
Total ..	10595 or 105.95 crores.

School Education.—

21.9. School education accounts for the bulk of the educational budget. The size of the school system in Tamil Nadu in 1979—80 is shown below:—

TABLE 21.V.

<i>Serial number and Type of Institution.</i>	<i>Number.</i>	<i>Strength of pupils (in lakhs.)</i>	<i>Teachers (Numbers.)</i>
(1)	(2)	(3)	(4)
1. Elementary schools	27,662	43.52	1,12,535
2. Higher Elementary Schools ..	5,685	24.83	66,568
3. High Schools	2,087	7.75	34,102
4. Higher Secondary	1,087	12.69	45,257
5. CBSE etc.	52		
Total	<u>36,573</u>	<u>88.79</u>	<u>2,58,462</u>

21.10. Of the total of 88.79 lakhs pupils in schools, 51.13 lakhs were boys and 37.66 lakhs were girls. The State's average teacher-pupil ratio was 1:38 at the primary stage, 1:32 at the middle school stage and 1:26 at the high school stage. These State averages, however, conceal very large and unmanageable per teacher strengths in many schools. In addition to the above schools there are 145 other institutions in the State such as pre-primary schools, oriental schools, sainik schools, teacher training schools and pre-vocational training centres. At the end of 1979-80, the enrolment of children in schools was 94.6 per cent in the age group 6—11, 59.7 per cent in the age group 11—14; and 38.4 per cent in the age group 14—16. Though the progress in the direction of enrolment has been notable, yet there are two disconcerting problems namely, backlog in the enrolment of girls and wastage at primary level.

proposed to enrol only about 2 lakhs every year under formal school system during the Plan and cover the remaining number of 14 lakh pupils under the non-formal system. For the enrolment of 2 lakh pupils every year about 5,000 additional teachers will be required every year or a total of 25,000 teachers for the five year period. In addition, another 25,000 teachers will be required to reduce the teacher-pupil ratio to a reasonably manageable level. To sustain the additional enrolment envisaged, new primary and middle schools have to be started. The constraints on resources may not permit the appointment of 50,000 teachers required. Hence, it is proposed to keep the requirements of additional secondary grade teachers to 9,000 only during the Plan period, at the rate of 2,000 teachers per year from 1981-'82 onwards. During 1980-'81, 1,000 posts of teachers have been created already. The services of these teachers would also be utilised in handling kindergarten standards in schools in the rural areas, proposed to be started during the Plan period to promote school-mindedness among pre-school children.

ELEMENTARY EDUCATION :**Requirements of Teachers :**

21.11. The estimated school age population in 1984-'85 under the age groups 6—11 and 11—14 will be 72 lakhs and 32.40 lakhs respectively. Till 1979-'80, 62.28 lakh pupils in the age group 6—11 and 17.67 lakh pupils in the age group 11—14 have been enrolled. Therefore, the additional enrolment to be made during the Plan period will be 9.72 lakhs in the age group 6—11, and 14.73 lakhs in the age group 11—14, totalling about 24 lakhs. It may not be possible to enrol the additional 24 lakhs of pupils of age group 6—11 and 11—14 under the formal school system before 1985. It is

21.12. With a view to strengthen the middle schools in Tamil Nadu, it is proposed to create 12,000 additional posts of Tamil Pandits at the rate of 300 every year from 1981-82, 1,800 B.T. grade headmasters, at the rate of 200 in 1980-'81 and 400 every year from 1981-82; 900 physical education teachers at the rate of 100 for 1980-'81 and 200 every year from 1981-82 onwards; and 1,000 craft instructors at the rate of 200 every year from 1980-'81 onwards. The expenditure involved in creating new posts of teachers as detailed above as also the expenditure as posts created during 1979-80 will be of the order of Rs. 1,748.00 lakhs.

INCENTIVE PROGRAMMES :**(i) Midday Meals :**

21.13. Provision of midday meals in all the elementary schools has a major role in promoting and retaining enrolment in schools. One-third of the total number of pupils of these schools who come from the poorest sections of the population, benefit under this scheme. About 20.85 lakhs of poor pupils studying in standards 1 to 8 of primary and middle schools receive midday meals, including the 1.65 lakhs of pupils fed in Harijan Welfare Schools run by the Harijan Welfare Department and 60,000 pupils fed by Madras Corporation in its schools. Ninety-seven Central Kitchens are functioning in three districts, established with CARE assistance of about Rs. 2.00 crores. This scheme will be extended to some more districts after assessing the availability of assistance from CARE organisation. Every year, the CARE organisation supplies as gift 20,000 tonnes of food, salad oil, etc. This scheme will be continued.

(ii) Free books and slates :

21.14. More than 12 lakhs of pupils get supply of slates and books free every year and the cost of the books i.e. Rs. 25.00 lakhs is met from the Tamil Nadu Text Book Society Funds. About Rs. 5.00 lakhs is spent from State Government funds every year mainly for the free supply of slates to pupils in Standard I. This scheme will be continued.

(iii) Free Uniforms :

21.15. Free uniforms are now supplied to girl students belonging to scheduled caste/scheduled tribe families studying in Standards I to VIII at a cost of Rs. 20 per year per student. This scheme will be continued and a provision of Rs. 464.00 lakhs has been made to cover 5.80 lakh girls during the Plan period.

(iv) Incentive to pupils belonging to scheduled castes and Scheduled tribes :

21.16. The Government of Tamil Nadu have accepted the principle that, whenever possible, not less than about 18 per cent of the benefits flowing from Governmental expenditure should go to the welfare of scheduled castes and scheduled tribes. Besides, 18 per cent of the seats in all courses in the different kind of educational institutions are reserved for them. For the backward classes such reservation is 50 per cent.

21.17. The poverty of the household is the major reason for premature withdrawal of the child from the school. The incidence of wastage and stagnation is high in the case of scheduled caste and the scheduled tribe children.

21.18. The efforts of the School Education Department is supplemented by the Harijan and Tribal Welfare Department which is spending Rs. 16.00 crores per annum for the educational advancement of scheduled castes and scheduled tribes. The Department is also implementing the tribal sub-plan in areas of concentration of scheduled tribes as a co-ordinated programme for the multifaceted improvement of the three lakhs of tribals in Tamil Nadu. In 1979-80, scheduled caste, scheduled tribe pupils formed about 20.1 per cent of pupils in standards I to V. The Department was maintaining 1,046 Harijan Welfare Schools in which 1,70,000 pupils were studying and 600 Harijan hostels with 40,000 boarders.

Elementary School Buildings :

21.19. Provision for building grants to elementary schools run by Panchayat Union Councils in Tamil Nadu is made under the Community Development Sector. For the elementary school buildings in non-panchayat Union areas an outlay of Rs. 20.00 lakhs per year has been provided.

Qualitative Programme :

21.20. For the purpose of improvement of scientific education in elementary schools, grants are given for purchase of science equipments, teaching aids and library books. This scheme will be continued during the Plan period and a provision of Rs. 3.00 lakhs for 1980-81 and Rs. 4.00 lakhs each for the year 1981-82 onwards has been made. The scheme for training in English teaching will be strengthened and one more centre will be opened each year during the Plan period. The scheme for health education Programme for primary school teachers in Tirunelveli district will also be continued.

Secondary Education:**Expansion of facilities:**

21.21. Out of the total strength of 20.44 lakhs of pupils in high schools in 1979-80, 11.60 lakhs were in Standards VIII and lower, 6.34 lakhs in Standard IX-X and 2.50 lakhs in the two higher Secondary classes. The average additional enrolment under the age group 14-17 was only 10,000-20,000 every year in the past. In order to keep pace with the anticipated enrolment in the age group 6-14 it is proposed to double the additional enrolment in the age group 6-14 and fix the target at 40,000 pupils per annum, during the Plan period. To sustain this target, minimum requirements of teachers including B.T., grade, Tamil pandits, physical education teachers and craft instructors will be 3,400 additional posts for the Plan period at the rate of 800 posts every year from 1981-82 onwards plus 200 posts sanctioned in 1980-81. In addition, 12

additional posts of Regional Inspectress of physical education will be created in the Plan period to improve and oversee physical education in girls high schools. A sum of Rs. 522.00 lakhs has been provided for expansion facilities.

High School buildings :

21.22. Under the scheme for assistance to non-Government Schools, grants are given for building and science equipments. Out of 1,985 Government High and Higher Secondary Schools in the State, 216 schools do not have permanent buildings. The Government have drawn up a Master Plan for all Government High Schools at a total cost of Rs. 95.00 crores. This proposal is, however, under consideration now. During the Plan period, a provision of Rs. 30.00 lakhs has been made for the year 1981-82 to 1984-85 towards high school buildings. A small sum out of this will be given as grants to aided schools for building activities.

Improvement Programmes in High Schools:

21.23. Under the scheme for equipping high schools with science laboratories, 993 high schools were covered up to 1979-80. The maximum grant payable under this scheme for Government High Schools was Rs. 55,000—Rs. 37,000 for buildings and Rs. 18,000 for equipments, and Rs. 40,200—Rs. 22,200 for buildings and Rs. 18,000 for equipment for non-Government schools. From 1980-81 the quantum of assistance has been increased to Rs. 1,00,000 for each Government High School and Rs. 68,000 for each Non-Government High School. It is proposed to step up this programme from 1981-82 and cover 100 schools in 1981-82 and 125 schools every year from 1982-83 onwards. Out of the 51 educational districts in the State, 42 are having a mobile science laboratory van. This scheme of providing mobile science laboratories in the districts will be extended to other districts in a phased programme. It is proposed to provide 4 vans in 1980-81 and 5 vans during the year 1981-82 so that all the educational districts will have mobile science laboratory vans. A sum of Rs. 504.00 lakhs has been earmarked for this purpose.

21.24. Books for high school libraries are being supplied now. It is proposed to provide Rs. 2.00 lakhs every year during the Plan period for supply of books. To improve the audio-visual educational facilities in schools, schemes for purchase and supply of television sets to selected high schools in rural areas and strengthening the State Film Library will be implemented during the Plan. A sum of Rs. 17.00 lakhs has been provided.

21.25. The State Council of Educational Research and Training (SCERT) has done useful research and has been innovative in training at all levels of school education. These programmes will be vigorously pursued and a provision of Rs. 50.00 lakhs has been made in the Plan.

Other Programmes :

21.26. It is proposed to strengthen the administrative and ministerial staff of the School Education Inspectorate and strengthen the staff in the Directorate. A sum of Rs. 120.00 lakhs is provided for this purpose.

Higher Secondary Education :

21.27. The main purpose of higher secondary education is to vocationalise education at the plus two stage. Out of 3,000 high schools in Tamil Nadu, 912 have been upgraded as higher secondary schools from 1978-79. During 1979-80, 175 schools and during 1980-81, 155 more schools have been upgraded bringing the total to 1,242 schools. About 2.50 lakhs students were studying in the higher secondary schools in 1979-80. Of these, about 1.98 lakhs were in academic courses and another 0.52 lakhs were in vocational courses.

21.28. An outlay of Rs. 4,000.00 lakhs has been provided in the Plan for higher secondary education. The bulk of the expenditure i.e. Rs. 2845 lakhs is towards upgradation of 100 more high schools, for opening additional sections in the existing schools, for creating 1,000 additional posts of teachers every year from 1981-82 onwards and for meeting the committed expenditure on 4,600 teachers sanctioned upto 1980-81. A sum of Rs. 1155 lakhs is towards providing buildings, science equipments, library books, etc. to Government higher secondary schools and non-Government higher secondary schools, inservice training and for scholarships to students.

Government Examinations :

21.29. The Directorate of Government Examinations conducts 37 Public Examinations a year, involving about six lakhs of candidates. From 1979-80, the Department is also entrusted with the conduct of higher secondary Examination and the E.S.L.C., adding a new dimension to its work. For effecting improvements in the conduct of Government examinations and for strengthening the Directorate, suitable schemes have been drawn up at a cost of Rs. 40.00 lakhs.

Non-Formal Education :

21.30. As stated earlier, 14 lakhs of pupils in the age group 6-14 will have to be enrolled under non-formal education during 1980-85. At present 1,122 centres of non-formal education for age group 6-14 are functioning in Tamil Nadu at the rate of three centres in each of the 376 panchayat unions. The coverage of pupils in these centres is 50,000 per annum. During the Plan period, it is proposed to open 2,400 rural centres and 500 urban centres spread over in the period 1981-82 to 1984-85. The number of beneficiaries in these centres will be 72,000 and 15,000 per annum respectively. Thus in a period of four years, it will be possible to cover about four lakhs pupils in the age group 6-14. A sum of Rs. 1.52 lakhs has been provided for opening new centres.

Adult Education :

21.31. Out of a total population of 4.12 crores in Tamil Nadu as per 1971 census, only 1.63 crores were literate. Illiterates numbering 65 lakhs belonged to age group 15—35. Of this number, four lakhs were covered by various Adult Education Programmes implemented in the past few years. Due to financial constraints, it may not be possible to cover all the remaining illiterate group in the Sixth Plan period. Out of 376 panchayat union blocks in the State, 76 blocks have been covered already under the Centrally sponsored scheme and another 61 blocks under the State Plan. The remaining 239 blocks are proposed to be covered in the Sixth Plan period. Further extension of this scheme would have to be done based on the experience gained in the blocks in which the scheme has already been implemented and necessary changes in the scheme would be necessary in the light of the experience already gained. It is assumed that the Centrally Sponsored Scheme would be continued till the end of the Sixth Plan and funds to the tune of Rs. 70.00 lakhs made available by Government of India.

University Education :

21.32. The number of Arts, Science and Commerce Colleges increased from 178 in 1973-74 to 187 in 1979-80. The number of students in these colleges also increased from 17,000 in 1947-48 to two lakhs in 1978-79, of whom 80,000 were in pre-university class. With the abolition of Pre-University classes from 1979-80, the reduction of the total strength of students in colleges has been of the order of only 65,000, consequent on the opening of new degree courses. The strength of the teaching staff in these colleges was 12,190. Besides, there are 23 teacher training colleges, and 28 other colleges in Tamil Nadu.

21.33. During the Plan 1980-85, it is proposed to establish two new universities of the affiliating type, one at Tiruchirappalli and the other at Coimbatore. Besides the above 2 new universities to be formed out of the existing extension centres, 2 more universities are being planned. One of these will be the Tamil university and the other to be formed by consolidating the educational institutions at Karaikudi. A total provision of Rs. 11.50 crores is being made for these schemes,

Grants to Universities :

21.34. The Madurai Kamaraj and Annamalai Universities were getting grants in 1980-81 to the tune of Rs. 117 lakhs under non-plan and

Rs. 28 lakhs under Plan. For new development programmes of the three Universities a lump sum provision of Rs. 300.00 lakhs has been made for the Plan 1980-85. This level of provision will be adequate to meet the share of the State Government hitherto borne by the University Grants Commission on schemes for which the University Grants Commission assistance has ceased recently or will cease in the ensuing few years.

Grants to International Institute of Tamil Studies :

21.35. From 1981-82 onwards, the annual grant of Rs. 3 lakhs paid to this Institute will be increased to Rs. 5 lakhs.

Improvement Programmes in University Education:

21.36 The needs of the State in the matter of colleges of Arts and Sciences seem to have been met. While there is pressure for admission in a few selected colleges in urban centres, there is surplus in-take capacity in colleges in rural areas even now. During the year 1979-80, 11,297 seats (English medium—8,524 ; Tamil Medium 2,773) in the degree classes were vacant in the Colleges in the State. It is therefore to be ensured that the existing capacity in the colleges is fully utilised. The main emphasis during the Plan will be on qualitative improvement of higher education.

21.37 It is proposed to open 10 to 15 new degree courses in the colleges every year ; open 10 more post-graduate evening classes ; and a few post-graduate courses in Government colleges to meet the requirements of post-graduate students. A sum of Rs. 213.00 lakhs has been provided for opening the new courses.

21.38 For providing laboratory equipment to Government colleges, expenditure of the order of Rs. 4.00 lakhs was incurred every year from 1974-75 to 1978-79. In the Plan period, it is proposed to provide adequate laboratory facilities for the new degree and post-graduate courses opened in recent years at a cost of Rs. 35.00 lakhs.

21.39 The provision of Rs. 160.00 lakhs for buildings made in the Plan will be utilised for construction of hostels and for providing student amenities like cycle-shed, tiffin shed, canteen, drinking water facilities, sanitary facilities, play ground, etc. A sum of Rs. 15.00 lakhs has also been provided as building grant to aided colleges for their building programmes.

21.40 Other qualitative improvement programmes include deputation of Professors and Assistant Professors of private and Government colleges for M. Phil., M. Litt., and Ph.D., courses ; starting of text book libraries in 29 colleges ; and development of play grounds and purchase of games and sports equipments. It is also proposed to upgrade the Presidency College as a

institute for concentrating on Research and Post graduate studies. The Queen Mary's College will also be upgraded as an Institute of Research and Post Graduate Studies. For these improvement programmes a sum of Rs. 32.00 lakhs has been provided.

Sports and Youth Welfare :

21.41 For extending and intensifying activities for promotion of sports and games, a new Department of Sports and Youth Services has been established in Tamil Nadu in 1979. The main emphasis in the Sixth Plan will be to identify the talented and skilled few at the school, college and among the non-student youth at rural and urban levels and to provide coaching, diet, sports, medicine and providing effective competition. The ultimate aim is to produce a large number of sportmen/players of proven ability.

21.42 Physical education is compulsory in schools and non-compulsory in colleges. Sports is optional in both schools and colleges at present. Schools being the formative level of sports development among school children, it will be desirable to separate the sports stream from the general physical education stream in every school, by identifying boys and girls with sports potential and bringing them under the care of physical education directors with special coaching background. During 1980-81 it is proposed to start three sports wings in the high/higher secondary schools attached to the three colleges of physical education at Madras, Coimbatore and Annamalai Nagar. The sports wing will function as a separate section in Standards VIII, IX and X in the respective schools. The boys in the sports stream will stay in their separate hotels, be fed there, trained and looked after.

21.43 Under the college facilities, grants will be given to assist the development of the five sports complexes of Madras University, Madurai Kamaraj University, Annamalai University, Agricultural University and Perarignar Anna University of Technology, by providing dormitories for housing outstation boys brought for coaching and providing indoor stadia wherever necessary.

21.44 Under the non-school programmes, it is proposed to adopt the sportsmen/women, train them and make them competitively fit by providing coaching, diet, medicine etc. This concept of adoption can be expanded eventually and sports houses started. Running tournaments and coaching programmes for boys and girls below the age 17 years in order to identify talents will be continued. Construction of open air stadia at district headquarters and big towns, swimming pools at district headquarters, assistance to panchayat unions for construction of austerity stadia for rural sports centres are also contemplated during the Plan.

21.45 The Directorate of Sports and Youth Welfare will be adequately strengthened through provision of staff, film library, sports complex and additional district sports councils.

21.46 Among the youth programmes, the important schemes are (i) promotion of adventure programme ; (ii) promotion of certain types of traditional moral arts ; (iii) Starting of yoga centres, and (iv) sanction of grants for construction of youth hostels in district headquarters and places of tourist interest.

ART AND CULTURE.

Review of the Progress during 1974-75 to 1979-80 :

21.47 The Tamil Nadu Iyal, Isai, Nataka Manram is doing valuable work in fostering the art of dance, drama and music. During the last 16 years, the Mandram has given awards to about 434 artists in music, dance, drama, film and folk arts. About 900 artists in indigent circumstances receive monthly pension. The Tamil Nadu Ovium Nunkalai Kuzhu fosters the development of the visual plastic art. It awards scholarships to talented artists for their institutional study. A 'Jawahar Nehru Bal Bhavan' has been established at Madras. It will be an educational-cum-recreational centre providing facilities for young children to develop their talents in art, music, dance, etc. The Tamil Nadu Government College of Music at Madras had a strength of 327 in 1979-80. Evening classes are run at four centres in Madras city and 142 students were on rolls of these centres.

21.48 Efforts have been made to modernise the working of the Tamil Nadu Archives. The Tamil Nadu Council of Historical Research is encouraging research in various aspects of life in the South by awarding Research fellowships. The archives has in ready stock a large number of printed Archival Publications of great historical value.

21.49 The Connemara Public Library, Madras which is the State Central Library has 3.09 lakhs of books on its stock. There are now, 13 Local Library Authorities and 13 District Central Libraries and 1,434 Branch Libraries. The total stock of books of all these libraries is about 73 lakhs and the number of members about 8 lakhs. The total library cess collection by the Local Library authority during 1978-79 was Rs. 97.00 lakhs.

21.50 The Government are anxious that the policy of adopting Tamil as the official language of Tamil Nadu should be implemented with vigour at all levels. The International Institute of Tamil Studies established in October 1970 is promoting research on all aspects of Tamil studies and allied field with the active co-operation of international scholars interested in such studies. The Government are also promoting Tamil studies outside the State by giving grants to Universities. Fifteen Universities/Institutions were given grants in 1978-79 and eight in 1979-80. Tamil versions of four English works have been produced. Awards have been instituted to honour Tamil Poets and Scholars and pension is given to Tamil scholars in indigent circumstances since 1978. The first part of the first volume of the

Tamil Etymological dictionary will be published shortly. The fifth International Conference-Seminar of Tamil Studies will be held at Madurai during 1981.

The Plan for 1980-85:

The Objectives:

21'51 Cultural, social and economic development activities are inter-related. The foundations of cultural and social life have to be strong to take the load of economic and cognate activities. The emphasis for the Plan period 1980-85 will be on conservation and promotion of cultural heritage and the preservation of monuments, repositories of manuscripts and art objects.

Plan Outlay:

21'52 The Plan outlay under 'Art and Culture' for 1980-85 is of the order of Rs. 250'00 lakhs. The break up for each head of activity is indicated below :—

Serial number and description of activity.	Outlay for 1980-85.
(1)	(2)
	(RUPEES IN LAKHS.)
1 Public Libraries	90
2 Archives and Gazetteers	10
3 Museums	20
4 Archaeology	50
5 Fine arts education, Iyal, Isai, Nataka Mandram, Ovium Nunkalai Kuzhu, promotion of cultural activities, extension of pension to indigent artistes, etc.	50
6 Development of Tamil culture	20
Total	250
	(or) 2'50 crores.

Programmes:

The Plan programmes are given below :

Public Libraries :

21'53 Steps will be taken to improve the Conne-mara Public Library and its campus, and to open additional branch libraries in places with a population of more than 5,000. The other programmes

envisaged are grant of assistance to local library authorities for constructing buildings, strengthening of the administrative machinery, etc. An outlay of Rs. 90'00 lakhs has been provided.

Archives and Gazetteers :

21'54 Schemes for provision of additional accommodation, modernisation of Archives and development of facilities for research scholars are proposed for implementation during 1980-85. The cost of the gazetter unit (which was hitherto met by the Government of India as a Central sector scheme), will be met under State Plan. A sum of Rs. 10'00 lakhs has been provided.

Museums :

21'55 The establishment of district museums and modernisation of the existing areas at Madras, Pudukottai and Salem are the main programmes. The construction of a building for the children's museum at Madras is in progress. A building for the National Art Gallery is also proposed.

Archaeology :

21'56 During the Plan period, the Department of Archaeology proposes to take up under-sea exploration at Kaveripoompattinam besides excavation at other ancient historical sites. It is also proposed to extend the collection of Tamil manuscripts, loose sculptures and also undertake survey of archaeological remains in districts through appointment of district Archaeological officers. The Departmental press will be expanded and the oriental manuscripts library will be developed and expanded. Site museums will be set up at Poondi, Korkai and Karur. The Administrative Machinery will be strengthened. A sum of Rs. 50'00 lakhs has been provided for these programmes.

Cultural activities :

21'57 The various activities of the Iyal, Isai, Nataka Mandram and Ovium Nunkalai Kuzhu will be diversified and strengthened with an accent on serving the rural areas and preserving village arts. An outlay of Rs. 50'00 lakhs has been earmarked for these programmes.

Development of Tamil Culture :

21'58 The provision of Rs. 20'00 lakhs proposed is towards assisting the establishment of a Tamil Sangam at Madurai, the development of the Tamil Cultural Centre and other schemes for Tamil development.

CHAPTER 22.
TECHNICAL EDUCATION.

22.0. Technical education is one of the key sectors catering to the scientific and technological man power needs of the country for its developmental and productive activities. It covers a broad spectrum of education from the craftsmen training level to post-graduate degree level.

Position at the end of 1979-80 :

22.1. The number of Colleges, Polytechnics and Technical High Schools in the State are given in Table 22.I below :—

TABLE 22. I

<i>Institutions.</i>	<i>Year.</i>					
	1973-74			1979-80		
	<i>Number.</i>	<i>Number of Teachers.</i>	<i>Students strength.</i>	<i>Number.</i>	<i>Number of Teachers.</i>	<i>Students strength.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Engineering Colleges—						
(i) Government	4	..	..	3	..	..
(ii) Aided	3	..	..	3	..	..
(iii) Autonomous	5	..	..	7	..	..
Total	<u>12</u>	<u>741</u>	<u>6,796</u>	<u>13</u>	<u>950</u>	<u>13,084</u>
II. Polytechnics—						
(i) Government	19	..	..	20	..	..
(ii) Aided	19	..	..	19	..	..
(iii) Autonomous	1	..	..	1	..	..
Total	<u>39</u>	<u>1,134</u>	<u>10,591</u>	<u>40</u>	<u>1,353</u>	<u>16,500</u>
III. Higher Secondary Schools (Vocational)—						
(i) Government	11	..	..	11	..	..
(ii) Aided	3	..	..	3	..	..
Total	<u>14</u>	<u>103</u>	<u>1,704</u>	<u>14</u>	<u>103</u>	<u>1,977</u>
Total I, II and III	<u>65</u>	<u>1,978</u>	<u>19,091</u>	<u>67</u>	<u>2,406</u>	<u>31,621</u>

22.2. At the end of 1979-80, there were 67 technical institutions in the State. The number of teachers and students strength in these institutions increased from 1978 and 19,091 in 1973-74 to 2,406 and 31,621 respectively in 1979-80. The annual intake of the technical institutions is given in Table 22. II.

TABLE 22. II.

Institutions.	Annual intake (Numbers.)								Total col. (3) to (8)
	1974-75		1979-80						
	Diploma.		Post Diploma.		Certificate.				
	Full time.	Part time.	Full time.	Part time.	Full time.	Part time.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1. Engineering Colleges..	1,290	1,926	591	482	127	33	5	3,164	
2. Polytechnics	5,826	5,170	465	200	90	130	216	6,271	
3. Higher Secondary Schools (Vocational).	840	..	..	..	..	..	..	840

22.3. The annual intake capacity in the degree and diploma levels in the State has increased from 1974-75 onwards. The total strength of students in these institutions was 31,621 at the end of 1979-80. The engineering colleges offer 17 under graduates courses, 52 post graduate degree/diploma courses. The Polytechnics and special institutions offer 45 diploma, 18 post diploma and 17 certificate courses. Government have allowed an increase of 60 seats each in 9 Polytechnics in the State and also allowed an increase of 10 per cent above the sanctioned intake in the remaining diploma institutions to meet the demand for admissions into Polytechnics.

22.4. In 1979-80, the teacher-student ratio was 1 : 12 in Higher Secondary Technical Schools ; 1 : 13 in Polytechnics ; and 1 : 10 in Engineering Colleges. The per capita expenditure on students was Rs. 15,900 in Engineering Colleges ; Rs. 5,300 in Polytechnics, and Rs. 4,550 in Technical Schools for the entire course.

22.5. For the development of Engineering, technology, and allied sciences and for furthering the advancement of learning and prosecution of research in Engineering, Technology and allied sciences, the Perarignar Anna University of Technology was established in September 1978. This University is of unitary type and the College of Engineering is the principal seat of the University. As part of the career guidance programme, placements sections have been created in all technical institutions in recent years to help and guide the students in securing suitable placements. Autonomy has been granted to four Polytechnics so far at institutional level and at departmental level to five institutions. A planetarium was established at the Government Engineering College, Salem, in February 1979.

22.6. Under quality improvement programme, teachers in Engineering Colleges are sent to institutes of higher learning located elsewhere in the country. So far, 59 members from engineering colleges have obtained doctorate degree and 42 members

are currently undergoing studies. As regards Polytechnics 271 teachers have been trained in the Technical Teachers Training Institute at Madras and 40 are currently undergoing training.

22.7. The overall financial outlay on technical institutions, in Tamil Nadu, during the last decade, increased by more than four times. The outlay increased from Rs. 2.19 crores in 1970-71 to Rs. 9.55 crores in 1979-80.

Approach to the Plan 1980-85:

22.8. Technical Education in the immediate future should address itself to cater to the two main streams of technology, viz.

(i) Technology for heavy industry, defence, atomic power development, rapid transit systems, communications, electronics, alternative energy resources and sophisticated technology for research, analysis, design, construction and operation activities;

(ii) Technology suitable [for direct and immediate application in the villages to raise their standards.

Plan Programmes for 1980-85:

22.9. The outlay proposed for the various programmes for technical education is given below :—

TABLE 22. III.	
Serial number and Programme.	Outlay. 1980-85.
(1)	(2)
	(RUPEES IN LAKHS.)
1. Consolidation and stabilisation	100.00
2. Expansion and development	5 50.00

Expansion and Development :

<i>Serial number and programme.</i>	<i>Outlay for</i>
(1)	1980-85
	(2)
	(RUPEES IN LAKHS)
3. Programmes to meet the changed role of technical institutions.	80.00
4. Extension services	15.00
5. Creation of State level facilities	80.00
6. Grants to other Establishments/Institutions :	
(i) Perarignar Anna University of Technology Madras.	550.00*
(ii) Regional Engineering College, Tiruchirappalli.	80.00
(iii) Food Craft Institute, Tiruchirappalli.	25.00
Total	1,480.00 or 14.80 Crores.

*Provision includes a sum of Rs. 130.00 lakhs made by Perarignar Anna University of Technology towards schemes contemplated for Engineering College, Guindy, under Federal Republic of Germany Technical Assistance.

Consolidation and Stabilisations:

22.10. The quality improvement programme comprising faculty development, curriculum reforms and preparation of institutional materials will be extended. The work-shops and laboratories will be modernised and obsolete equipment in the older institutions replaced to keep pace with the changing technological requirements. The curriculum will be modernised and modified to include new areas in Engineering and Science. The Central facilities created already will be strengthened. 'Learning Resources Centres' will be created in which facilities will be provided for engineering and polytechnic students to improve their ability to think and act in a creative way. Central Electronic Centres will be established at Madras, Coimbatore and Madurai. Basic physical facilities for staff and students, particularly, women students will be strengthened and newly created. Inter-disciplinary facilities will be introduced as part of consolidation of existing facilities. For the above programmes a sum of Rs. 100.00 lakhs has been provided.

22.11. It is proposed to foster expansion and development in certain key areas identified for the purpose. The number of technical institutions in Tamil Nadu have remained at a near static level during the last ten years. The existing engineering colleges have not been geographically well distributed. In South Madras there is not a single engineering college. Therefore, it is proposed to establish a college in Tirunelveli district during the Plan Period. The number of applicants both men and women seeking admission to Polytechnics has also increased considerably during the last few years. At least one Polytechnic is available now in each district of Tamil Nadu except in Dharmapuri, Nilgiris and Pudukkottai. In order to serve the students from weaker sections of the population and to set right the uneven distribution, it is desirable to establish one Polytechnic in each of these three districts. However, it is proposed to establish one Polytechnic each at Pudukkottai and Nilgiris districts during the Plan period. Full fledged facilities will be provided to the four newly started Polytechnics for Men. It is also proposed to open two more Women's Polytechnics, one at Thanjavur and the other at Coimbatore in the private sector, for which the Government share of expenditure will be provided. The courses of study in the colleges and Polytechnics will be reorganised. This will include diversification of programmes into several technological specialities needed for industrial growth and organisation of specific technical education courses in association with industry. Fifty-nine new courses are identified and proposed for introduction. In order to make technical education meaningful it is proposed to identify pockets of obsolescence in technical institution laboratories and replace them with modern equipments in a selective manner. Innovation in teaching methods at various levels from the technical high school level right up to the post graduate level will be introduced to improve the quality of technical education. The cost of the above programmes will be Rs. 550.00 lakhs.

Programmes to meet the changed Role of Technical Institutions:

22.12 The need for expansion of various aspects of Technical education in accordance with the needs of the times has been recognised by the Government of Tamil Nadu. Co-ordination and control of technical education in the Polytechnics is sought to be achieved through setting up of a statutory State Board of Technical Education and Training. In principle, academic autonomy will be given to engineering colleges while the financial and administrative control will be vested with the newly opened Arignar Anna Technological University at Madras. The need for assessing the manpower needs of the changing technology has also been recognised and it is proposed to set up a manpower and evaluation cell in the Directorate of Technical Education,

The scheme of sandwich courses will be extended to Polytechnics also. In order to facilitate easy adjustability to technological changes, short term and refresher courses will be expanded with Government's assistance. It is also proposed to establish a Computer Centre at the Government College of Technology, Coimbatore, for offering courses in programming, computer technology for research work and consultancy services and to serve the needs of industries and business establishments. An outlay of Rs. 80'00 lakhs has been provided for the above programmes.

Extension Services :

22.13. Involvement of academicians in consultancy work will promote interaction between institutions and industry. It is therefore, proposed to expand consultancy work in order to build up expertise, which will be beneficial to the society at large. It is also proposed to build up testing facilities for certification of products, create facilities for students for exhibiting their skills in model buildings etc. through exhibitions in colleges and Polytechnics ; identification and undertaking specific research projects for transfer of technology to rural areas ; starting energy and water resources centres for initiating studies on future requirements and alternate resources and starting an environmental engineering centre to collect data, evolve treatment procedure and prescribe limits to safety in respect of environmental pollution. An outlay of Rs. 15.00 lakhs has been earmarked for these programmes.

State Level facilities :

22.14. While the programmes mentioned above will help develop the State's Scientific and Technological potential, it is also necessary to inculcate the scientific attitude in the society at large and, to promote scientific creativity and technical inventiveness among the children. For this purpose, it is proposed to set up 3 Science Museums, one each at Madras, Coimbatore and Tiruchirappalli. A sum of Rs. 80'00 lakhs has been provided.

Grants to other Establishments/Institutions:

22.15. Grants are released every year to the following establishments and institutions:—

- (1) Perarignar Anna University of Technology, Madras.
- (2) Regional Engineering College, Tiruchirappalli.
- (3) Food Craft Institute, Tiruchirappalli.

A sum of Rs. 550'00 lakhs is provided to the Anna Technological University for creating universal and Central facilities, inter-disciplinary centre and for strengthening and improving the existing facilities in the three engineering colleges and one Architectural School under its control. This sum includes an amount of Rs. 130'00 lakhs representing the provision made towards schemes contemplated under Federal Republic of Germany Technical Assistance. A sum of Rs. 80'00 lakhs and Rs. 25'00 lakhs are provided as assistance to the Regional Engineering College, Tiruchirappalli and to the Food Craft Institute at Tiruchirappalli, respectively.

CHAPTER 23

MEDICAL, PUBLIC HEALTH AND FAMILY WELFARE.

Objectives :

23.0. India is a signatory to the Alma Ata Declaration and the South-east Asia Health Charter of the World Health Organisation and is committed to achieve, Health for all by 2000 A.D. Physical and mental well-being are essential for human progress and development. "The needs of the many should prevail over those of the few." Primary Health care and medical care should reach the many-the many under-privileged, ill-fed and ill-nourished in the rural areas and the urban slums. This calls for conceptual and attitudinal changes, and major shifts in emphasis. The primary aim should be to remove the cause for disease. This requires the provision of clean, protected drinking water, better drainage and sanitation, improvement in the nutritional status of the vulnerable segments of society, better personal hygiene, control of environmental pollution, reduction in family size and elimination of ignorance and superstition. Health, nutrition and family welfare education should also reach the many who are poor. They should also have easy access to simple curative services. Prevention and control of endemic communicable and non-communicable diseases should receive higher priority than the development of costly, sophisticated, curative services. All this cannot be achieved by State effort alone. Co-operation and participation by all segments of society is essential.

23.1. The development of the primary health care and medical services during the Sixth Plan aim to follow the broad objectives mentioned above. Considerable improvements have taken place during the last decade. The mortality rate has declined from 10.5 per thousand in 1965 to 7.2 per thousand in 1978. Infant mortality has dropped from 66 to 43.9 per thousand live births. The birth rate in 1978 had come down to 21.3 per thousand. The important schemes proposed for implementation during the Sixth Plan are high-lighted below :—

1. Rural Health Services

(a) Primary Health Centres

23.2. There are 383 Primary Health Centres with 3,294 sub-centres, which function as Maternity Centres. Considering the needs of the rural population, it is proposed to establish another 80 Primary Health Centres. There are a large number of Primary Health Centres without buildings. They are now located in rented buildings, which are quite inadequate. Buildings for 37 Primary Health Centres, staff quarters and compound walls are proposed to be constructed. In order to equip the Primary Health Centres adequately and provide transport facilities to those without such facilities, it is proposed to buy 40 vehicles, steel almyrahs, equipments etc. for all

the Primary Health Centres. Due to the increase in the cost of drugs, the annual allocation to each centre for the purchase of drugs has been increased from Rs. 14,000 to 20,000.

(b) Mobile Health Services :

23.3. There are 224 mobile health teams functioning at present. Curative and preventive services are to be taken to the villages. It is proposed to have 239 more mobile health teams. The allocation for drugs for each team will be increased from Rs. 15,000 to Rs. 20,000.

(c) Mini-Health-Centres:

23.4. This is intended to encourage voluntary agencies to deliver simple curative and preventive services to the population on a co-operative basis. Government give a grant of Rs. 9,000 per centre per year. The remaining Rs. 9,000 or more should be met by the voluntary agency. There are 164 centres at present. It is proposed to add 150 during the Sixth Plan.

(d) School Health Services:

23.5. This is in operation in 83 Primary Health Centres and 5 Municipalities. It is proposed for implementation in another 50 Primary Health Centres and 25 Municipalities. Besides medical inspection and treatment, health education is also imparted at the schools.

(e) Multipurpose Health Workers Scheme :

23.6. There will be a horizontal integration of functions of the workers under different schemes. There will be one male Health Worker and one Female Health Worker for a population of 5,000 in the rural areas. For every 4 workers, there will be a Health Supervisor, who will be given drugs, for simple curative work. 460 sub-centres have been opened and drugs to the value of Rs. 2,000 per annum will be supplied to each Sub-Centre. Kit boxes for first aid work will also be supplied to the Health Workers and Supervisors. This Scheme is to be implemented throughout the State. The Workers and Supervisors would be suitably trained at selected Primary Health Centres and separate training Schools.

(f) World Bank aided Nutrition Project :

23.7. This is an integrated health, nutrition and family Welfare project, which is assisted by the World Bank. Nearly 50 per cent of the total outlay on this project relates to rural health services, which are mainly for the vulnerable sections of the rural population. The main

object is to improve the nutrition and health status of pre-school children with emphasis on the 6-36 months old children. One Health and Family Welfare Training Centre, 51 Rural Health Training Centres, one lady Health Visitors, School with hostel, nine 60 bed hostels to accommodate female multi-purpose health workers and 1,600 health sub-centres buildings are proposed to be constructed, furnished and equipped. The pilot project which is now being implemented in Kottampatti block of Madurai district will be extended to the whole of Madurai district and Tirunelveli, Ramanathapuram, Pudukottai, North Arcot and Chingleput districts.

The intake of students in the four existing schools to train female Health Workers has been increased from 120 to 480. Five new training Centres to train 600 female Health Workers every year have also been started.

23.8 (g) *Danida Project* : This is a Danish-aided total health care project, to be implemented in the districts of South Arcot and Salem, after an agreement is concluded between the Governments of India and Denmark.

A sum of about Rs. 14 crores will be spent over a period of 5 years. The expenditure for this period is to be met by the Danish International Development Agency (DANIDA).

23.9. (h) *Tribal Health Welfare* : It is proposed to provide a mobile health unit for the Kalrayan Hills and to construct a Maternity Centre building in the tribal area.

2. Control of communicable diseases :—

(a) *Nation! Malaria Eradication Programme* :

23.10. This centrally sponsored programme is being implemented since 1958. Since 1977, the modified plan of operation is being implemented, with the object of reducing or eliminating the morbidity and mortality due to malaria, by active case detections through regular surveillance of fever cases and prompt treatment of all malaria cases, besides undertaking preventive measures to interrupt transmission of malaria by resorting to insecticidal spray and intensification of antilarval operations. Malaria is confined to certain well-defined rural areas and some towns. It is proposed to extend surveillance to more towns, and also strengthen the staff at State headquarters in order to intensify the implementation of this programme. It is also proposed to construct a suitable building for the Central Malaria Laboratory, Madras.

(b) *National Filaria control Programme* :

23.11. Parts of the State are endemic. This programme is being implemented since 1958 with 15 filaria control units, one Survey Unit and 13 filaria clinics. It is proposed to establish 14 filaria control units and 54 filaria clinics during the Sixth Plan.

(c) *Expanded Programme of Immunisation* :

23.12. The object of this programme is to reduce morbidity and mortality from diphtheria, whooping cough, tetanus, poliomyelitis, typhoid tuberculosis, and measles by immunising the maximum number of children below 2 years of age and expectant mothers with tetanus toxoid to prevent tetanus neo-natum. The ultimate goal is to provide immunisation against these diseases to every new born child by atleast 1990. The intensified programme is now being done in 130 blocks. It is proposed to be implemented in another 50 blocks. The epidemiological services would also be strengthened. The 'Cold chain' for the transport of vaccine will also be strengthened by the provision of 80 refrigerators and 15,440 vaccine carriers.

3. Public Health Laboratories :

23.13 (a) *Food analysis laboratories* : To effectively check adulteration of food articles, it is proposed to expand and strengthen the laboratories at Madurai and Thanjavur; staff and equip the laboratory buildings at Palayamkottai and Salem; and establish new laboratories at Erode and Vellore. It is also proposed to provide vehicles to the laboratories at Guindy, Coimbatore, Madurai and Thanjavur

23.14. (b) *Water Analysis laboratories* : Supply of clean, protected drinking water is essential to health care and it is proposed to increase the facility for water analysis. The laboratories at Guindy and Coimbatore would be strengthened and new laboratories would be established at Thanjavur, Madurai, Palayamkottai and Salem.

4. Organisational Development :

(a) *Directorate of Public Health and Preventive Medicine* :—

23.15. With the emphasis on preventive and promotive aspects of health care, the Directorate of Public Health and Preventive Medicine needs to be reorganised and strengthened. There will be 7 Regions, each in charge of an Assistant Director of Public Health and 29 Health unit districts as against 15 at present, each in charge of a District Health Officer, who will be in charge of about 13 to 16 primary Health Centres, 14 Public Health Nurses, 14 District Malaria Officers and 15 Technical Gazetted Assistants. Besides effective supervision and control, the decision making process will also be decentralised. The Assistant Director and the additional Health Officers will be provided with vehicles.

(b) *State Health Transport Organisation* :

23.16. The transport system to deliver health care to all the rural and tribal areas should be efficient. There are more than 1,500 vehicles belonging to Public Health, Medical Services

Medical Education, Family welfare and Indian Medicine departments. The number of vehicles will increase with the increase in the number of mobile health teams, and with the implementation of new schemes. It is necessary to create a separate organisation under an independent head of department, with adequate workshops and support technical staff to repair and maintain the transport vehicles effectively. A building for the workshop at Madras and establishment of workshops at Salem, Coimbatore and Madurai have been proposed. In order to reduce propulsion costs, it is proposed to dieselise vehicles on a phased Programme and also establish a tyre retreading plant.

(c) *Drug Control Administration :*

23.17. It is proposed to have a separate Drug Control Directorate, under an independent head of department in order to promote the growth of the pharmaceutical industry, expedite manufacturing licences, properly regulate and control the sale of drugs and take prompt, punitive action against all those who contravene the existing drug laws. The Drug Testing Laboratory is proposed to be strengthened for this purpose.

(d) *Environmental Pollution :*

23.18. The existing staff is not adequate to inspect and process the applications from industries and other establishments, which have effluent discharge problems. It is therefore, proposed to create an Industrial Hygiene Cell and adequately staff the Cell.

(e) *Health Education :*

23.19. There is a State Health Education Bureau, which has been functioning for some time. The main objective is to change peoples' attitude to health and sanitation problems. The Press, which is used to print all the 'publicity materials has to be expanded and located in a suitable building' to be constructed. Provision has been made for this in the Plan.

5. *Medical Services :—*

23.20. Improvements to District, Taluk, and Non-Taluk hospitals and dispensaries constitute an important part in the health care delivery system, and are intended to bring expanded and specialised medical services nearer the reach of the rural poor.

(a) *District Hospitals .—*

23.21. There are fifteen district hospitals. It is proposed to increase the bed strength in all these hospitals to 400. To this end, about 1,000 beds would be added in five district hospital. In 12 hospitals the operation theatres are proposed to be air conditioned and stand by generators provided to protect the critical systems.

Due to the increase in demand on power, 4 hospitals should have high tension supply. Cold storage facilities to mortuaries are to be provided in 12 hospitals. With the increase in average age, there is also an increase in the incidence of cardiac disease. Therefore nine intensive cardiac care units are proposed to be opened.

23.22. Out-patient blocks have to be constructed in seven hospitals, public health laboratory in one hospital and Tuberculosis Centre building in one hospital. Construction of a 200 bed hospital at Dindigul, a 32 bed ward for children at Pudukottai and the extension of nurses quarters at Kancheepuram have also been proposed. Provision of mortuary vans to three hospitals and steam laundries to two hospitals have also been included in the Plan.

Medical Records Departments with suitably trained staff would be opened in eleven district hospitals.

(b) *Improvements to Taluk and non-Taluk hospitals :*

23.23. The Government intend to increase the bed strength in all taluk hospitals to at least 100. There will be an addition of about 300 beds in 18 taluk and non-taluk hospitals. Construction of additional building to accommodate the additional beds is also proposed. Operation theatres would be constructed in two hospitals, modern kitchen in ten hospitals, X-ray blocks in two hospitals, maternity blocks in two hospitals and out-patient blocks in two hospitals. Ambulance and mortuary vans would be provided in two hospitals.

With a view to bring specialised services nearer to the rural people, it is proposed to start dental, psychiatric, E.N.T., orthopaedic, paediatric, ophthalmic and sexually-transmitted disease clinics in nine taluk hospitals.

(c) *Improvements to Government dispensaries :*

23.24. Buildings for four Government dispensaries would be constructed and fourteen additional dispensaries would be established during the Plan period.

(d) *Homoeopathy :*

23.25. Homoeopathy dispensaries have been started in two district headquarters hospitals. It is proposed to start 13 more in the remaining district headquarters hospitals. The Government are running a Homoeopathy Medical College with a 25-bed hospital attached to it at Madras. A bus for the use of the students in this college will be purchased.

(e) *Accident and emergency medical services:*

23.26. This is intended to provide prompt and effective treatment for accident victims in the rural areas. The Accident and Emergency Medical Services will constitute a three tiered system

viz., the primary health centre will function as the peripheral first-aid centre, the taluk and district hospitals as the casualty receiving stations and the teaching hospitals as the referral institutions for the four districts of Madurai, Ramanathapuram, Tirunelveli and Kanyakumari. This scheme has to be implemented in three phases. The second and the third phases are proposed to be implemented during the Plan period.

6. Control of communicable diseases:

(a) Leprosy.—

23-27. Tamil Nadu is highly endemic, with the average prevalence rate of leprosy ranging from 10 to 40 per thousand. The leprosy control programme is a centrally sponsored national programme. Fifty-nine leprosy control units, 132 S.E.T. units, 48 urban leprosy centres, 2 leprosy sanatorium, one leprosy centre, 9 reconstructive surgery unit and 15 temporary hospitalisation wards have been established. Ten temporary hospitalisation wards are under construction. During the Sixth Plan, it is proposed to add 6 leprosy control units, 22 temporary hospitalisation wards and 1 leprosy rehabilitation promotion Unit. 2 Urban leprosy centres and 6 district leprosy officers units are to be upgraded. The School medical check-up scheme is being continued.

(b) T.B. control programme :

23-28. The District T.B. programme is implemented in all the districts. There are 8 Government T.B. Sanatorium and 3 private T.B. Sanatoria in the State. Some emergency beds are also available for T.B. patients in the district headquarters hospitals and taluk hospitals. In all, there are 3,593 T.B. beds in the State. Free diagnostic and domiciliary treatment facilities are available in the Government hospitals, Government dispensaries and primary health centres.

23-29. The State Government have sanctioned a comprehensive health care scheme to detect the incidence of T.B. among beedi and handloom workers. The State would be divided into five groups, each group being served by a mobile medical unit and a mass miniature radiography unit.

7. Medical Education:

(a) Colleges and Teaching Hospitals :

23-30. There are 8 Government Medical Colleges and one private Medical College in Tamil Nadu. Twenty three teaching hospitals with the total bed strength of 14,202 have been attached to the Government Medical Colleges. Five peripheral hospitals for the provision of Medical services to the sub-urban residents of Madras City have been proposed. Three of them have started functioning and two more are yet

to be established. 2 more peripheral hospitals in 2 district headquarter towns have also been proposed. The Institute of Rehabilitation and Artificial Limb Centre and an Institute of Rehabilitation of Speech and Hearing Handicapped have also been started. A Dental College has been started recently. Improvements to all these hospitals and to the institutes by way of increase in bed strength, construction of additional buildings purchase of modern equipments, provision of generators, high tension supply and air-conditioning of operation theatres, increase in the strength of staff, establishment of new wards and other ancillary facilities have been proposed for implementation during the Sixth Plan. The Medical Colleges, Colleges of Dentistry, Nursing and Pharmacology and other training institutions for para medical workers are also to be improved by increasing the intake of students, strengthening of staff, construction of buildings in the Colleges and for hostels, purchase of equipments and provision of ancillary facilities.

(b) Post Graduate Institute of Education and Research :

23-31. In formulating these proposals, care has been taken to see that the development of teaching institutions and the hospitals attached to them is more or less balanced. It is also ensured that the general specialities are developed in the teaching institutions and teaching hospitals located in the districts. In Madras City, the Madras Medical College and the general hospital attached to it have been developed more than the other medical colleges and general teaching hospitals. The State Government intend that the Madras Medical College and the General hospital should be developed into institutions of excellence. It is, therefore, proposed to upgrade the Madras Medical College into the Madras Institute of Post Graduates Medical Education and Research. Minimum Funds have been provided for this purpose in the Plan.

(c) University of Medical Sciences :

23-32. The Government Medical Colleges come within the fold of the Madras and Madurai Universities. For long, it has been felt that the time has come to have a separate University of Medical Sciences to take care of the academic needs of the Medical Colleges in this State. Provision has therefore been made in the Plan for the establishment of a separate University of Medical Sciences.

(d) Re-orientation of Medical Education :

23-33. The Government of India have started the Scheme, "Re-orientation of Medical Education" with the objective of involving the various Medical Colleges in the direct delivery of health care services to the rural and semi-urban population and also to afford a positive bias towards community services. Three Primary Health Centres have been attached to each of the Medical Colleges to implement this scheme.

(e) King Institute, Guindy :

23.34. This is the biggest Public Health Laboratory in the State. It is a teaching and research centre manufacturing a variety of vaccines. Since the manufacture of small-pox vaccine is almost stopped, the manufacture of anti-rabies vaccine has been started. Improvement schemes for the purchase of needed equipments, construction of buildings and other infrastructure facilities have been proposed for implementation during the Plan.

8. Indian Medicine :

23.35. The system of Indian Medicine is indigenous to Tamil Nadu and is part of its ancient heritage and culture. As the Siddha system of medicine can provide effective medical and health care to masses of the weaker sections of people in rural areas, the Government of Tamil Nadu have been attaching great importance to the development and spreading of the Siddha system of medicine in all its aspects. This does not mean that the other traditional systems of medicine namely Ayurveda, Unani, Naturopathy and Yoga are in any way neglected. Efforts are being made to develop and spread them also.

23.36. The strategy for the development of these traditional systems of medicine during the Sixth Five Year Plan in Tamil Nadu is to further accelerate the development and dissemination of these systems of medicine by provision of the requisite infrastructure by way of hospital facilities, trained man-power, additional coverage of the population and research facilities. The proposals are briefly as follows:—

Siddha :*Opening of Government Siddha Dispensaries :—*

23.37. The Government propose to extend treatment under Siddha System by opening Siddha dispensaries as indicated below :—

- (i) Opening of 20 Rural Dispensaries ;
- (ii) By giving subsidy to panchayat Unions to open 20 Rural Dispensaries. ;
- (iii) By opening 30 Siddha Wings in Taluk and non-taluk hospitals and 15 bedded wards in three towns and 25 bedded wards in two towns.

Development of Medicinal Farms :

23.38. At present one medicinal farm is functioning at Madras. To ensure adequate supply of herbs and raw drugs, it is proposed to establish seven additional medicinal farms. Besides it is proposed to entrust the management and establishment of the medicinal farms to an autonomous corporation proposed to be set up with a share capital of Rs. 200 lakhs.

Hospitals for Government College of Indian Systems of Medicine :

23.39. It is proposed to improve the infrastructural facilities of the existing Indian Medicine Hospital at Palayamkottai by the addition of "Green House" for research on growth of medicinal plant, staffing of anatomy Department and opening of a Superintendent's office besides a Drugs Testing Laboratory.

In the Arignar Anna Government Hospital of Indian Medicine, Madras, it is proposed to employ the requisite staff for Paediatric Ward, Pathology and Bio-Chemistry Laboratories and X-Ray, Department, besides provision of H.T. supply of electricity.

Purchase of rare Siddha Manuscripts, Printed Books and Library books :

23.40. As a continuing process it is proposed to purchase rare Siddha Manuscripts, Cudegon leaves and printing them to foster the development of Siddha Systems of Medicine and add books for the library attached to the Arignar Anna Government hospital of Indian Systems of Medicine, Madras.

Mechanisation of Pharmacy attached to the Government College of Indian Systems of Medicine, Palayamkottai :

23.41. In order to modernise the existing pharmacy attached to the Government College of Indian Systems of Medicine, Palayamkottai, it is proposed to purchase equipment and employ a mechanic to maintain it.

Buildings :

23.42. A total provision of Rs. 215.79 lakhs is required during the Plan period to meet the expenditure on the additional requirements of accommodation by construction of buildings.

Opening of additional Siddha Medical College in Tamil Nadu:

23.43. To meet the growing needs of Siddha doctors anticipated in future, it is proposed to start a second Siddha Medical College in Tamil Nadu during the Plan period and equip and staff it.

Training of Nurses in Indian Systems of Medicine :

23.44. It is proposed to train 15 nurses under Indian Systems of Medicine every year during the Plan period.

Unani :*Government College of Indian Systems of Medicine (Unani), Madras :*

23.45 It is proposed to provide separate college accommodation for the students of the Unani Medicine to undergo the regular course after

completing the Pre-Tibb Course. It is accordingly proposed to construct the buildings for the College and to employ requisite staff by suggesting a provision of Rs.48.84 lakhs during the Plan Period.

Naturopathy Course :

23.46. Four candidates from Tamil Nadu are being sponsored every year with a stipend of Rs.250 per mensem to each of the students. These candidates after completing the above course would provide training and treatment in Naturopathy in Tamil Nadu. It is also proposed to open two Naturopathy Clinics in the State.

Yoga :

23.47. Yoga is only in the infant stage and has to be improved in this State. It is proposed to open Yoga clinics and institutions in Madras and to give grants to the deserving private institutions promoting Yoga.

9. Family Welfare Programme :

23.48. Control of population by adoption of Family Welfare methods by persuasion and, motivation without resorting to coercion, has been the hall mark in the matter of implementation of Family Welfare Programme in Tamil

Nadu, which has been one of the States in the forefront in implementing the policy of the Government of India in this regard. The entire Programme is Centrally sponsored and the expenditure met by the Government of India.

23.49. During the Plan period, it is proposed to continue to intensify the propaganda and motivation programmes through Mass Media activities and to achieve the targets to be fixed, by Government of India from year to year towards sterilisation and other methods like I.U.C.D. and Oral Pills. The incentives to the acceptors will be continued. As the present trend is towards tubectomy, it is proposed to increase bed strength in District and Taluk Headquarters Hospitals, besides, providing Post Partum facilities even in Primary Health Centres.

23.50. Having regard to the importance of Maternal and Child Welfare as an incentive for the success of the Family Welfare Programme, Child Care Programmes like Prophylaxis against nutritional anaemia for mothers and children and against blindness in children will be continued to be given utmost importance, besides immunisation of infants and pre-school age children against Diptheria, Pertusis and Tetanus as well as immunisation of expectant mothers against Tetanus.

TABLE 23-1.

ABSTRACT.

SIXTH FIVE YEAR PLAN 1980-81 TO 1984-85.

Health and Family Welfare Department.

Name of the Directorate.	Provision for		
	1980-81.	1981-82.	1980-85.
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
1 Primary Health Centres	400.82	432.76	2,171.16
2 Public Health and Preventive Medicine	171.98	237.59	1,261.31
3 Medical Services and Family Welfare	185.32	610.34	2,480.94
4 Medical Education	268.60	874.41	2,700.10
5 Indian Medicine	60.88	238.64	743.90
Total	1,087.60	2,393.74	9,357.41

TABLE 23-II.
STATE PLAN.

<i>Name of the Directorate:</i> PRIMARY HEALTH CENTRES.		<i>Provision for</i>		
<i>Serial number and name of the programme.</i>	1981-80.	1981-82.	1980-85.	
(1)	(2)	(3)	(4)	
(RUPEES IN LAKHS.)				
<i>I. Rural Health Services.—</i>				
<i>(A) Improvement to existing Primary Health Centres (383).—</i>				
(i) Appointment of Junior Assistant-cum-Typists for 333 Primary Health Centres (50 to 383).	13.32	19.18	95.58	
(ii) Provision of additional drugs for each Primary Health Centre at the rate of Rs. 6,000 per annum (Rs. 14,000 to Rs. 20,000).	22.98	22.98	114.90	
(iii) Provision of Steel Almirah for all 383 Primary Health Centres.	5.36	..	5.36	
(iv) Staff at Headquarters (Audit, Accounts and Administration Wings.)	..	2.05	8.48	
(v) Equipments, Linen and Matress for 383 Primary Health Centres.	..	5.58	22.32	
<i>(vi) Buildings Programme.—</i>				
Construction of Primary Health Centre Buildings (291 to 328) Staff quarters (221 to 258), Compound Walls (30 to 67).	198.19	134.47	499.71	
<i>2. Establishment of New Primary Health Centres.—</i>				
(383 to 463) (50 per cent of the cost only shown)	..	31.20	208.79	
<i>3. Improvements to existing Mobile Health Teams (224).—</i>				
(i) Provision of additional drugs for each Team at the rate of Rs. 5,000 per Annum.	..	11.20	44.80	
(ii) Provision of new vehicles for 40 Teams .. ..	..	7.00	28.00
(iii) Maintenance cost of existing 224 Teams ..	144.36	150.10	791.26	
4. Establishment of Mobile Health Teams in 239 Primary Health Centres (224 to 463).		24.00	237.10	

TABLE 23—II—cont.

Serial number and name of the programme.	Provision for.		
	1980-81. (2)	1981-82. (3)	1980-85. (4)
	(RUPEES IN LAKHS.)		
5. Mini Health Centres.—			
Maintenance cost of 164 Centres	11-60	19-88	75-76
Staff (one section at Headquarters) for attending the work of Mini Health Centres.	0-41	0-62	3-07
Establishment of 150 Mini Health Centres (164 to 314).	3-00	4-50	34-50
6. Miscellaneous.—			
Prevention and control of visual impairment ..	1-60	..	1-60
(State share of 50 per cent of the cost included) ..	400-82	432-76	2,171-16
<i>Centrally Aided Scheme (Full Cost Shown).</i>			
1 Establishment of New Primary Health Centres (80 numbers) (From 383 to 463).	..	62-40	417-44
2 Prevention and control of visual impairment ..	3-19	..	3-19
Total ..	3-19	62-40	420-63
<i>Centrally Sponsored Schemes (100 per cent Assistance.)</i>			
1 Hill Area Development Programme (On going Scheme).	4-16	1-94	12-53

TABLE 23-III 494 (c).

STATE PLAN.

Name of the Directorate : PUBLIC HEALTH AND PREVENTIVE MEDICINE.

I. Medical.—

(i) School Medical Inspection (Rural).—

(From 83 Primary Health Centres to 133) (2,000 School children (6-11) will be examined in each Primary Health Centres per annum.)	4-97	5-85	34-88
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(ii) School Medical Inspection (Urban).—

(From 5 Municipalities to 30) (10,000 School children will be examined in each Municipal area per annum).	..	4-76	33-49
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(iii) Opening of Maternity Centres in Tribal areas (Existing-1) Sittilingi in Dharmapuri district.	0-25	0-29	1-80
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(iv) Mobile Medical Unit in Kalrayan Hills (Existing scheme-1).	1-50	1-56	8-10
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(v) Construction of Buildings for Maternity Centres in Tribal areas.	..	1-00	1-00
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TABLE 23—II—cont.

Serial number and name of the Programme.	Provision for.		
	1980-81.	1981-82.	1980-85.
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
II. Public Health and Administration.—			
1. D.P.T. Immunisation of Pre-School Children (From 130 to 180 Primary Health Centres).	3.85	5.27	30.05
2 Additional expenditure on Food Analysis Laboratory at Madurai and Thanjavur (Existing).	2.86	2.24	8.85
3 Establishment of Food Analysis Laboratory at Palayamkottai and Salem.	2.12	1.14	6.99
4 Establishment of new Food Analysis Laboratories at Periyar district and North Arcot district and Provision of Vehicles for Food Laboratories at Existing places, viz., Guindy, Coimbatore, Madurai and Salem.	..	..	14.75
5 Equipment for Water Analysis Laboratory at Guindy.	1.30	..	1.30
6 Strengthening of Regional Water Analysis Laboratory at Coimbatore (existing one).	2.97	1.03	7.50
7 Establishment of Additional Water Analysis Laboratories at Thanjavur, Madurai, Palayamkottai and Salem.	..	..	31.23
8 Drugs Testing Laboratory (Equipments)	3.17	..	3.17
9 Formation of separate Drugs Control Administration.	..	8.82	31.13
10 Establishment of separate State Health Transport Organisation. (Existing schemes also included).	14.71	10.29	46.70
11 Smallpox Eradication Programme (Utilised for E. and I. Programme).	14.42	14.69	79.96
12 Strengthening of Food Control Cell at Headquarters.	2.55	4.74	23.46
13 Reorganisation of Public Health set-up	5.35	10.67	49.83
14 Supply of Motor Vehicles and Steel Almira for Regional Assistant Directors, Vehicles only to 14 Health Unit districts.	..	19.87	28.06
15 Community Health Services in Primary Health Centres	..	2.79	10.59
16 Expansion of Nutrition Training and Health Education Programme (Training Programme only stipend cost).	0.16	0.09	0.58
17 Strengthening of Survey Unit for E. & I.	0.37	0.49	2.31
Provision of refrigerators	2.00	0.50	4.00
18 Strengthening of National Smallpox Eradication Programme Cold Chain. (15,440 vaccine carriers to the Multi Purpose Health Workers).	..	3.38	9.17

TABLE 23-III—cont.

Serial number and name of the programme.	Provision for		
	1980-81.	1981-82.	1980-85.
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
19 Creation of 14 posts of Public Health Nurses (15 to 29).	..	1.29	5.92
20 Construction of Additional Hostel for Health Visitors' School, Madras.	..	4.00	5.87
21 Supply of one Mini Bus for Health Visitors' School	..	2.17	2.79
22 Creation of 15 posts of Technical Gazetted Personal Assistants.	..	1.72	7.12
23 Construction of building for State Public Health Press.	..	..	3.00
24 Construction of buildings for 7 Regional Assistant Directors and 29 Health Unit Districts.	..	..	171.00
25 Establishment of Filaria Control Units and Clinics.			
	<i>Existing.</i>	<i>Proposed.</i>	<i>Total.</i>
Control Units ..	15	14	29
Clinics	13	54	67
Survey Unit ..	1	..	1
	7.81	25.89	176.30
26 Establishment of Malaria Surveillance in 12 Urban Towns (State Funds) (Existing 9 Towns to 21).	..	..	28.50
27 Creation of 14 posts of District Malaria Officers (15 to 29).	..	1.25	5.90
28 Institution of Public Health Entomology Course in Madras Medical College (Training Programme).	..	1.10	4.55
29 Construction of building for Central Malaria Laboratory.	..	..	6.00
30 State Share of Malaria Scheme. (Cost of materials to be received from the Government of India).	47.54	47.66	114.65
31 State Share Filaria Programme (Cost of materials to be received from the Government of India).	19.58	15.00	57.08
32 State Share of Multipurpose Health Workers (Existing to be implemented in 5 districts—Chengalpattu, South Arcot, Salem, Madurai and Kanyakumari)	34.70	36.16	185.80
33 Establishment of Industrial Hygiene Cell .. ..	..	1.88	5.93
34 State share of Centrally aided Urban Malaria Scheme—			
Extension of Urban Malaria Scheme to towns (6 towns).	..	..	12.00
Total ..	171.98	237.59	1,261.31

TABLE 23-III—cont.
CENTRALLY AIDED SCHEME (FULL COST SHOWN).

NAME OF THE DIRECTORATE: DIRECTORATE OF PUBLIC HEALTH AND PREVENTIVE MEDICINE.

Serial number and name of the programme.	Provision for.		
	1980--81.	1981--82.	1980--85.
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
1 Malaria Control Headquarters	7.40	7.62	39.68
2 Urban Malaria Programme	4.67	4.69	47.61
3 Training of Employment of Multipurpose Health Workers.	69.40	72.31	371.60
4 National Filaria Control Programme	39.15	30.00	114.15
5 National Malaria Control Programme	83.00	85.00	166.00
Total ..	203.62	197.62	739.04

CENTRALLY SPONSORED SCHEME.

1 Tamil Nadu World Bank Nutrition Project ..	152.08	460.00	20,04.05
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TABLE 23-IV.

STATE PLAN.

Name of the Directorate : MEDICAL SERVICES AND FAMILY WELFARE.

I Direction and Administration :

Construction of a separate Administrative Block for the Directorate. ..	125.00	125.00
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II Improvements to District Head quarters Hospitals :

Air-conditioned Operation Theatres (Central Air-conditioning) to the District Head quarters Hospitals (1 to 13)	32.00	16.00	96.00
Generators to the District Headquarters Hospitals (3 to 15)	3.00	13.00	35.00
H.T. Supply to the District Headquarters Hospitals (1 to 5)	..	4.35	17.40
Cold Storage Facilities to Mortuaries in the District Headquarters Hospitals. (3 to 15).	..	5.00	12.00
Staff Expenditure towards the X-Ray plant for the District Headquarters Hospitals, Tiruchirappalli and Tuticorin. (On going) }	4.15	4.63	24.07
Strengthening of N.G.G.O. Dispensaries in 10 District Headquarters Hospitals. (On going). }			

TABLE 23-IV—cont.

Serial number and name of programme.	Provision for		
	1980-81	1981-82	1980-85
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS)			
Strengthening of I.C.C. Unit at District Headquarters Hospital, Trichirappalli	1.23	2.25	10.95
Provision of ICC Unit to all District Headquarters Hospitals (3 to 12).	3.00	6.00	55.11
Provision of X-Ray unit to the District Headquarters Hospital, Erode	1.35	..	1.35
Other programmes (4631 to 5880)-1249 beds are to be added.	4.59	39.26	524.71
III Improvements to Taluk Headquarters Hospitals:—			
(5987 to 6229)-242 beds are to be added ..	7.86	13.33	136.79
IV Improvement to Non-taluk Hospitals (2087 to 2307) 220 beds are to be added.	29.97	45.03	239.69
V Opening of Special Departments—			
(Accidents and Emergency Services II and III phases included) (100 Special Departments including Medical Record Department are to be newly opened.)	53.70	268.06	995.50
VI Opening of Government Dispensaries—			
(14 Dispensaries are to be newly opened and 90 beds are to be added).	2.88	6.39	38.19
VII T. B. Control	2.08	34.01	61.02
VIII Provincialisation of Panchayat Union Dispensaries (on going).	1.71	1.90	9.92
IX Opening of Dispensaries in Tribal Areas (on going).	5.64	5.73	30.25
X Homoeopathy.			
(13 Dispensaries are to be opened)	2.10	1.53	18.82
XI State share of Leprosy Control programme ..	30.06	18.87	49.12
Total ..	185.32	610.34	2,480.94

CENTRALLY AIDED SCHEME (FULL COST SHOWN).

Name of the Directorate—MEDICAL SERVICES AND FAMILY WELFARE.

1 Training of the Para Medical Workers (on going) ..	0.11	0.11	0.61
2 Leprosy Control programme (on going)	60.00	37.61	97.61
Total ..	60.11	37.72	98.22

TABLE 23-IV—cont.

Serial number and name of the programme.	Provision for		
	1980-81	1981-82	1980-85
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS).			
(CENTRALLY SPONSORED SCHEMES (100% ASSISTANCE).			
Name of the Directorate : MEDICAL SERVICES AND FAMILY WELFARE.			
1 Hill Area Development programme (on going Schemes).	6.74	7.16	30.54
Total ..	6.74	7.16	30.54
2 Family Welfare Programme (on going)	970.48	997.75	5,164.38

TABLE 23-V.

STATE PLAN.

Name of the Directorate : MEDICAL EDUCATION.

1 State Commitment—			
Direction and administration-Headquarters:— Continuing scheme.	1.34	1.36	7.21
2 Medical Relief—			
Improvements to teaching hospitals continuing schemes.	49.95	44.65	214.38
New Schemes 1980--81	11.69	1.65	14.32
Buildings	27.32	212.49	239.81
New Schemes 1981--82 to 1984--85 .. .. .	..	321.57	1,145.07
3 Government Institute of Rehabilitation of physically handicapped at K.K. Nagar cotinuing scheme.			
New Schemes 1981--82 to 1984--85 .. .. .	..	2.50	15.41
4 Strengthening of dispensaries of N.G.G.Os. in major district Headquarters and Madras city-Continuing Scheme.			
	3.90	4.54	23.24
5 Cancer control—			
Continuing scheme	17.10	41.08	123.39
New Schemes 1981-82 .. .. .	..	1.00	1.00

TABLE 23-V—cont.

Serial number and name of the programme.	Provision for		
	1980-81	1981-82	1980-85
(1)	(2)	(3)	(4)
	(RUPEES IN LKAHS.)		
6 Education —			
Improvements to Medical Colleges—Continuing scheme.	16.16	1.84	24.06
Building	56.91	..	56.91
New Schemes, 1980-81	3.93	4.25	21.75
Buildings	17.36	1.31	17.36
New Schemes, 1981-85 .. .. .	..	..	101.05
7 Upgrading of M.M.C. as Institute of Medicine and Community Health—Continuing scheme.			
New Schemes, 1981-82 .. .. .	..	100.00	200.00
Dental College, Madras—Continuing scheme ..	8.11	9.14	37.30
8 Training—			
Training of Nurses—Continuing scheme	20.43	24.19	120.30
9 Research—			
Establishment of Medical Record Department in three teaching hospitals.	4.27	3.19	17.78
New Schemes, 1981-82 .. .. .	..	8.50	14.34
10 Laboratories (Bacteriology) King Institute, Guindy—Continuing Scheme			
New Schemes, 1980-81	12.03	..	12.03
Buildings	0.80	..	0.80
New Schemes, 1982-83 to 1984-85 .. .. .	..	..	23.00
11 State share of aided schemes—Re-orientation of Medical Education and involvement of Community Health Programme—Continuing scheme.			
	5.01	3.29	17.87
12 Medical University			
	..	75.00	200.00
Total			
	268.60	874.41	2,700.10
Centrally Sponsored Scheme (100 per cent assistance Laboratory evaluation)—Continuing scheme.			
	1.20	1.33	6.19
State share of re-orientation of Medical Education and involvement of Community health programme (full cost shown) continuing scheme.			
	10.02	6.59	35.75

TABLE 23-VI,
STATE PLAN.

Name of the Directorate : INDIAN MEDICINE

<i>Serial number and name of Scheme.</i>	1980-81	1981-82	1980-85
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
<i>I. Siddha.—</i>			
1 Opening of Government Rural Dispensaries	0.96	2.85	14.25
2 Assistance to Panchayat Unions to run Rural Dispensaries	1.91	1.91	12.35
3 Development of Medicinal Farms	6.63	3.19	31.13
4 Headquarters Staff and Regional staff	0.75	1.20	5.71
5 Siddha wings in District/Taluk/Non-taluk Headquarters Hospitals—			
(i) 65 Siddha wings in district and taluk hospitals .. .			
(ii) Siddha wings in teaching hospitals (Madurai, Coimbatore, Thanjavur and Chingleput).			
(iii) 15 bedded wards at Ramanathapuram, Chidambaram and Dharmapuri.			
(iv) 25 bedded wards at District Headquarters Hospitals, Erode and Nagapattinam. }	8.81	24.75	133.62
(v) Siddha wings in eight Primary Health Centres .. .			
(vi) Siddha dispensaries in Madras City			
(vii) Ministerial staff in Siddha wings			
6 State Headquarters Hospital attached to the Government College of Indian Systems of Medicine at Palayamkottai. (Formation of Superintendent's Office Creation of Chief Pharmacists posts, Staff and equipments for Drugs Testing Laboratory.)	..	2.74	15.07
7 Improvements to Arignar Anna Government Hospital for Indian Medicine, Madras (Employment of additional staff for 25 bedded Paediatric Ward, Pathology, Biochemistry and X-Ray Depts., H. T. Electrical supply),	..	11.75	22.34
8 Purchase of rare Siddha manuscripts and printed books by Siddha Science Development Committee and purchase of library books for Arignar Anna Government Hospital for Indian Medicine, Madras.	0.50	0.50	3.20
9 Mechanisation of Pharmacy attached to the Government College of Indian System of Medicine, Palayamkottai.	1.09	0.14	1.83

TABLE 23-VI—cont.

Serial number and name of programme (1)	Provision for			
	1980-81 (2)	1981-82 (3)	1980-85 (4)	
(RUPEES IN LAKHS)				
10 Buildings.—				
(i) Construction of O. P. Dept. Special ward, 25 bedded paediatric ward, garage for mobile van at A.A.G.H.I.M. Madras.	}	38.49	65.20	215.79
(ii) Construction of Siddha wings in Thanjavur and Periyar districts.				
(iii) Construction of additional buildings for Capt. Srinivasamurthy Research Institute.				
(iv) Provision of modernised kitchen, Paediatric ward (50 beds) Drugs Testing Laboratory additional buildings for canteen, co-op. stores, P. G. Block, Medicinal plant unit, Warden quarters for G. C. I. S. M. Palayamkottai.				
(v) Construction of Buildings for D. I. M. Office				
(vi) Construction of buildings for additional Siddha Medical College.				
(vii) Construction of buildings for 50 bedded hospitals in 2 districts.				
(viii) Construction of buildings for X-Ray Block, Physics and Chemistry lecture halls, garage for mobile van at GCISM, Palayamkottai.				
11 Opening of additional Siddha Medical College in Tamil Nadu (Provision of staff etc., for College and Hospital)	0.15	0.16	18.94	
12 Increase of stipends to post-graduate students	0.83	0.46	3.11	
13 Training of Nurses in Indian systems of Medicine ..	0.25	6.10	9.54	
14 Establishment of Autonomous Corporation for Medicinal Farms.	..	100.00	200.00	
II. Unani.				
Indian systems of Medicine College in Madras City (Construction of buildings for Unani College, staff and equipment).	0.39	17.41	48.84	
III. Other Expenditure.				
1 Naturopathy course	0.12	0.28	4.83	
2 Yoga :				
(i) Opening of yoga clinic	}	3.35
(ii) Opening of yoga institute in Madras				
(iii) Grants to private yoga clinics				
Total ..	60.88	238.64	743.90	

TABLE 23-VI—cont.

<i>Serial number and name of the programme.</i>	<i>Provision for.</i>		
	1980-81.	1981-82.	1980-85.
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
CENTRALLY SPONSORED SCHEME (100 per cent Assistance).			
1 Development of Indian Systems of Medicine Pharmacy at Arignar Anna Government Hospital of Indian Medicine, Madras.	2.00	1.00	4.59
2 Post-Graduate course in Siddha System of Medicine and Research at Government College of Indian Systems of Medicine, Palayamkottai.	2.48	2.99	15.34
Total ..	4.48	3.99	19.93

Part II

SECTORAL PLANS

E. SOCIAL WELFARE

PART II-E.—SOCIAL WELFARE

CHAPTER 24.

WATER SUPPLY AND SEWERAGE.

Urban Water Supply Schemes:—

24.0. The first two Water Supply Schemes in Tamil Nadu were implemented in Madras City and Ootacamund, and they were completed almost at the same time in 1874. By 1900, Water-Supply Schemes were implemented in four more towns and by 1947 water supply was available in 44 towns in the State.

24.1 Water supply schemes are in operation in both the Corporation, Cities Madras and Madurai. 90 Municipalities, 5 Municipal Townships, 8 Panchayat Townships and 117 Town Panchayats of the State. Schemes are under execution in 4 Municipalities and 66 Town Panchayats. The population covered by these new water supply schemes is 114.25 lakhs. Thus, out of 740 local bodies water supply has either been provided or schemes are under execution in 292 local bodies. Water Supply Schemes are needed for the remaining 448 local bodies, out of which, investigation for providing water supply is in progress in 97 local bodies. Investigation is yet to be undertaken for the remaining 351 local bodies.

24.2. Improvement to existing water supply schemes is under execution in both the Corporation Cities, 21 Municipalities, 1 Municipal Township and 3 Panchayat Townships. Investigation for providing improvements to existing water supply system is in progress in both the Corporations, 15 Municipalities and 3 Town Panchayats.

24.3. The approximate cost of providing water supply to the remaining 448 towns will be Rs. 2,150 million. The rough cost of providing sewerage facilities to the 9 Class I towns is expected to be Rs. 950 million. For the remaining towns low cost sanitation facilities are to be provided.

24.4. Regarding drainage, Sewerage Schemes are in operation in both the Corporation cities, 9 Municipalities, 1 Municipal Township and 1 Panchayat Township. Sewerage Schemes are under execution in 5 Municipalities and 1. Town Panchayat. The population covered by these new sewerage facilities is 46.49 lakhs. Investigation for providing sewerage facilities in 5 towns is in progress. Investigation is yet to be undertaken for the remaining 716 local bodies.

24.5. There are 17 towns in Tamil Nadu having a population of more than 1.00 lakh. Of these, 8 towns have already been covered by sewerage schemes. Regarding 3 towns, investigation has been completed and project reports are ready. To cover all the 17 towns with a population of over 1.00 lakh with sewerage facilities, investigation is needed in the case of 6 more towns.

24.6. Improvements to existing sewerage schemes are under execution in both Corporation Cities and 1 Municipality. Investi-

gation for improving the existing sewerage facilities is in progress in both the Corporation and in one Municipality.

24.7. The future objective for water supply and Sewerage Schemes for local bodies other than village panchayats will be (i) completion of the schemes now under construction, (ii) Improvement and extension of schemes under operation, and (iii) the provision of water supply and sewerage schemes for all local bodies where the schemes are not in operation or construction.

24.8. The towns which do not have water supply and sewerage schemes under operation or execution at present and where they have to be provided newly are categorised below :—

(1)	Water supply.	Sewerage.
(1)	(2)	(3)
Municipalities	5	85
Municipal Townships ..	3	7
Panchayat Townships ..	5	12
Town Panchayats	435	617
Total	448	721

24.9. The population to be served by the new Water Supply Schemes and Sewerage Schemes will be 4.08 million and 10.86 million respectively. Water supply schemes are under investigation in 3 Municipalities, 1 Municipal Township; 2 Panchayat Townships and 91 Town Panchayats. Investigation for providing sewerage facilities is in progress in 3 Municipalities, 1 Municipal Township and 1 Panchayat Township. Hence, action to provide new water supply and sewerage schemes is to be initiated in the case of 351 towns and 716 towns respectively. However, the Sixth Five-Year Plan contemplates execution of 245 out of 448 new Water Supply Schemes and 9 new Sewerage Schemes for the remaining Class I towns only. Updating of water supply schemes is programmed to be carried out in the case of 9 major towns. Low cost sanitation facilities will be provided for 101 towns. Also sullage utilisation schemes will be implemented in towns located on river banks.

24.10. The first Phase of the proposed World Bank Project to provide Water Supply and Sewerage to towns mentioned above is to commence in 1981-82. In the first instance (i) New Water Supply Schemes to 120 medium towns and (ii) Water Supply augmentation schemes to 4 major towns will be executed during the Sixth Five-Year Plan period. The cost of providing new Water Supply Schemes to the medium towns will be Rs. 40 crores and the cost of providing water supply augmentation schemes to 4 major towns will be Rs. 45 crores thus totalling Rs. 85 crores or 100 million U. S. dollars.

24.11. The current programme for 1980-81 and the programme proposed for World Bank and L.I.C. Assistance for the years 1980-81 to 1984-85 is taken as the Sixth Five-Year Plan for the Urban sector of water supply and sewerage schemes in Tamil Nadu (Excepting for the Madras Metropolitan Area).

24.12. The Sixth Plan is expected to generate an employment potential of about 5,000 more Technical personnel and 2,500 more Non-Technical personnel. Employment opportunities will be made available for about 8,000 unskilled labourers. The Sixth Five-Year Plan will benefit mostly poorer sections in Urban and Rural Areas on a scale not attempted so far.

24.13. Regarding Sewerage, even though a part provision is made to cover the remaining Class I towns during this Sixth Plan period, the endeavour will be made to complete in all respects only in 2 towns out of 9 towns. For the remaining towns under class II etc., only low cost sanitation facilities are proposed to be provided. It is also

programmed to provide sullage utilisation schemes for the towns located on the river banks in the first instance to avoid pollution of water courses.

Rural Water Supply Programmes :

24.14. Regarding Rural Schemes, the objective of the Plan is to provide good water supply with a public distribution system in all villages of the State. As per the 1971 census the population of Tamil Nadu is 412 lakhs of which 257 lakhs or 62 per cent live in Rural areas and 38 per cent of population in Urban Areas. From pre-independence days till the year 1979-80 an amount of Rs. 125 crores had been invested in providing water supply facilities for urban population which constitutes 38 per cent of the State's total population where as an amount of only Rs. 50.85 crores had been spent for the benefit of rural population which constitutes 62 per cent of the State's total population in providing water supply. Practically no amount was spent till the year 1970-71 for the Rural Water Supply Schemes.

24.15 The rural habitations in Tamil Nadu were surveyed and divided into the following six types.

<i>Classification.</i>	<i>Definition.</i>	<i>Number of habitations.</i>	<i>Total population in lakhs based on 1976 survey.</i>	<i>Amount required for providing water supply.</i>
(1)	(2)	(3)	(4)	(5)
(RS. IN LAKHS.)				
Type 1 ..	Habitations with no source within the habitations.†	‡3,453	11.63	730
Type 2 ..	Habitations where the source yield only non-potable water.	1,966	12.00	1,705
Type 3 ..	Habitations where water is potable, but source is not perennial.	‡6,487	‡26.68	9,603
Type 4 ..	Habitations where water is potable and perennial but the source is either privately owned or unprotected.	‡4,955	‡25.48	7,817
Type 5 ..	Habitations where there is no good source within the habitations, but an alternative good source is available within 1 km.	‡1,107	4.16	1,523
Type 6 ..	Habitations where there is a good source available.‡	29,106	235.97	36,680
		47,075	315.92	58,058

Note.—(1) For the habitations under type 1 to 4 mentioned above there is no alternative good source within one kilometre.

(2) The habitations under Town Panchayats have been excluded in the above statement.

24.16 The above categorisation has been made in the order of priority in which the habitations should be covered for providing drinking water supply schemes.

24.17. The Planning goal for water supply in case of rural areas is to provide within the habitations and within easy reach of the inhabitants a public source of potable, protected water of perennial supply. In order to achieve this goal, the following norms have been fixed for the water supply schemes taking into account the population of the habitations.

FORMS PROPOSED TO BE ADOPTED FOR RURAL WATER SUPPLY SCHEME :

A. Borewells and Over Head Tank :—

(i) For Population Less than 300 (Ultimate Stage) One deep borewell with hand pump, if the source is inside the habitation or one deep borewell with a power pump and an RCC overhead reservoir, if the source is outside the habitation. Irrespective of whether the source is inside or outside the habitation.

(ii) For Population 301—750 (Ultimate Stage) One deep borewell with a power pump and a large RCC Overhead Reservoir 15,000 litres capacity.

(iii) For population 751—1,500 (ultimate stage) One deep borewell with a power pump and RCC Overhead reservoir of 30,000 litres capacity.

(iv) For population 1,501—3,000 (ultimate stage) One deep borewell with a power pump and RCC Overhead reservoir of 60,000 litres capacity.

(v) For Population above 3,000 (ultimate stage) One deep borewell with a power pump and RCC overhead reservoir of 1,00,000 litres capacity.

B. Distributions system (Connecting Pipes from Overhead Tank to Public Fountains) :—

(i) For population Less than 300

(a) No distribution mains should be provided if the source is inside the habitation.

(b) Distribution main for a total length not exceeding 500 (Five hundred) metres is adopted if the source is outside the habitaion. Irrespective of whether the source is inside or outside habitation.

(ii) For population 301—750

Distribution main for a total length not exceeding 1,000 (One thousand) metres is adopted.

(iii) For population 751—1,500

Distribution main for a total length not exceeding 1,500 (One thousand five hundred) metres is adopted.

(iv) For population 1,500—3,000

Distribution main for a total length not exceeding 2,000 (two thousand) metres is adopted.

(v) For population above 3,000

Distribution main for a total length not exceeding 2,500 (two thousand and five hundred) metres is adopted.

Investment Needed :

24.18. From 1977-78. Rs. 18,37 lakhs have been spent to provide water supply to 3387 numbers of type 1 and 2 habitations. The balance number of 20,33 habitations under type 1 and 2 will be completed at a cost of Rs. 6,00 lakhs before the end of 1980. A sum of Rs. 1,89,00 lakhs will be required to provide water-supply to 12,549 habitations under Type 3, 4 and 5. Thus, a provision of Rs. 1,95,00 lakhs is necessary to complete this programme. A provision of Rs. 10,00 lakhs has been made to provide sanitation schemes in rural areas during the plan period. Rs. 10,00 lakhs for operation and maintenance and Rs. 4,52 lakhs for survey, Investigation will also be needed. The total plan provision under Rural sector will be Rs. 2,20 crores.

24.19. The finance needed is proposed to be obtained from the Government of India, Government of Tamil Nadu and the local bodies. The Government of India have provided Rs. 2.15 crores to Tamil Nadu in 1977-78 and Rs. 3.96 crores for 1978-79 and Rs. 2.13 crores in 1979-80. It is expected a sum of Rs. 30,00 lakhs will be received from the Government of India during the plan period.

24.20. The Government of Tamil Nadu, have fixed norms for local contributions for Water-supply schemes varying from 5 per cent to 50 per cent depending on the category of the Panchayat Union in which the habitation is located. To judge the feasibility of obtaining local contributions for the programmes of 1977-78 and 1978-79, an analysis has been made of the financial position of the local bodies. This analysis has revealed that the percentage of contribution from the local bodies on the average is about 10 per cent of the scheme cost. However it may be assumed that the total contribution from the local bodies will be Rs. 19,00 lakhs which works out to 25 per cent of the scheme cost. The contribution of Government of Tamil Nadu will be Rs. 1,00,00 lakhs. The external inputs anticipated will be of the order of Rs. 41,00 lakhs will be towards assistance expected from bilateral agencies for provision of Water-Supply in fluorid affected areas and assistance from Dahida towards supply of special types of rigs.

WATER SUPPLY AND SEWERAGE SYSTEM IN MADRAS METROPOLITAN AREA.

City Water Supply—Present Status :

24-21. For the City of Madras protected water supply system and the sewerage system exists only to the limit of pre 1978 City. The basic water supply and sewerage net-work was designed by Mr. Madley, the Engineer of the Corporation of Madras in 1910, and it continues in existence even today. The source of the water supply is the Poondi, Cholavaram and Red Hills surface storages, with a total capacity of 183m³ (million cubic meters) fed by the Kortaliyar river basin. The water is treated by rapid gravity mechanical filters and slow sand filters of total capacity of 250 mld. Distribution covers the city grid with a total network of about 1,200 km. of pipe line but half length is more than five decades old. A major constraint in the system is the limitation of the source which is fed only by a single monsoon of October-December. Analysis of the past 30 years storage data of the existing sources has revealed that the source has a safe potential of about 200 mld only. Present drawal in years of normal rainfall has been maintained at 220 mld. The City's population gets a water supply of only 70 lpcd (litres per capita per day). For the comparable purposes, the per capita supply in Delhi, Bombay, Calcutta and Bangalore are 218, 125, 219 and 122 litres respectively. In Madras city about 5,600 fountains have been provided to serve the public. Only 45 per cent of population is provided with house connections. Only 85 per cent of the total population has access to piped supply and the remaining population depends on mobile water supply or private wells.

Present Status—City Sewerage :

24-22. The Sewerage System covers a length of about 1,100 Km. only in the (old) city. The system is punctuated with as much as 55 pumping stations in view of the fact that the city is flat and the high water table does not permit laying deep sewers. Till 1958 relay system of pumping converged to the North and raw sewage used to be disposed into the sea. Subsequently regionalisation of the system and full scale biological treatment is being gradually implemented. Sewerage facilities are available only to about 74 per cent of the (old) city's population. The insufficiency of the sewerage system is one of the factors for the population of the city's water ways.

Metropolitan Area :

24-23. Protected water supply is generally in existence only for major Municipalities like Tambaram, Tiruvottiyur, etc in the metropolitan area. Water supply system for these local bodies are executed by the Tamil Nadu Water Supply and Drainage Board and maintained by the respective local bodies. Water supply system of marginal cope has also been provided in the rural areas

of the metropolitan limits with subsidy from the Government. Sewerage system does not exist in any of the metropolitan areas.

24-24. The physical targets for the Sixth Plan are the extension of piped water supply coverage to about 90 per cent of the City population and improvement in the quantum of daily supply, comprehensive coverage by mobile water supply of areas not covered with piped water supply, extension of sewerage to about 81 per cent of the city population and gradual extension and improvements of water supply and sewerage to areas outside the city but within the MMA.

24-25. The plan proposals have been framed with the above specific targets in mind. The major project proposed to be executed during the plan period to achieve these targets is the Madras Water Supply Project (South). This is a Composite water supply augmentation and distribution and sewerage system improvement project costing Rs. 210 crores which has already been appraised by the World Bank (IDA). The source for water supply under this project has however not yet been decided. Three alternatives are under examination. Irrespective of the final decision on the source, the outlay on this project during the plan period is forecast at Rs. 190 crores. However, this project is not likely to be physically completed in the Sixth Plan period and will spill-over into the next plan period. The benefits will start flowing from 1985-86.

24-26. The Metro-Water Board will also complete by early 1982 all the ongoing schemes spilling over from the last plan period.

The Board has also planned to execute several new small schemes with support from the State Government and on open market borrowings to set right deficiencies in the existing system and also improve the sweage treatment capacity. Improvements in service in the large sized towns in the Metropolitan Area outside the city is also planned.

Some of the Schemes proposed to Improve the Supply of Drinking Water to the Metropolitan Area—Construction of 3rd Conduit from Red Hills :

24-27. At present raw-water from Red Hills is conveyed to Kilpauk Water Works through two masonry conduits having a total capacity of 250 mld. The first conduit built in 1914 with a capacity of 105 mld. has been under use for more than 60 years. It has a lot of cracks on the side walls and arches, and require replacement. As any possible closure of this conduit due to breakdown will seriously affect the city Water Supply, it is proposed to construct a third conduit of capacity 190 mld. (42 mgd) so as to convey any additional quantity that may become available through future schemes of augmentation. The new conduit will be similar to the existing second conduit of 143 mld. capacity with masonry walls and arch/RCC slab. The scheme will be commenced in 1980-81 and is proposed to be completed by 1983-84.

Laying Third Pumping Main from Kilpauk to shaft :

24.28. At present the bulk requirements of city water supply are pumped from Kilpauk water works to a central distribution point called as Kilpauk shaft through 2 nos. of 1200 mm dia pumping mains. One of these mains 1200 mm dia steel main laid in 1914 has practically served its time. In addition, a third pumping main of a larger diameter in the same alignment will reduce the loss of head and consequently increase the terminal head in the distribution system and avoid risk of a break down of city water supply. It is proposed to lay a third pumping main of size 1675 mm dia in steel from Kilpauk pumping station to shaft for a length of 1000 metres. It is also proposed to connect this pumping main with the existing trunk mains at the shaft. It is proposed to complete the scheme by 1983-84.

Development of local source to augment water supply :

24.29. Short term measures to augment the City water supply are also required so as to utilise to the maximum the existing sources and also to tap additional nearer sources to the extent possible. Alternatives being considered are :—

(1) Raising the bund of Chembarambakkam lake so as to utilise the surplus storage for the City water supply requirement.

(2) Purchasing the repairian rights under Chembarambakkam lake so as to divert the available quantity for City Water Supply, and

(3) Interconnecting Chembarambakkam lake and Poondi Reservoir so as to ensure more optimum drawal of flow in the catchment of Kortaliyar basin into Poondi Reservoir.

These proposals are to be finalised in consultation with the Irrigation Department after examining the existing irrigation demands etc. This scheme will spill over beyond this Five Year Plan period.

Conjunctive Use Project—Pre Investment Studies.

24.30. The consultants who conducted the pre-investment studies for improvements to water supply and sewerage systems of Madras City estimated that about 57 per cent of the storage in Poondi-Cholavaram and Red Hills lakes is lost by evaporation and seepage and considered that, if geological conditions permit, evaporation losses could be minimised by recharging local ground water aquifers with the surface water normally stored in the reservoir system. They recommended the investigation of the feasibility of developing additional water supply through the Conjunctive Use of surface and ground water in the Arani-Kortaliyar Basin.

This scheme can result in considerable increase in the water supply to Madras and can be accomplished within a relatively short-time and at a manageable cost.

Cost of Studies :

24.31. The UNDP aid in the form of expertise and equipment is estimated at US \$ 873,300. The State Government input in the form of counterpart staff, equipment and expenses on studies is estimated at Rs. 86.45 lakhs.

Project duration :

24.32. The duration of the project is 3 years with provision for mid-term review, at the end of 1½ years. If the scheme is found feasible, further studies will be continued and the facilities required for implementation of the scheme will be prepared. The Project is likely to be cleared by the Department of Economic Affairs, Government of India and by the UNDP and is likely to be commenced by October, 1980, and is expected to be completed by 1983-84.

Conjunctive Use Project (Implementation) :

24.33. The studies are programmed to be in an advanced stage by 1983-84 and in case the studies indicate possibility of successful implementation, immediate follow up action is proposed by construction activity like sinking bore wells, etc. This implementation will spill beyond the Plan period.

Madras Water Supply Project (South) :

24.34. For augmentation of the city Water Supply, the Government considered the following three alternatives :—

1. Neyveli Sethiathope Water Supply Scheme.
2. Cauvery Water Supply Scheme.
3. Cauvery-Ponnaiyar Water Supply Scheme.

After examining in great detail the technical and financial implications of the above schemes, the Government have finally decided to implement the Cauvery Water Supply Scheme. This scheme will yield an additional quantity of 995 MID of water to the Madras city. The water is to be tapped at the Kattalai Bed Regulator across Cauvery and would be taken through an open channel for a distance of 451 kms. to Chembarambakkam lake at a cost of Rs. 250 crores. The lake will act as a reservoir for the city supply. From this lake, during the first stage of the Project, 400 MID of water will be drawn for supply to the Madras city, at a cost of about Rs. 200 crores. The execution will be spread over a period of six years. It is proposed to approach the World Bank and the Government of India for substantial assistance for the execution of this major scheme.

Plan proposals—Financial :

24.35. The proposed Sixth Plan for the State under the water supply and sanitation sector may be summarised as follows :—

(a) A Plan for Rs. 160 crores for executing on loan basis water supply and sewerage schemes for local bodies other than village panchayats.

(b) A Plan for Rs. 140 crores for executing water supply and sanitation schemes in the village panchayats with Government grant and local contributions.

(c) A Plan for Rs. 276 crores consisting of Rs. 208 crores for water supply and Rs. 68 crores for sewerage in the Madras Metropolitan area.

24.36. The Plan for Rs. 300 crores for Rural and Urban Water Supply and Sanitation is proposed to be financed as follows :—

	RUPEES IN CRORES.
(1) Government of India Assistance for the World Bank Schemes.	29.75
(2) (a) Government of Tamil Nadu for Urban Schemes.	73.70
(b) Government of Tamil Nadu for rural schemes.	100.00
(3) L.I.C.	56.55
(4) Local body contributions ..	40.00
Total ..	300.00

24.37. The Metropolitan schemes will be financed as follows :—

	RUPEES IN CRORES.
(1) Government of Tamil Nadu	220.50
(2) Open market loan	5.50
(3) World Bank Assistance ..	50.00
Total ..	276.00

24.38. The resources under Urban and Rural Sector for Water Supply and Sanitation will be as follows :—

	(1)	Urban. (2)	Rural. (3)	Total. (4)
(RUPEES IN CRORES.)				
1 Government of India based on World Bank Assistance.		29.75	..	29.75
2 Government of India		..	30.00	30.00
3 Government of Tamil Nadu.	..	106.92	100.00	206.92
4 L.I.C. ..		103.33	..	103.33
5 Local Body		..	49.00	49.00
6 External Input		..	41.00	41.00
Total ..		240.00	220.00	460.00

On the basis of financing agencies, the categorisation of finances for Metropolitan Water Supply schemes is as follows :—

	(RUPEES IN LAKHS.)
(i) Immediate Works Programme (IWP) financed by IDA under MUDP I (on going).	11,22.67
(ii) On going schemes financed by the State Government.	1,58.69
(iii) New Schemes financed by the State Government.	68,47.63
(iv) Madras Water Supply Project (South).	1,90,00.00
(v) Schemes financed from market borrowings.	5,50.00
Total ..	2,76,78.99

Phasing of Outlays :

24-39. The Projected year wise allocation is given below :—

(1)	Water Supply.	Sewerage.	Total.
(2)	(3)	(4)	
(RUPEES IN LAKHS.)			
1980-81 ..	3,74.78	5,28.67	9,03.45
1981-82 ..	15,70.27	14,68.61	30,38.88
1982-83 ..	48,03.50	13,87.00	61,90.50
1983-84 ..	68,47.66	16,10.00	84,57.66
1984-85 ..	72,97.50	17,91.00	90,88.50
Total ..	2,08,93.71	67,85.28	2,76,78.99

The total financial commitment and sources of finance are given below :—

(RUPEES IN CRORES.)

<i>State Government.—</i>			
Urban Schemes	106.92	}	276.92
Rural Schemes	100.00		
Metropolitan Water ..	70.06	}	459.30
Government of India ..	59.75		
Local bodies	49.00	}	350.55
Institutional finances, market borrowings, etc.	350.55		
Total	736.22		
			or
			Rs. 736 CRORES

TABLE—24.I.

ABSTRACT OF MAJOR PHYSICAL TARGETS FOR METROPOLITAN AREA.

1980-81.	1981-82.	1982-83.	1983-84.	1984-85.
(1)	(2)	(3)	(4)	(5)
<i>Water Supply.</i>				
1. Augmentation of Water Supply to city area by 32 mld from Tamaraipakkam aquifer completion.	1. Replacement of defective water meter and Valves-elimination of leakage-Completion.	1. Provision of Water Supply to extended areas-completion (d.s.80-81)	1. Third conduit from Redhills to Kilpauk-Completion (d.s. 80-81)	1. Extension of Water Supply to unserved MMA areas-Start (d.c. 87-88)
2. Studies from conjunctive water use—start (d.c. 83-84).	2. Madras Water Supply Project South-Start (d.c. 86-87).	2. Development of additional local sources for city-start (d.c. 86-87).	2. Conjunctive Water use-implementation start (d.c. 87-88).	2. Enlarged pumping capacity and alternate source of power Completion (d.s. 80-81).
<i>Sewerage.</i>				
1. Sewerage scheme for Sembium Completion.	1. Sewerage schemes for Guindy Velachery and Aminjikarai—Completion.	1. Sewerage for Mambalam Tank Bund Area, Kottur etc.—Completion (d.s. 80-81).	1. Seweragesystem for certain MMA areas—Start(d.c. 87-88)	1. Commissioning of treatment units in Zones I and II (d.s. 81-82)
<i>Sewerage :</i>				
2. Treatment plants at Koyambedu, Nesappakkam and Palliaka completion	2. Modernisation of 15 pumping stations completion and reduction of over flow and pollution of city's water ways.	2. Sewerage system for extended areas-start (d.c. 85-86.)	..	2. Prevention of overflow into the water ways-completion (d.s. 81-82).

Explanation for phrases used:

(i) City area—Units of the city prior to I June 1978 d.s. date of start.

(ii) Extended area—Areas annexed to the city from I June 1978 d.c. date of completion.

(iii) MMA Area — Area in MMA other than i and ii above.

CHAPTER 25.

HOUSING.

Introduction :

25.0. According to the census of 1971, about 77.08 lakhs of residential dwellings, composed of 56.35 lakhs rural and 20.73 lakhs urban units constituted the housing stock in Tamil Nadu. This stock is for 85.9 lakh households and as such, is short by 8.8 lakhs of units. Due to poor quality of materials for walls and roof, lack of sanitation, obsolescence or discrepant conditions, nearly 62 per cent of rural and 40 per cent urban stock have to be replaced. Of them 90 per cent rural stock and 40 per cent urban stock are owned. Assuming that more than half of the owned stock will be improved and only rest need be replaced, the shortage of housing stock will be of the order of 33.94 lakhs units in 1971.

25.1. The estimated population of Tamil Nadu in 2001 varies between 65 and 75 millions, assuming it to be 65 millions, the rural and urban components will be 37.59 millions and 27.39 millions respectively. If on this average there are 5 members per family, the number of rural and urban households will be 75.18 lakhs and 54.78 lakhs respectively. Thus taking into account the growth of population above the shortage of housing in 2001 will be 52.88 lakhs. If to this is added replacement requirements the total will be 86.82 lakh housing units in 2001.

25.2. The population in 1980 and 1985 as per projections of State Planning Commission, will be 48.8 and 54.58 millions. The rural and urban components will be 34.87 and 14.94 millions in 1980 and 38.2 and 16.4 million in 1985. Assuming 5 members per family, the number of households will be 6.97 millions in rural and 2.98 millions in urban areas, in 1980 and 7.64 millions in rural and 3.28 million in urban areas in 1985.

	Unit.	Total.	1985	
			Rural.	Urban.
	(1)	(5)	(6)	(7)
Population	Million	54.85	..	..
Do.	Do.		38.2	16.4
Households	Lakh		76.40	32.80
Population	Per cent		62.98	52.22
Below Poverty line.	Million		24.06	8.56
			Lakh	240.6	85.60
Households	No. in lakhs.		48.12	17.12
Total households.	Do.		76.40	32.80

25.3. During the IV Plan period, the allocation for Housing in the Public sector was about Rs.2,000 lakhs and in the V Plan period, it was of the order of about Rs. 4,000 lakhs. During the VI Plan period, it is expected to be more than double the V Plan allotment this being exclusive of the financial assistance from HUDCO, LIC, GIC Market loan. This effort will be supplemented by institutional finance outside the Plan from organisations like the HUDCO, Life Insurance Corporation, Banks, World Bank and Co-operative Societies.

HOUSING SCHEME OF TAMIL NADU HOUSING BOARD.

Population for 1980 and 1985.

Unit.	Total.	1980	
		Rural.	Urban.
(1)	(2)	(3)	(4)
Population	Million	49.81	..
Population	Do.	..	14.94
Households	Lakh	69.74	29.88
Population	Per cent	62.98	52.22
Below Poverty line.	Million	21.96	7.80
		Lakh	219.6	78.00
Households	No. in lakhs.	43.92	15.6
Total households.	No. in lakhs.	69.74	29.8

A. 1. Slum Improvement Scheme :

25.4. The Slum Improvement Schemes is implemented only in the district headquarters-towns of Madurai, Salem, Coimbatore and Tiruchirappalli. It is programmed to construct 750 tenements for slum dwellers during 1980-85 in these centres.

2. Housing Scheme for Industrial Workers in the Organised Sector :

25.5. The total population of workers in the organised industrial sector is about 8.06 lakhs, requiring about 80,000 new houses. The programme of house construction for the workers should be self-supporting and the cost should be within the paying capacity of the beneficiaries. The provision of housing for industrial workers

should be made the responsibility of the industrialists and they may be given necessary tax incentives. The Tamil Nadu Housing Board has programmed to construct 200 units during 1980-85.

3. Tamil Nadu Government Servants Rental Housing Scheme.

25.6. During the plan period, it is proposed to build 1,500 houses for Government employees mostly of the classes B, C and D including the Basic Government Servants.

4. Police Housing Scheme.

25.7. The Government propose to constitute a Police housing corporation which will be in charge of meeting the housing requirements of police personnel.

5. Urban Development Scheme—Maraimalai Nagar.

25.8. Under this scheme the Madras Metropolitan Development Authority would develop 2 areas, (1) 500 acres in the satellite town at Maraimalai Nagar about 45 kms. from Madras on the Madras—Tiruchirappalli National Highways at a cost of Rs. 235.00 lakhs and (2) Manali Urban Node covering an extent of 419 acres at a cost of Rs. 365 lakhs on the Madras—Ponneri Road at about 12 km. North of Madras.

6. Site and Service Schemes:

In full M.U.D.P I. (With World Bank assistance):

25.9. With a view to provide serviced plots and core units to economically weaker sections a scheme has been started at Arumbakkam, Villivakkam and Kodungaiyur. The Project would provide about 13,472 plots and about 21 hectares of serviced land for commercial uses and core housing units at a cost of Rs. 9.35 crores.

M.U.D.P. II. (With World Bank assistance):

25.10. The world Bank has finalised its appraisals of all projects to be taken up in Mogappair and Nerkundram to provide 14,900 serviced sites at a total cost of Rs. 5.70 crores.

7. Land Acquisition and Development Scheme;

25.11. Along the periphery of Madras City, Tamil Nadu Housing Board, in consultation with the Metropolitan Development Authority has already notified an extent of over 8,315 acres for acquisition for the purpose of intensive development. The development of these 8,315 acres would involve an expenditure of Rs. 84.00 lakhs. 1,00,000 developed house sites will become available.

25.12. The Housing Board has also proposed to acquire lands for neighbourhoods around 21 towns ranging from 10 square miles in Madras to 12 acres in Ambur totalling 12,731.0 acres out

of which 2,430 acres will be developed during the plan period. About 18,000 house sites will become available. It is proposed to acquire lands on both sides of the newly electrified railway line from Madras to Tiruvellore and Madras-Gummudipoondi in order to avoid the growth of habitations in a haphazard manner.

B Rural Housing Scheme ;

25.13 The State Government decided that one lakh houses should be constructed through Rural Housing Co-operative societies during the period 1978-83. This is continued in the 1980-85 Plan. The Government restricted the cost to Rs. 3,000 per house but later enhanced it to Rs. 3,750 in view of rising costs. The houses are to be of a single type with a plinth area of 200 sq.ft.

25.14 The scheme provides interest free loans to harijans besides a subsidy of Rs. 600/— (proposed to be increased to Rs. 1,000/) to harijan beneficiaries whose annual income does not exceed Rs. 4,200/

Slum Clearance In Madras City :

25.15 The number of slum families in the city of Madras has increased from 163804 in 1971 to 221,000 in 1981 and is expected to go up to 337,200 in 1990.

25.16 The existing slums can be classified with reference to their location as follows:

1 Clusters of huts on identifiable sites	1,25,970	(57%)
2 Rural Settlements	37,570	(17%)
3 Planned huts settlements (Open developed plots e.g. serviced sites with no tenure)	35,360	(16%)
4 Linear development on right of way	11,050	(5%)
5 Huts on space reserved for public use	8,840	(4%)
6 Linear development along water courses	2,210	(1%)

25.17. In spite of the present programmes, by the end of 1980, 1,03,219 families out of a total of 2,21,000 would be left uncovered. With an addition of 54,604 during plan period, by the end of 1985, 1,57,623 families would have to be catered to. But during the VI Plan period the Tamil Nadu Slum Clearance Board will be able to provide new tenement or better environs for 91,400 families only.

25.18. The schemes and the number of families that are benefited under each is given in the following table :—

Serial number and details of scheme. (1)	Number of families covered. (2)
1 Clearances	8,000
2 Accelerated Slum Improvement Scheme.	25,000
3 World Bank Project (MUDP II).	50,000
	83,000

C. Commissioner of Labour :

1. Subsidised Industrial Housing Scheme (Private Employees Project) :—

25.19. Under this scheme tenements are constructed under Public, Private and Co-operative sectors and rented out on subsidised rent for workers with earnings upto Rs. 350 per month and on economic rent beyond that upto Rs. 500 per month. Government loan and subsidy in the ratio of 50 per cent and 25 per cent of the ceiling cost is given to private employees. The rest of the cost is borne by the employers concerned. The scheme is implemented by the Commissioner of Labour.

2. Plantation Labour Housing Scheme :

25.20. A centrally sponsored scheme for the construction of houses for plantation workers is also implemented by Commissioner of Labour from 1970-71. The ceiling cost for the construction of a house is Rs. 4,000 and planters are eligible for a loan of 50 percent and subsidy of 37.50 per cent of the ceiling cost.

D. House Building Advance to Government Employees :

25.21. The scheme is for the grant of building advance to the Government employees to assist them to construct or purchase a house or extend an existing one.

E. Role of private sector :

25.22. Private Sector Housing continues to play a major role in housing activities and this is mainly through the efforts of individuals, Co-operative Housing Societies and Real Estate dealers.

25.23. For stimulating private investments, the following points to be made :—

(1) Make nationalised and scheduled bank loans available to public, and especially to economically weaker sections, (2) give property tax holiday of suitable duration for houses with a plinth area of 600 sq. ft. and less, (3) Assure continuous supply of essential materials at controlled rates to public, (4) Revise Rent Control Act and Accommodation Control Act to assure supply of houses without difficulties to owners and (5) liberalise town planning restrictions without affecting public health requirements.

F. Building materials :—

25.24. In addition to the points explained above a massive housing programme requires continuous supply of building materials at reasonable prices.

For possible improvement of the situation, the wire out brick plants like the one in Tirumazhisai can be revitalised. To make steel available to housing authorities rerolling mills be opened at important locations, by obtaining the required billets from the Steel Authority of India. They also consider possibilities of obtaining timber from other States and from Andamans.

25.25. (1) With scarcity of materials restrictions on plinth areas of building is required. With such restrictions, Housing for private owners should be left to private sectors.

(2) Bulk allotments of plots may be made to the societies by the Housing Board in areas developed by them.

(3) General Provident Fund of the public and private sector employees could be linked up with the provisions of houses to employees.

(4) The municipalities may be allowed to undertake the work of developing house sites in their areas.

G. Harijan Housing and Development Corporation :

25.26. From 1974-75 onwards Tamil Nadu Harijan Housing Development Corporation has been building houses for (i) Harijans and (ii) From 1975-76 onwards for fishermen, and (iii) From 1979-80 onwards houses for repatriates also. In 1980-81 the ceiling cost of a house is fixed at Rs. 5,060,6000 and 4,400 for scheduled castes fishermen and repatriates respectively.

H. Harijan Welfare Department :

Rural House—Site-cum-Hut Construction Scheme :

25.27. A scheme for the provision of house sites to landless workers in rural areas was introduced in 1971-72 as a Central Sector scheme under which 100 percent grant was made available to the State Government outside the state Plan ceiling. Under this 33,692 house sites in 36 blocks in Thanjavur district at an expenditure of Rs. 75.51 lakhs was approved. Actual implementation exceeded this target. Under this scheme 35,343 house sites were developed at a cost of Rs. 86.77 lakhs of which 34,940 house sites were allotted to beneficiaries, excess expenditure being met out of State funds.

25.28. Since 1st April 1974, this scheme has been brought under the Minimum Needs Programme and pursued through Harijan Welfare Department. It is proposed to provide an outlay of Rs. 25 crores towards the programme for construction of houses for landless Agricultural labourers.

TABLE-25-1.

SCHEMewise FINANCIAL OUTLAY FOR THE FIVE-YEAR
PLAN PERIOD (1980-85).

Serial number and name of the Scheme.	1980-85	Serial number and name of the Scheme.	Out lay 1980-85
(1)	(2)	(1)	(2)
	(RUPEES IN LAKHS.)		(RUPEES IN LAKHS)
<i>Tamil Nadu Housing Board—</i>		<i>Registrar of Co-operative Societies (Housing)—</i>	
1. Slum Clearance/Improvement Scheme (Moffussil).	97-50	12. Rural Housing Scheme— Commitment to State Government.	
2. Subsidised Industrial Housing Scheme for Industrial workers.	33-25	State Loan	375
		Matching grant for Housing and Urban Development Corporation Scheme.	500
		Subsidy	300
3. Tamil Nadu Government Servants Rental Housing Scheme.	401-50	Interest subsidy	180
		Housing for Agricultural labourers.	2,500
4. Sites and Services Scheme.	689-00	13. House Building Advance to the Government Employees.	
5. MUDP Phase II	1,404-00	1. I.A.S.	37-5
6. Land Acquisition and Development Scheme.	40-25	2. Other Government Employees.	1,525-00
<i>Tamil Nadu Slum Clearance Board—</i>		14. Tamil Ndu Harijan Housing and Development Corporation—	
7. Slum Clearance Scheme ..	1,250-00	(a) Houses for Harijans ..	500
8. World Bank	1,800-00	(b) Houses for Fishermen ..	250
9. A.S.I.S.	250-00	(c) Houses for Repatriators—	
		(i) From Sri Lanka	12-02
		(ii) From Burma	92-40
		(d) Houses for Denotified Tribes.	49-10
		(e) Houses for Tribes	24-99
<i>Commissioner of Labour—</i>		Total	12,369-26
10. Subsidised Industrial Housing Scheme (Private Sector).	29-87		
11. Plantation Labour Housing Scheme.	27-88		

CHAPTER 26

TOWN PLANNING AND URBAN DEVELOPMENT.

Plan for Urban Development in the Madras Metropolitan Area in the period 1980-85

26-0. The main objectives of the Urban Development would be to (1) discourage rural urban migration; (2) develop medium and small towns; (3) assure minimum infrastructure services and (4) plan for a balanced development between metropolitan centres and other urban centres and also between rural and urban segments.

26-1. The Madras Metropolitan Development Authority caters to the Metropolitan City of Madras with an anticipated growth of about 2,00,000 persons per year within its area.

26-2. Multi sectoral and integrated development is attempted by the Madras Urban Development Project, financed by the World Bank and the Government of Tamil Nadu in the Metropolitan area. These projects are being implemented by various agencies like Tamil Nadu Housing Board, Tamil Nadu Slum Clearance Board, Department of Highways and Rural Works, Madras Metropolitan Water Supply and Sewerage Board, Madras Corporation, etc. Although forming part of the Urban Development Programmes, allocations for the various sectors are made in the budgets of the respective Departments/Agencies.

26-3. The sites and services component of this Programme would continue up to 1985 and the slum improvement component up to the middle of 1985. The Madras Urban Development Project II with a loan assistance to the tune of Rs. 74 crores from World Bank is expected to continue the shelter programme for the weaker sections under these two components at a cost of Rs. 14 and Rs. 18 lakhs respectively. Certain Civic Development Projects (viz.) Koyambedu Wholesale Market, Out station Bus Terminals and Peripheral Truck Terminals identified as essential projects have to be pressed on and completed early.

Report on proposed Urban Development Schemes through TNCP and Development Fund in Sixth Five Year Plan—State Urban Development Strategy

26-4. The proportion of urban population to total population in Tamil Nadu is the second highest in India. A critical analysis of the distribution of population among various centres indicate three main concentrations as follows:—

(1) Madras City and surrounding towns constituted the State's largest urban agglomeration (3-1 millions)

(2) A northern belt of urban centres with, Coimbatore, Singanallur, Tiruppur, Erode, Salem, Tiruchirappalli, Thanjavur and Kumbakonam has a population content of about 2-1 millions; and

(3) A southern belt of another set of major towns with Dindigul, Madurai, Tirunelveli, Palayamkottai, Tuticorin and Nagercoil contain a population of about 1-8 million.

26-5. Further urban expansion should be suitably channelised to optimise the overall benefits of development. The basic objectives of development of small and medium towns, and reduction of rural urban migration are sought to be achieved by building up a hierarchical system of centres so as to make urban facilities accessible to villagers. This hierarchy is to be developed by setting up Regional Growth Poles at Madurai, Coimbatore, Cuddalore, Salem Tiruchirappalli Vellore and Tuticorin besides Metropolitan Madras. A second tier of urban centres with population of a lakh and serving an area of about 25 Km. all around and a third tier of Growth Centres with population range of 20,000 to 50,000 serving about 15 to 20 Km. around are also to be formed.

26-6. For integrated development to Madurai and Coimbatore assistance was made available under the Central IUDP in the V Plan and the spill over schemes have been continued with State funds. For orderly development of all these Regional Growth Poles and intensive development of the two towns of Cuddalore and Vellore assistance is to be sought from HUDCO.

Proposed Urban Development and Housing Schemes :

1. Central IUDP Scheme :

26-7. The development of the small and medium towns with a population of below one lakh will be considered for Integrated Urban Development under the scheme and the cost of such development would be shared by the Government of India and the State Government on a 50 : 50 basis with the local planning authorities also contributing 20 per cent of the cost. During 1979-80, Integrated Urban Development Programmes under this scheme were sanctioned for the four towns of Udagamandalam, Dharmapuri, Pudukkottai and Karur supported by a Central assistance of Rs. 12-5 lakhs. It is proposed to cover during 1980-85 a selected number of town of the state distributed in all the districts.

2. Assistance to Small and Medium Towns from State funds :

26-8. The Government have decided that every year a few towns be selected for assistance from State fund (to an extent of about Rs. 20 lakhs per town) to provide for Remunerative Projects which will help strengthen the financial position of these towns. Projects for Hosur, Gudiyatham and Krishnagiri have been sanctioned and a sum of Rs. 2 lakhs has been released for each of the above towns. A sum of Rs. 3.79 crores had been provided in 1979-80.

3. Implementation of Detailed Development Plan :

26-9. Detailed development plans providing micro level zoning and regulatory provision indicating the major street network and reservations for public open spaced and amenities for acquisition and development by the concerned planning authorities are formulated. The Govern-

ment have a scheme for extending loan assistance to such authorities to implement these proposals.

4. Country Planning Programme and Developments of Growth Centres :

26-10. A scheme to extend assistance to the Growth Centres for taking up remunerative projects such as construction or improvement of markets, shandies and shopping centres, bus stand etc. has been taken up by the Government. During the Plan period, certain select growth centres at the rate of about one per district will be developed with financial assistance of Rs. 10 lakhs per centre.

5. Pay and Use Toilets :

26-11. Under the scheme, loan assistance is to be given to local bodies to provide well designed, modern toilet and wash facilities at a cost not exceeding Rs. 50,000 each.

TABLE 26 I.
THE ALLOCATION-METROPOLITAN WORKS.

<i>Serial number.</i>	<i>Name of the scheme.</i>	<i>Suggested Outlay.</i>
		(RUPEES IN CRORES.)
1	Development of Manali Urban Node	4.0
2	Development of Maraimalai Nagar New Town	7.0
3	Koyambedu Whole Sale Market	14.0
4	Outstation Bus Terminals (3)	3.0
5	Peripheral Truck Terminals (3)	3.0
6	M. U. D. P.	4.0
	Total	35.0

TABLE 26 II.

FINANCIAL OUTLAYS PROPOSED IN SIXTH FIVE-YEAR PLAN FOR HOUSING AND URBAN DEVELOPMENT SCHEME UNDER STATE TOWN AND COUNTRY PLANNING DEPARTMENT.

<i>Serial number and name of the Scheme.</i>	<i>Amount proposed for 1980-85, (RUPEES IN LAKHS.)</i>
1 Central assistance for smaller and medium sized towns for implementation of IUDP	1,500
2 Scheme for construction for remunerative enterprises in small and medium towns ..	1,500
3 Implementation of Detailed Development Plan	60
4 Country Planning Programme	100
5 Pay and Use Toilets	100
	Total 3,260
M. M. D. A.	Rs. 35.00 Crores.
D. T. P. Department	Rs. 32.60 Crores.
Total	Rs. 67.60 Crores.

CHAPTER 27.

Tourism.

27.0. The primary need for the promotion of tourism is to improve the infra and super structure facilities mainly accommodation, and transport besides drinking water supply, and healthy environment. For promoting tourism, an integrated approach involving co-ordination with the departments like Transport, Health, Highways, Railways, Airways, Local bodies, etc., is necessary. Private investment for providing boarding and lodging facilities, transport, etc., would have to be encouraged.

27.1. During the Sixth Plan period (1974-79) an expenditure of Rs. 1.22 crores was incurred by the State, against a provision of Rs. 1.05 crores. Nearly 80 per cent of the outlay is given as assistance to Tamil Nadu Tourism Development Corporation. Out of 7.64 lakhs tourists arriving in 1979, the southern region received 4.82 lakhs. At an average growth rate of 15 per cent, 11.16 lakhs tourists may be expected to visit southern region by 1985.

Programme proposed for the Sixth Five-Year Plan 1980-85 :

27.2. *Accommodation.*—The Tamil Nadu Tourism Development Corporation is providing accommodation for tourists at 13 Tourist bungalows at present with a total bed strength of 985. It is proposed to construct two more tourist bungalows at Courtallam and Mudumalai wild life sanctuary, in addition to 2 bungalows already under execution at Coimbatore and Madurai.

27.3 Work on dormitory type of accommodation has been taken up at Ootacamund to provide cheap accommodation to low income group tourists. Such type of accommodation is a necessity in all the places where tourist bungalows are available as a cheap accommodation to attract the inland tourist and also as an alternative middle income group accommodation. Youth hostel continues to be run by the Government on a no profit-no loss basis on the pattern suggested by Government of India to provide in expensive accommodation for the youth tourists. Assum of Rs. 200 lakhs is provided in the Plan 1980-85.

Transport Facilities :

27.4. Comfortable travels is the expectation of any visitor and provision of their facility is the basic infrastructure for development of Tourism for making travel comfortable the Tamil Nadu Tourism Development Corporation has at present affect of 10 luxury coaches of which one is air-conditioned ; these are used for conducting tours covering important places of tourist attraction in the State. The tours are popular and the Corporation is able to cater well to domestic as well as foreign tourists. It is proposed to augment the number of coaches by 3 more deluxe coaches

one air conditioned coach and two mini coaches, immediately. Further 12 luxury coaches and 4 air conditioned ones would be necessary during the plan period to meet the anticipated tourist traffic.

27.5. A sum of Rs. 200 lakhs is provided as share capital contribution and loan to Tamil Nadu Tourism Development Corporation for the acquisition of the additional vehicles mentioned above.

Development Fund :

27.6. The shortage of good hotel accommodation in the country is acute and acts as a disincentive for promotion of tourism. It is proposed to encourage private investment in hotels, motels and rest sheds. For this it is proposed to set up a Hotel Development Fund from which seed capital and loans at concessional rates of interest would be advanced to private entrepreneurs. A sum of Rs. 50 lakhs is provided for this purpose, the fund to be operated by the Department of Tourism in the State.

Development of important tourist centres :

27.7. The Department of Tourism is proposed to develop the following important tourist complexes by providing tourist amenities and recreation facilities ; taking care to preserve the natural environment and improve its landscaping.

(a) Madras City :

27.8. With the idea of making the city's beautiful natural sea beach more attractive the development of marina beach by improving its surroundings is proposed at a cost of Rs. 78.40 lakhs.

(b) Mamallapuram :

27.9. The rock cut monoliths, cave temples, long stretches of beach with sea beach resorts are the main factors which make Mamallapuram one of the important tourist centres of the world. Following the recommendations of the Government of India to formulate specific schemes of development of Mamallapuram a master plan has been drawn up at a cost of Rs. 200 lakhs. As recommended by the United Nations Development Programme it is proposed to develop Mamallapuram as an Inter national beach resort. A sum of Rs. 61.79 lakhs is provided during the sixth plan period.

(c) Kanyakumari :

27.10. Kanyakumari, the lands end of India is an International Tourist Centre. It is a famous pilgrim Centre with a fine beach. Vivekananda

Rock Memorial built on a large rock projecting into the ocean is another attraction visited by more than 10,000 foreign tourists every year. For ensuring better facilities to Pilgrims and tourists provision of dormitory accommodation at a cost of Rs. 61.54 lakhs is proposed.

(d) Rameswaram-Kurusadi :

27-11. Rameswaram is the port of entry from and to Sri Lanka and has become a transit centre for foreign tourists. Apart from this, it is an attraction for domestic tourism being a Pilgrim Centre. The nearby Kurusadi Island is proposed to be developed into a major Marine Zoological Park. A master plan for integrated development of Rameswaram has been initiated in order to attract more foreign and domestic tourist. A sum of Rs. 100.85 lakhs is provided during the plan period.

(e) Ooty :

27-12. Under the Hill Area Development Programmes the following schemes are implemented for development of Ooty lake area:—

- (i) Beautification of Ooty lake area.
- (ii) Construction of Telescopic house at Doddabetta.
- (iii) Construction of Dormitory.

Ooty being a hill resort has the right atmosphere for any foreign tourist, in its environment, climate, and landscape.

27-13. Besides providing amenities and recreation facilities, novel attractions like a rope way between Doddabetta and Ooty Botanical Garden are proposed. A sum of Rs. 23.60 lakhs is provided during the plan period.

(f) Kodaikanal :

27-14. This is another hill station with a beautiful lake, salubrious climate and surroundings and attracts many foreign tourists. A master plan to develop this hill resort at a cost of Rs. 20 lakhs has been drawn up. A sum of Rs. 3.20 lakhs is provided in the plan during 1980—85.

(g) Madurai and Thanjavur :

27-16. For landscaping and development around Teppakulam in Madurai and to provide natural environment of the monuments like Fort Palace at Thanjavur, a sum of Rs. 47.11 lakhs is provided in the Plan.

(h) Kancheepuram—Tiruchirappalli, etc.

For development of historic places, like Kancheepuram, Tiruchirappalli, Thanjavur, with their lofty temples, Rock Temple at Thirukazhukundram and environmental development of places like Krishnagiri, Coimbatore a portion of Rs. 66.17 lakhs have been provided in the Plan.

District Excursion Centre :

27-17. There are other Centres like Hogenekal Water falls, Courtallam falls, Elagiri Hills, Yercaud lake, Viralmalai, Avudayar, Koil, requiring developmental activities to attract domestic tourism. A sum of Rs. 50 lakhs is provided for this purpose and to establish District Excursion Centre for promotion of domestic tourism.

Promotion and Publicity :

27-18. Development of Tourism mainly depend on the extent of publicity, to attract more and more tourist traffic. After improving the infrastructure and providing other basic amenities like accommodation, transport, etc., an integrated publicity campaign has to be organised using all the media both at home and abroad. Towards this end the department of Tourism continued to launch upon several promotional and publicity measures through the various media, like Advertisement, Exhibitions, Films, conducting cultural festivals, fairs, etc. A sum of Rs. 20 lakhs is provided for this purpose during the plan period.

Strengthening the Department of Tourism :

27-19. A sum of Rs. 20 lakhs is provided for streamlining and strengthening up of the organisation both at Head Quarters and district level to implement all the development programmes.

Training and Guide Service :

27-20. Tourist Guide is yet another link in the promotional activities of the department. Except at Madras, guide services in the other tourist places are not adequate and there is need for organising training programmes like guide training courses and refresher courses. A sum of Rs. 10 lakhs is provided to implement similar schemes during 1980-85.

Outlay for the Sixth Plan 1980-85 :

27-21. The total outlay proposed on the various scheme under 'Tourism' sector during 1980-85 is Rs. 10 crores. An abstract of schemes proposed is furnished separately.

Central sector schemes :

27-22. The UNDP Team has recommended Mamallapuram for development into an international-beach resort. Further the Vivekananda Rock Memorial at Kanyakumari is another place attracting scores of tourist traffic.

27-23. The Five-Year Plan for Tourism 1980-85 has taken into account the target set by the Central Department of Tourism and the changing conditions of economy. In view of the socio-economic impact of the Projects on Tourism and the immense scope for foreign exchange earnings, the Central assistance to the extent of Rs. 4074 lakhs is anticipated to develop Rameswaram Complex, Mamallapuram Complex, bettering tourist infrastructure, hotel at Madras and expansion of Airport at Tiruchirappalli and Thanjavur.

TABLE 27-I.

TOURISM : ABSTRACT OF SCHEMES.

		<i>Outlay proposed during 1980-85.</i> (RUPEES IN LAKHS).	
1	Accommodation		400
2	Transport facilities		(As share capital contribution and loans to Tourism Development Corporation).
3	Hotel Development fund .. .. .			50
4	Development of Tourist Complexes--		
	(i) Madras City	(78.40)	450
	(ii) Mamallapuram	(61.79)	
	(iii) Kanyakumari	(61.54)	
	(iv) Rameswaram	(100.85)	
	(v) Udagamandalam	(23.60)	
	(vi) Madurai	(25.30)	
	(vii) Thanjavur	(21.81)	
	(viii) Kodaikanal	(3.20)	
	(ix) Kancheepuram	(7.16)	
	(x) Tiruchirappalli	(29.75)	
	(xi) Thirukazhukundram	(4.05)	
	(xii) Coimbatore	(14.16)	
	(xiii) Courtallam	(4.38)	
	(xiv) Krishnagiri	(2.20)	
	(xv) Pudukkottai	(4.47)	
	(xvi) Yercaud	(2.87)	
	(xvii) Hogenakal	(4.47)	
5	District Excursion Centres for domestic tourism ..		50
6	Promotion and Publicity		20
7	Strengthening the Department of Tourism		20
8	Guide Services and Training		10
			<hr/> 1,000 <hr/>

CENTRAL SECTOR SCHEME.

Schemes proposed under Central Sector, such as Rameswaram Complex, Publicity, Tourist, Infrastruc- ture, Hotel at Madras and Air Port Expansion at Trichirappalli and Thanjavur.	} 4,074.
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CHAPTER 28.

INFORMATION AND PUBLICITY

I Introduction :

28.0. The approach in the Present Plan with regard to Information and Publicity is to present schemes which can assist in promoting developmental activities of the Government as part of an integrated multi-media communication strategy.

28.1. The Plan has made a total provision of Rs. 1.61 crores for information services and publicity. Out of this an outlay of Rs. 50.75 lakhs is for Field Publicity and Rs. 55.00 lakhs for film and Rs. 55.00 lakhs for Art and Culture.

III. Field Publicity:

1.. Modernising the Photo Units:

28.2. The Public (Information and Public Relations) Department have photo units in the Secretariat in Madras and in the districts of Madurai, Tiruchirappalli and Coimbatore. With a view to modernise the photo units, it is proposed to acquire imported cameras and flash units in a phased programme at the rate of one camera and one flash unit per year.

2.. Song and Drama:

28.3. To propagate and publicise the various welfare measures of Government for the benefit of the public, the Government have proposed to organise Song and Drama programmes in urban as well as in rural areas. During the new plan period it is proposed to intensify the drama programmes in interior villages in the districts. Apart from drama programmes, cultural programmes such as Kathakalachepam and Villupattu performance are also to be arranged.

3. Sound and Light:

28.4. It is proposed to create a separate unit for the sound and light programme as a permanent set up in this department. The department has purchased materials and equipments for the sound and light programme worth about Rs. 4 lakhs. An effective organisation of Song and Drama programmes is to be shaped during the Plan period.

4. Replacements of cinema equipments:

28.5. There are 63 cinema operator's units in this department. During the last Five-Year Plan Period 27 projectors were replaced by new ones and the remaining 26 projectors were proposed to be replaced by new ones. The 10 projectors supplied by this department are also to be replaced.

5. Vans for Cinema Projectors and P.A. Equipments:

28.6. There are 15 district publicity units and one State Information Centre at Madras which are regularly organising film show programmes for the benefit of the rural and urban population. However, they are not able to carry out the work for want of adequate transport facilities. The District Information Centre does not have any van. This has resulted in the work of the centres regarding film shows falling behind schedule. With a view to remedy the situation special type of vans may be provided.

6. Construction of auditorium in Coimbatore:

28.7. The expenditure for the construction of auditorium will be met from the profits earned through the exhibitions conducted by Information and Public Relations Department. The estimated expenditure for the construction of auditorium at Coimbatore is about Rs. 23 lakhs. The profit earned by way of exhibitions is about Rs. 15 lakhs. Construction of auditorium at other centres will be taken up in a phased manner.

7. Multi-Media Campaign:

28.8. The main aim of Multi-media campaign is to disseminate the welfare and developmental activities of the Government. The Multi-media campaign comprises of organisation of major and mini exhibitions, Song and Drama programmes, Seminars, youth camps, etc. The major expenditure is the expenses on vehicles to move men and materials for the shows. The expenditure on oil and petrol for vehicles in connection with the organisation of the programmes in the various districts have to be met. The conduct of multi-media campaigns may be revived during the current plan period on the above lines.

8. Information Centre at Delhi:

28.9. At present there are three information centres located at Madras, Madurai and Thanjavur. It has been suggested that one information centre at Delhi with a library and a reading room may be set up for better transmission of information. This will help in national and international communication flow of the developmental activities of the State.

9. Setting up of District Information and Exhibition Centres:

28.10. It is proposed to set up three Information Centres at Kanyakumari, Trichy and Coimbatore on a phased programme and a library with reference books of India and an enquiry department pertaining to the Culture, History and Religion.

10. Research and Reference wing at the Head quarters:

28.11. It is proposed to create a Research and Reference Wing at Head Quarters.

11. Setting up of Exhibition Units in the districts:

28.12. In order to set up Permanent Exhibition Units at Districts. It is proposed to purchase necessary equipments.

II. Films:

1. Tamil Nadu Films Division:

28.13. At present, the division is provided with three artiflex cameras and only one Moviola. The processing of films in black and white upto RR Printis being get executed through IFF laboratory. **Printing** of copies of new and documentaries and **processing** of colour films are being done through private approved laboratories. In order to have the film division as a full fledged and well equipped unit, the purchase of modern equipment and necessary supporting buildings like cold storage room, preview hall and airconditioning of editing and camera room are necessary. These items will enable the unit to function effectively.

III. 1. Art and Culture. Developing the area surrounding Valluvar Kottam.

28.14. It is proposed to improve the area surrounding Valluvar Kottam in Madras.

2 Installation of a Thiruvalluvar Statue at Kanyakumari.

28.15. The scheme involves the installation of a statue of the great Philosopher Poet Thiruvalluvar at Kanyakumari.

The foundation stone has already been laid.

3. Construction of Thiruvalluvar Study Centre at Kanyakumari.

28.16. A study centre connected with the total programme of installation of the Statue is also proposed. Necessary facilities for study and research will be made available in the centre.

4. Construction of Conference Hall for Periyar Memorial at Madras.

28.17. It is proposed to constructs a conference hall at a suitable location to commemorate the centenary of the great reformist Thanthai Periyar.

IV. INSTITUTE OF FILM TECHNOLOGY.

Details of the Development Schemes :

28.18. (1) Purchase of Moviola Equipment; A separate diploma course in Editing has been sanctioned with an annual intake of 5 students.

The present Moviola equipment is found insufficient for the number. The intake of students is to be raised to 10. It is proposed to purchase 2 nos. Moviola equipment.

(2) Purchase of Colour Processing Plant with Printer.

28.19. The present training to students who specialise in film processing is not adequate as they lack equipment for training in colour processing in the section. The section is not equipped with any equipments for colour processing. Hence it is proposed to purchase colour processing equipments for making the film processing section more upto date and equipped with modern facilities.

(3) Purchase of T. V. Equipments

28.20. It is proposed to introduce additional facilities for Television in the branches of Film Technology so as to equip the students for taking up assignments with Television companies. The intention is to introduce a T.V. course in stage in the Institute of Film Technology.

28.21. 'Still' photography in black and white and in colour is an important subject to students specialising in cinematography. 'Still' colour processing plants are in our proposals under expansion programme and are to be installed after more space is made available. A separate building is proposed to house the entire set-up under one roof.

Indoor Camera Dolly :

28.22. At present only one indoor type camera dolly is available. It is proposed to purchase one more in-door type dolly to allow two schedules simultaneously without interference.

Purchase of colour Analyser, optical printer and Animation Equipment :

28.23. Purchase of Cine equipments and accessories are suggested to equip the sections with special equipments to keep the training abreast with the advancement of techniques in film production.

28.24. The film processing section needs a separate water supply system independently. Pure water without surface dirt or other chemical content, should be made available for film processing. Necessary treatment and supply system for water should be established.

Separate Block for Maintenance Scheme.

28.25 The construction of a block for the maintenance section is absolutely necessary. The installation of new equipments and the need for free movement of men and materials demand additional space. Hence it is proposed to build a separate block for this purpose.

TABLE-28.I.

INFORMATION AND PUBLICITY.

PROPOSED OUTLAY FOR THE SIXTH FIVE YEAR PLAN, 1980-85.

<i>Serial Number and Name of the Scheme.</i>	<i>Proposed outlay for 1980-1985</i>
(1)	(2)
	(RUPEES IN LAKHS.)
1. FIELD PUBLICITY —	
1. Modernising the Photo units-importing of 5 cameras with flash units for strengthening of the photographic unit in the districts.	2.25
2. Song and Drama scheme to conduct dramas and cultural programmes in all Panchayat Unions in the State to educate the public on social themes like the evils of drinking and untouchability, dowry, etc.	5.25
3. Sound and Lights—	
Setting up of a Permanent “Sound and Light” unit with the requisite staff to highlight the programmes and policies of the Government through stories of lives of National Leaders and other themes.	15.00
4. Replacement of Cinema Equipments —	
Purchase of 36 New Projectors (Replacements) for the Cinema units in the districts out of 63 projectors, 27 were replaced during the V Five Year Plan period.	2.50
5. Vans for Cinema Projects and Public Address system Equipments.	2.00
6. Construction of Auditorium at Coimbatore.	8.00
7. Multi Media Campaign—	
Organising Multi Media Campaigns during important festivals and occasions through mini-exhibition cultural programmes, posters meetings etc.	2.50.
8. Information Centre at Delhi—	
Proposal to set up an Information Centre at New Delhi with a library and a reading room to highlight the activities of the Tamil Nadu Government in New Delhi.	5.00
9. Setting up of District Information and Exhibition Centres—	
Proposal to set up Information Centres in all districts in the State in a phased programme (except in Madras, Madurai and Thanjavur where there are centres already). During the first year centres will be set up in Kanyakumari, Trichy and Coimbatore,	1.50
10. Research and Reference Wing at the Headquarters—	
Proposal to set up a Research and Reference Wing in the Headquarters by purchasing news-papers, periodicals, Books etc., to cater to the needs of the Government departments and other public sector organisations.	1.00
11. Setting up of Exhibition units in Districts—	
Proposal to set up permanent exhibitions with Information Centres (with 30 K. V. generators 35 M.M. Projectors and Hoardings) in districts to highlight the achievements of the Government and Art and Culture of Tamil Nadu.	3.75
12. Vehicles for Exhibition Unit —	
Proposal to purchase two vehicles (one lorry and one van) for transporting Exhibition materials from district to district.	2.00

TABLE 28.I—*contd.*INFORMATION AND PUBLICITY—*cont.*PROPOSED OUTLAY FOR THE SIXTH FIVE YEAR PLAN, 1980-85—*cont.*

<i>Serial number and name of the scheme.</i>	<i>Proposed outlay for 1980-85.</i>
(1)	(2)
	(RUPEES IN LAKHS.)
II. FILMS—	
1. <i>Institute of Film Technology—</i>	
Proposal to purchase Moviola, Colour processing and T.V. equipments etc. and construction of buildings for the Institute of Film Technology, Adayar.	35.00
2. <i>Tamil Nadu Films Division—</i>	
Purchase of one Arriflex Camera Provision of processing and printing equipment, and stellovox or pagra sound recording equipment, for sync coverage and construction of a preview mini theatre, cold storage room and an air conditioned editing and camera room in the Tamil Nadu Films Division.	16.00
3. <i>Assistance to Tamil Nadu Theatre Corporation—</i>	
	10.00
III. ART AND CULTURE—	
1. <i>Improvements to Valluvar Kottam—</i>	
Proposal to develop the area surrounding Valluvar Kottam by providing shopping complex, dormitories, parks etc.	25.00
2. <i>Installation of Tiruvalluvar Statue at Kanyakumari—</i>	
Proposal to install a Thiruvalluvar Statue in Kanyakumari.	15.00
3. <i>Construction of Tiruvalluvar Study Centre at Kanyakumari—</i>	
Proposal to construct Thiruvalluvar Study Centre at Kanyakumari.	7.50
4. <i>Conference Hall of Periyar Memorial at Madras—</i>	
Proposal to construct Thanthai Periyar Conference Hall in Madras City.	7.50
GRAND TOTAL ..	160.75

CHAPTER 29.

WELFARE OF SCHEDULED CASTES, SCHEDULED TRIBES AND OTHER BACKWARD CLASSES.

Approach to the Plan :

29.0. The Government of Tamil Nadu lay special stress on social integration through promotion of social, educational and economic progress of the members of the Scheduled Castes, Scheduled tribes, Backward Classes and other privileged as well as weaker sections. In pursuit of this, the strategy has been developed to get together the programmes for these classes of society into one comprehensive and effective form, supplementing the general programmes in different fields such as agriculture, health, education, roads, housing and rural water supply. New dimensions have been added to the development programmes concerning welfare of weaker sections in the Sixth Five-Year Plan. The aim is to bring the weaker sections into the main-stream of socio-economic activity. For the Scheduled Tribes, economic programmes will be enlarged to make them self-reliant without interfering with their traditional ways of life and culture.

29.1. The Government have prepared a special component Plan for Scheduled Castes based on the guidelines given by the Government of India under which about 20 percent of benefits from the total allocation made under the various heads of development and general sectors should flow to Scheduled Castes/Scheduled Tribes population.

The Plan 1980-85 :

The economic programmes for the Scheduled Castes/Scheduled Tribes and Backward Classes for the Sixth Five-Year Plan are given below:

Welfare of Scheduled Castes:

(i) *Education :*

29.2. Educational development is tried to be achieved through giving facilities to the Scheduled Caste pupils by way of scholarships, books, clothing and meals, and at higher levels by way of hostels for accommodation. In addition to this, special coaching for students living in hostels is also attempted. For social integration, a certain percentage of the hostel accommodation is reserved for other communities.

29.3. A major scheme in the provision of food for students is the mid-day meals scheme. The Education Department supplies food grains and oil for 100 days in an academic year under CARE Food Programme. The remaining 120 days are tackled by rice purchased from official

sources. 942 Harijan welfare schools covering 1.62 lakh pupils come under this scheme. Supply of mid-day meals to Harijan children in 350 schools is entrusted to the Directorate of School Education. During the Plan, it is proposed to extend the feeding programme to 2,000 additional pupils every year in these schools.

29.4. Another aspect of educational development is the development of the existing schools by upgrading the lower stage ones to the next higher stage namely, single teacher schools to primary schools, primary schools to middle schools and middle schools into high schools. Upgrading necessitates larger buildings, and in certain cases, laboratories, libraries and also other recurring expenditure on additional staff to be employed. It is proposed to draw up a construction programme for buildings to accommodate the schools including high schools.

29.5. Additional expenditure in school programme arises mainly due to the growth in the strength of the schools. The growth of population and consequently the number of students requiring admission, force development of existing schools as well as opening new schools. It also becomes necessary to provide hostel facilities to pupils coming from weaker sections of the society. During the Plan, it is proposed to construct hostel buildings. For this purpose, assistance to the Tamil Nadu Harijan Housing and Development Corporation has been provided.

29.6. Housing for teachers is a pre-requisite and the same Corporation will be asked to build quarters for teachers in remote areas. In addition to coaching students, coaching in shorthand and taking school students on excursion to various places and coaching of candidates appearing for departmental tests are thought of as means of providing better occupational training. Students pursuing arts, professional, technical and post-graduate courses are given financial assistance to pursue their studies under the Tamil Nadu Harijan Welfare Loan Scholarship Scheme.

29.7. For these programmes, a sum of Rs. 1,400.00 lakhs has been provided in the Plan.

(ii) *Employment and Economic Advancement :*

29.8. The majority of members of Scheduled Caste and Scheduled Tribes are living in rural areas and their development is closely bound with the Rural Development Programmes. Those engaged in agriculture obtain subsidies for sinking irrigation wells and to purchase plough bulls. Under Animal Husbandry they are encouraged to form Milk Supply Societies.

Each member of the society is eligible for loan to buy two animals each. Under this programme 144 societies are now functioning in the State.

29.9. Technically trained people are supplied with tools and other required appliances to pursue their trades. The intention is that people with technical knowledge will settle down in their trades and earn a livelihood. Small traders and agriculturists are given loan to carry on their business.

29.10. A sum of Rs. 300.00 lakhs has been provided for the Plan period for these programmes.

(iii) *Health, Housing and other Schemes :*

29.11. 4,488 drinking water wells and ground level reservoirs have been provided so far in colonies where drinking water wells were not available. So far, 23,000 Harijan colonies have been covered out of a total of 25,526 colonies in Tamil Nadu. This programme will be continued and drinking water wells will be provided in the remaining colonies to the extent possible. Conversion of dry latrines into RCAP latrines is another scheme that is being propagated, so that sweepers and scavengers have a better and humanising aspect in their work. This process is expected to do away with the obnoxious and socially degrading practice of carrying night soil by head loads. It is unfortunate that many of the colonies of Scheduled Caste people do not have a path way giving access to burial grounds and hence it is considered desirable to provide access way to housing colonies. Community halls are being constructed for use by the inhabitants to conduct marriages and other festivals. Cash incentives are given to inter caste marriages. Child Welfare Centres will be opened in the Harijan colonies. The schemes for provision of house sites to Harijan and landless rural workers by acquiring private lands and unobjectionable Government waste lands are being implemented in the State vigorously. Assistance will be given to the Tamil Nadu Harijan Housing and Development Corporation for implementing the Harijan Colonies Development Programme from 1980-81. Construction of dhobikhanas will be extended to other districts.

29.12. An outlay of Rs. 6,000.00 lakhs has been earmarked for the programmes. The overall outlay for the programmes for welfare of Scheduled Castes in the Plan period will be Rs. 7,700.00 lakhs.

Welfare of Scheduled Tribes :

(i) *Education :*

29.13. There are 103 residential schools and one non-residential school for the tribal population in the State. The residential schools are inclusive of middle schools, elementary schools and primary schools. Of these, 77 are housed

in pucca buildings, 8 in thatched or tiled sheds and 19 are in rented buildings. It is proposed to provide pucca buildings for 27 schools during the Plan period, and the spill over works completed during 1980-81.

29.14. Hostels for students who attend schools, colleges and industrial training centres are also opened every year on a phased programme. The Harijan and Tribal Welfare Department are running 13 tribal hostels for boys and six hostels for girls. The total number of boarders in these hostels is 845. More hostels will be opened where residential schooling facilities are not available.

29.15. The other programmes regarding education are the same as for Scheduled Caste namely providing housing for teachers, equipment for schools, taking students on excursions, supply of text books, etc.

29.16. A sum of Rs. 90.00 lakhs has been provided for these programmes for the Plan period.

(ii) *Employment and Economic Advancement :*

29.17. Scheduled tribes are basically rural oriented. There are about 21,900 tribal families engaged in cultivation in the State. To encourage them in agricultural occupations, they are given the facility of loans to purchase plough bulls and to sink irrigation wells where necessary. They are also given interest free loans to carry on petty trades. Training in village industries is also given to poor tribals to enable them to be self employed. A sum of Rs. 70.00 lakhs has been provided in the Plan.

(iii) *Health, Housing and other Schemes :*

29.18. The tribals live in ill-ventilated huts put up in unhygienic conditions. The Government are anxious to provide houses to all the 57,000 tribal families living in the State. The Government have constructed about 4,858 houses for tribals till the year 1974-75. The programme for construction of houses for tribals will be continued during the Plan period. Drinking water wells are sunk in tribal areas. It is essential that the tribals are supplied with treated water as they suffer from chronic water borne diseases. Three more Mobile Medical Units are proposed to be opened to serve the tribal areas as additional facilities to improve the public health measures. Provision is also made to provide link roads to connect the tribal colonies and to facilitate their contacts with the outer world. There are three model villages in Nilgiris district where all the amenities are provided.

29.19. For providing these improvements, a sum of Rs. 90.00 lakhs has been provided in the Plan.

Bonded Labour :

29.20 The State Government are taking ameliorative measures for the freed bonded labour. So far, 27,874 bonded Labourers have been released in Tamil Nadu, out of a total of an estimated 2,50,000 bonded labourers. During the plan, it is proposed to provide housing facilities and also implement land colonisation scheme for the benefit of the bonded labourers for which, a token provision has been made.

Centrally Sponsored Schemes :

29.21. In addition to the schemes included in the State Plan, the Government of India is giving assistance to certain economic programmes for scheduled castes, scheduled tribes and bonded labour. The size of the Central assistance will be of the order of Rs. 3767.26 lakhs.

Welfare of Backward Classes and Denotified Tribes :

29.22. The Government are taking various steps to raise the standard of living of the backward classes and denotified tribes. The State Advisory Committee meets in six months under the Chairmanship of the Minister concerned to offer suggestions for the improvement of the conditions of the backward classes. The uplift of denotified tribes and other backward classes is met by way of improving their literacy level, helping in their economic betterment and by providing medical, housing and other facilities.

29.23. Adequate number of scholarships, at pre-metric and post-metric levels are given to boys and girls. Text books are supplied whenever necessary. New hostels would be opened and maintained. Expansion would also be made for the construction of buildings for schools and hostels. Schools are upgraded to accommodate the higher rate of admission. Special coaching is arranged for hostel students; clothing and midday meals are supplied free of cost; prizes are awarded to bright students and boarding grants are given to poor students. The outlay for education programmes is Rs. 250.00 lakhs for denotified tribes, and Rs. 800.00 lakhs for backward classes respectively.

29.24. Under schemes for economic development, assistance is given to sink wells for irrigation. Training in tailoring for women is offered in 5 centres now, 4 for denotified tribes and one for backward classes. 4 more centres are proposed to be opened for backward classes during the Plan. Free tools and implements are given to trained people who learn specific trades in general purpose workshop and to village artisans. Boyars, dhobies and barbers are given subsidised tools for their trades. Milch animals are supplied to backward classes for sheep breeding. Business loans are given to narikorawas to help them to

set up petty trades. The outlay on these schemes is of the order of Rs. 28.81 lakhs for denotified tribes, and Rs. 600.00 lakhs for backward classes.

29.25. In order to achieve planned economic development of the poor among the backward classes, it has been decided to constitute the Backward Class Finance Corporation as obtaining in Karnataka and Andhra Pradesh States.

29.26. Many poor families among the backward classes and denotified tribes do not own a house site or a hut to live in. They have to be provided with house sites free of cost. It is necessary to acquire lands for being assigned to them. It is also proposed to construct houses for backward classes and for denotified tribes in the Plan period. For health, housing and other programmes, a sum of Rs. 60.00 lakhs for denotified tribes and a sum of Rs. 300.00 lakhs for backward classes have been provided in the Plan. The total outlay for the programmes contemplated for the welfare of Denotified tribes and backward classes will be of the order of Rs. 2038.81 lakhs.

*Tribal Sub-Plan :**The Approach :*

29.27. The main objective of the Sixth Plan would be to focus attention on the weaker and less articulate groups of the tribals. The second objective would be to make up for the development lag between the tribal areas and other areas at least before the end of the Plan. The third would be to ensure a hundred percent coverage of the tribals in the State under planned development. This will be achieved through the implementation of two new programmes in full measures viz. (i) the programme for the primitive tribes and (ii) the programme for the dispersed groups. The gains already achieved during the past years of implementation of the Tribal Sub-Plan will now be further consolidated during the Sixth Plan. Tribal Sub Plan covers only 1,45,146 tribals living in the 9 I.T.D.Ps. in five districts.

29.28. Tribal development programme has to be supported by suitable protective measures, as otherwise the targetted beneficiaries are not likely to reap the benefits in full. It is, therefore proposed to expedite the two legislations contemplated to (i) effect debt relief to tribals; and (ii) to prevent alienation of lands from tribals to non-tribals.

Plan Programmes:

29.29 Distribution of agricultural inputs and conducting farmers training programmes, construction of veterinary dispensaries, supply of pigs, poultry, sheep and milch cattle, supply of seedlings for afforestation to tribals, organisation of LAMP

Co-operatives and also multi purpose societies, carrying out irrigational programmes by building check dams and percolation ponds and formation of access-cum-link roads, supply of bee-hives, opening of bamboo-work training centre, opening of schools, opening of more dispensaries, public health centres and sub-centres, opening of pre-schools, electrification of villages, supply of drinking water and carrying out housing programmes by THADCO are schemes dealt with under Tribal Sub Plan intended for the betterment and development of tribals. The respective departments assume full responsibility for the development of their respective sectors in the tribal areas. Implementation is co-ordinated by Tamil Nadu Tribal Development Authority at State level, and by Sub-Committees at district level.

Outlay:

29.30 The outlay for the sub-plan is Rs. 2000.00 lakhs, of which, a sum of Rs. 422.00 lakhs represents the special Central assistance for certain schemes.

Primitive tribes and Dispersed tribes:

29.31 (i) Considering the level of technology, literacy and ecological balance, primitive tribes are identified and separate projects are taken up for their development. The Government of India have identified five tribes as primitive and the State Government have also identified 12 tribal communities as being primitive. Under the primitive tribes programmes the main stress is on development of the tribal individual households. Therefore, the schemes will be family oriented. Special stress will be laid on the problem of health and education. The programmes under the development of primitive tribes are expected to cover about 45,000 tribes in six districts. The primitive tribes programme qualify for 100 per cent Central assistance and a tentative provision of Rs. 310.00 lakhs has been provided in the Plan.

29.32 (ii) The dispersed tribals are generally extremely poor, illiterate and unskilled. They number about 1.27 lakhs and live widely scattered throughout the State. Family based economic programmes aimed at increasing the income of the families supported by education and health programmes will help these tribals to develop. The Government of India will be approached to approve this scheme as Centrally assisted programme. A tentative provision of Rs. 75.00 lakhs is therefore, made in the Plan.

Table 29.I.

WELFARE OF SCHEDULED CASTES, SCHEDULED TRIBES AND OTHER BACKWARD CLASSES.

OUTLAY FOR 1980-85.

Harijan and Tribal Welfare Department.

	<i>Outlay for</i> (RUPEES IN LAKHS.)
I Welfare of scheduled castes —	
1. Education	1,400.00
2. Employment and Economic Advancement.	300.00
3. Health, Housing and other schemes.	6,000.00
Total ..	7,700.00
II Welfare of scheduled tribes —	
(i) Schemes of Harijan and Tribal Welfare Department.—	
1. Education	90.00
2. Employment and Economic Advancement.	70.00
3. Health, Housing and other schemes.	90.00
(ii) Tribal Sub Plan	2,000.00
Total ..	2,250.00
III. Backward Classes.—	
(a) <i>Welfare of denotified tribes.—</i>	
1. Education	250.00
2. Economic Uplift	28.81
3. Health, Housing and other schemes.	60.00
Total ..	338.81
(b) <i>Welfare of other backward classes.—</i>	
1. Education	800.00
2. Economic Uplift	600.00
3. Health, Housing and other schemes.	300.00
Total ..	1,700.00
Total—State Plan ..	11,988.81 lakhs. or 119.89 crores.
IV Centrally sponsored schemes—	
1. Scheduled Tribes	18.90
2. Scheduled castes	3,747.42
3. Bonded Labour	0.94
Total ..	3,767.26

CHAPTER 30

SOCIAL WELFARE AND NUTRITION

30.0 It is the responsibility of the Government, in a Welfare State, to render special services to the weaker sections of the Society in order to improve their living conditions, both economic and social. The Department of Social Welfare Government of Tamil Nadu, renders such welfare services to the three categories of the weaker sections of the society, viz., (1) Handicapped, (2) Women and (3) Children.

30.1. Details of important schemes, both the ongoing plan schemes with its proposed extension and the new schemes proposed for implementation during the current VI Five-Year Plan period—aiming at the welfare of the 3 categories of the weaker sections of the society are as follows :—

1. Welfare of the Handicapped :

30.2. Handicapped constitutes a significant percentage over 2 per cent of the total population in Tamil Nadu. Governmental effort and support is needed to a considerable measure to get them rehabilitated and make them lead a normal life.

30.3. Besides, the year 1981 has been declared as the International Year of the Disabled by the United Nations General Assembly and India is one of the signatories to the above resolution.

30.4. Considering the magnitude and importance of the problem of the handicapped, as specified above, the existing ongoing schemes have to be intensified and new Welfare Schemes have to be implemented from 1981, (the International Year of the Disabled persons) onwards to enable them to get their just and equal place in society and to make them lead a normal life.

(a) Ongoing Schemes and their extension :

30.5. The present ongoing schemes of the Government aim at vocational or economic rehabilitation of the handicapped. Important among the ongoing schemes are (a) Management of Modern Training-cum-Production Workshop for Physically Handicapped at Muttukkadu ; (b) Management of Schools for the Deaf, Blind and an Institute for mentally retarded ; (c) Management of Rehabilitation Home for the Blind Women ; (d) Imparting Training to handicapped Women in Engineering/Non-engineering trades ; (e) Free supply of aids and equipments like hearing aids, tricycles, Calipers, etc., to improve the mobility of the handicapped and (f) Establishment of Regional Rehabilitation Centres, etc.

30.6. It is also proposed to extend the above type of services in a few more areas where there is real and urgent need for such services. Execution of the above schemes with its proposed extension

may involve an expenditure of Rs. 270 lakhs approximately during the plan period.

(b) New Schemes proposed for implementation during 1981-85 ;

30.7. Sectoral new schemes have been proposed for implementation during the plan period aiming at total rehabilitation—Medical, Vocational, Economic and Social—of the handicapped. Important among the new schemes proposed are under the following areas/headings ;

(a) Programmes for the Child under 14 :

30.8. Establishment of Schools for the Blind Deaf, severely disabled and mentally retarded, establishment of *Artificial Limb sub-Centres*, *Audiology Wings*, etc.

(b) Programmes for Vocational Training

30.9 Establishment of job oriented training Centres for the Blind, Deaf, severely disabled and mentally retarded.

(c) Rural Programmes for Employment.—

30.10 Self-employment oriented schemes like formation of Co-operative Societies of the handicapped. This will include Societies for Manufacture of Match Boxes, Bun and Bread Making, Poultry keeping, Chalk Making, Dairying Weaving, Printing and Binding, etc.

(d) Other General Programmes.—

30.11 Grant of unemployment allowance to the blind and severely disabled, establishment of Rehabilitation Centres, and State owned Corporation for Rehabilitation of the handicapped in Tamil Nadu. Implementation of the above new schemes may involve an expenditure of approximately Rs. 700 lakhs during the plan period.

2. Family and Child Welfare.—

30.12 The programmes under "*Family and Child Welfare*" aims at providing nutrition and health services to Women and Children particularly in rural areas. These programmes also include informal pre-school education, supply of nutritious food to children, expectant and lactating mothers. Nutrition education and health education. These programmes have to be extended and intensified in the welfare of the children.

(a) Ongoing Schemes and their extension.—

30.13 There are above 4,433 Child Welfare Centres serving equal number of villages in the State at present. There are still 9,000 and odd

villages yet to be covered under the Child Welfare Programme in the State. 1,000 more villages may be covered by starting 1,000 more Child Welfare Centres in a phased manner at the rate of 200 Child Welfare Centres each year under the VI Five year Plan period.

30.14 Considerable number of Balwadis are still functioning in rented buildings. It is essential that all of them have buildings of their own. It is therefore proposed to construct 250 Balwadi buildings during the plan period at the rate of 50 every year.

30.15 It is also proposed to open creches in areas covered under Integrated Child Development Service Project during the plan period.

30.16 Other ongoing schemes are (a) Integrated Family and Child Welfare Centres (b) Supplementary Nutrition in Integrated Child Development Service Scheme, Modified Special Nutrition Programme and Special Nutrition Programme Centres, World Bank Aided Madras Urban Development Projects in Madras City (c) Grant to Social Welfare Board for assisting Social Welfare Institutions etc., (d) Running of Orphanages.

30.17 The above programmes may involve an expenditure of approximately Rs. 456 lakhs during the plan period.

3. Women's Welfare.—

30.18 Women, particularly the poor, destitutes, and widows are assisted by the Department of Social Welfare through a number of schemes aimed at creation of self-employment opportunities for them and this make them self-reliant. Schemes for the welfare of the women have to be executed with more vigour and extended further considering the increasing genuine demand from women who are poor or destitutes or widows.

(a) Ongoing Schemes and their extension.—

30.19 A few of the important schemes which require continuance and further extension in the interest of welfare of the women are :

1. Special programmes for providing employment to rural women by starting *Industrial Co-operatives* by training them and by enrolling them as Members. The proposed Industrial Co-operatives will be in Match Boxes Making Chalk, Stationery, Palm Based industries etc.

2. Supply of Sewing Machines to destitute widows.

3. Issue of Savings Certificates for encouraging widow remarriages.

4. Supply of note books free of cost to widow's children.

5. Opening of Working Women's Hostel in 5 more Centres.

6. Starting of Service Homes at Coimbatore and Madurai.

Continuance and extension of the present existing plan schemes may involve an expenditure of Rs. 193 lakhs during the plan period.

(b) New Schemes proposed for implementation during the plan period.

30.20 A few new schemes have been proposed for vocational or economic rehabilitation of the poor women. Important among them are :

1. Assistance to poor women to acquire vocational training in book keeping and accountancy.

2. Starting of Training-cum-Production Centres in Tailoring.

3. Scholarship to Children of destitute women who are not otherwise eligible for scholarship under any of the scholarship schemes of the State or Central Government for pursuing College studies.

4. Assistance to children of widows studying in the Higher Secondary Course by way of free supply of books and note books.

5. Starting of Higher Secondary Course in Service Home, Tambaram.

6. Starting of Home for the aged.

Execution of the proposed new schemes including the above specified will involve an expenditure of Rs. 115 lakhs approximately during the plan period.

4. Organisation and Administration :

30.21 Successful implementation of the schemes depends mainly in the machinery especially Central Machinery viz., the Department of Social Welfare, which plans organises, controls, supervises and co-ordinates its various welfare programmes. Unless the machinery is strong enough, it could not execute the programmes successfully. The Department of Social Welfare does not have a strong Central set up at present. The Department has not expanded in size and strength after 1965, though the volume of work has increased nearly four fold by sanction of number of additional new programmes aiming at the Welfare of the handicapped, Women and Children. There is therefore every need and justification for strengthening the Directorate of Social Welfare by appointment of a few more Programme Officers, two or three Deputy Directors at the Directorate and also the Regional level Officers with adequate supporting staff at each level.

30.22 An Inspection Cell headed by an Accounts Officer with auditing powers is also considered necessary, since the Department deals with programmes involving a lot of financial implications.

30.23 As a result the Department needs through re-organisation necessitating appointment of additional Officers and staff which may involve an expenditure of Rs. 85 lakhs during the Plan period.

Correctional Administration :

30.24 Due to the modern changes in values in society, the stress and strain of Civilization, there is need for better care, training and rehabilitation of juveniles. The Department of Correctional Administration has drawn a set of programmes to train and equip youngsters to be self-reliant and useful to society. Necessary programmes to open training centres and additional approved schools are drawn. The programmes in total have an allocation of Rs. 94.98 crores.

Nutrition :

30.25 'Nutrition' Schemes mainly cover children below six years of ages and lactating mothers. Malnutrition make them vulnerable to diseases and nutritionally related disabilities. Incidence of malnutrition among pre-school children is also very high. Further for pregnant and lactating mothers the calorie deficit is high.

30.26 Nutrition programmes attempt to give integrated package of basic services to benefit young children and women. These services include nutrition, supplementary nutrition, health and immunisation programme, non-formal education to women, etc. Balwadi programme under its feeding schemes try to reduce the calorie-gap in mothers by providing grains and oil.

30.27 The mid-day meals scheme, in addition to being a nutrition programme also act as an incentive to retain enrolment in the school. For mid-day meals programme, government grant is supplemented by about 20,000 tonnes of food, salad oil, etc., reserved from 'Care' Organisation as free gift.

30.28 Central Kitchen programme covers the three Districts of Chengalpattu, South Arcot, and North Arcot. Under this programme meals are cooked in modern ovens under hygienic conditions and transported to the surrounding schools in closed vans.

Tamil Nadu Integrated Nutrition Project (with World Bank Assistance) :

30.29 This project will be implemented in six selected districts in Tamil Nadu, viz., Madurai, Chingleput, North Arcot, Ramanathapuram, Tirunelveli and Pudukottai, with a view to increase the efficiency, coverage and impact of the Government's Nutrition and health efforts. This would be accomplished principally by systematic concentration, for the first time, on the nutritionally most vulnerable population group, viz., children aged 6-36 months. The project will also improve the focus, quality and reach of nutrition-related services for other groups at high nutritional risk-pregnant and nursing women and older pre-school children.

2. It is expected that after the implementation of the project for full 4 years in each project district, the present Infant Mortality Rate of less than 3 years old children will be reduced by about 50 per cent. Apart from this, reductions are also anticipated in the incidence of Vitamin "A" deficiency in children and in the nutritional anaemia among pregnant and lactating mothers.

3. This project will be implemented in all the 170 blocks of the six districts which are at greater nutritional risk. It will be implemented on a block-by-block basis, phased over 5 years. During the first year, which is the current year, this project will be implemented in one pilot block, viz., Kottampatti block in Madurai district based on the results of which the project will be refined as necessary.

4. The total cost estimate of this project is Rs. 55.78 crores. The details are as follows :

	RS. IN CRORES.)
1. Nutrition Delivery Services ..	25-87
2. Rural Health Services	24-40
3. Nutrition Communication ..	3-29
4. Co-ordination, Monitoring and Evaluation.	2-22
	55-78

TABLE 30-I.

SIXTH FIVE-YEAR PLAN SCHEMES.

PROPOSED OUTLAY FOR SOCIAL WELFARE 1980-85.

<i>Serial number and Head Development.</i> (1)	<i>Proposed outlay.</i> (2) RS. IN LAKHS.
I. Direction and Administration ..	85
II. Welfare of the Handicapped ..	8,78
III. Family and Child Welfare ..	4,30
IV. Women's Welfare	3,08
V. Welfare of Poor and Destitutes.	26
VI. Correctional Administration ..	95
VII. Tribal Areas and Plan ..	19
VIII. Centrally Sponsored Schemes (State share).	1,60
Total ..	2,001

CHAPTER 31.

EMPLOYMENT SERVICE, CRAFTSMEN TRAINING AND LABOUR WELFARE EMPLOYMENT SERVICE.

Performance during the Fifth Plan :

31-0. Under the National Employment Service Scheme, there are in Tamil Nadu, 34 Employment Offices including 11 Sub-employment offices at Dindigul, Karur, Sankarapuram, Alangayam, Hosur, Paramakudi and Mandapam (for Sri Lanka repatriates), 2 Special Employment Offices at Madras, one for professional and executive standard employment seekers, and the other for physically handicapped, 3 University Employment Information and Guidance Bureaux at Madras, Madurai and Annamalaiagar, one office each exclusively for unskilled categories and the other exclusively for technical personnel at Madras. The total number of job seekers in Tamil Nadu on the live register of employment exchanges seeking assistance was 10,13,242 persons as on 30th April 1980 of which the number of applicants belonging to Scheduled Castes and Scheduled Tribes was 1,69,667 and 3,811 respectively. The number of educated applicants on the live register on 30th April 1980 was 4,67,313 of which women job seekers form about 25.9 per cent.

Approach to the plan 1980-85:

31-1. The Government of Tamil Nadu have embarked on an ambitious scheme towards training of rural youth for self-employment. The Plan schemes relating to the starting and modernisation of Industrial Training Institutes call for better monitoring and evaluation and to this effect, organisational changes and strengthening of administrative schemes have been recommended.

31-2. As suggested by the Union Planning Commission in their Draft Five-Year Plan 1980-85, it is necessary to set up at the district level, an Employment Generation Council consisting of peoples' representatives, concerned Government functionaries, and the representatives of credit institutions and of professional and academic bodies in the districts. This council should prepare an integrated district employment plan which will help to provide jobs in the industrial, agricultural and services sectors and which will ensure that the district employment plan and the district credit plan are mutually supportive of each other. This proposal is under consideration by the State Government.

Plan for 1980-85 :

The following are the schemes proposed for implementation during 1980-85.

Strengthening of Employment Exchange with additional staff.

31.3. To improve the quality of work in the Employment Exchanges, additional staff will be

appointed during 1980-85. A sum of Rs. 18.27 lakhs has been provided.

Establishment of Sub-Employment Office :

31.4. At present 11 Sub-Employment Offices are functioning in various districts of Tamil Nadu. It is proposed to locate sub-employment offices for a population of 25,000 and above depending upon the intensity of employment market activities of the area, inaccessibility to the nearest employment exchange, etc. To begin with, a Sub-Employment Office at Mettur in Salem district and one more office in Ramanathapuram is proposed during the Plan period. The setting up of new Sub-Employment Offices would involve a cost of Rs. 4.62 lakhs.

Creation of Regional Deputy Director in four regions at Madras, Madurai, Salem and Tiruchi :

31.5. At present 34 Employment offices are functioning in Tamil Nadu. Proposals have been made for the creation of Regional Deputy Director posts at regional headquarters, to supervise the work of employment assistance and such a step will serve as a useful link between the headquarters and field units. An amount of Rs. 23.42 lakhs has been proposed.

Creation of a Separate Unit in every Employment Exchange for maintaining Centralised Roster for communal reservation :

31.6. A Centralised Roster Scheme is being implemented at the District Employment Office, Salem to ensure that the vacancies reserved for various communities are filled by candidates belonging to the communities. Based on the working of the scheme in Salem, it will be worthwhile to extend this scheme to the remaining 15 districts. However, in the Plan period it is proposed to extend this scheme to 10 districts to ensure that the reserved vacancies are filled up only by candidates belonging to Scheduled Castes, Scheduled Tribes and Backward Class according to the percentage reserved by the Government. This scheme assumes importance in view of the recent revision in the percentage of reservation for backward class from 31 per cent to 50 per cent. An outlay of Rs. 5.72 lakhs has been made for this purpose.

Creation of a Separate Employment Office for Technical Categories :

31.7. To reduce the work load of the District Employment Exchanges, a separate employment office to deal exclusively with technical categories in the districts of Coimbatore and Madurai is proposed. These districts have a large number of unemployed technical persons on the live register. The cost of the scheme will be Rs. 10.28 lakhs.

Creation of the post of Senior Accounts Officer with supporting staff for Employment Wing :

31.8. The work load relating to budget, control of expenditure, audit, etc. in the employment wing has increased. The 'Unemployment relief scheme for graduates in Tamil Nadu' has also been proposed. Hence, a post of Senior Accounts Officer with supporting staff is proposed for the Employment Wing of the Department of Employment and Training. A provision of Rs. 1.92 lakhs has been made for this purpose.

Strengthening of University Employment Information and Guidance Bureaux :

31.9. In Tamil Nadu, three University Employment Information and Guidance Bureaux are existing at Madras, Annamalainagar and Madurai Universities. With the introduction of the new data processing system and revised rationalised modern accounting procedure, three qualified persons in accounts are proposed to be appointed at the rate of one for each University. An outlay of Rs. 1.07 lakhs is proposed for this purpose.

Strengthening of State Employment Market Information Unit :

31.10. The State Employment Market Information Unit is in charge of the implementation of Employment Market Information programme in the State. At present it has got 16 field units under its control. Compilation of quarterly and annual employment market information reports and other administrative functions call for the services of 5 additional staff as per the staffing formula of 1980. However, with a view to observe economy it is proposed to appoint only

2 Assistants during the Plan period. The cost of the scheme will be Rs. 0.56 lakh.

31.11.	<i>Other Programmes.</i>	<i>Outlay for 1980-85</i>
		(Rs. in lakhs.)
(a)	Setting up of a Separate Employment Office for Technical Categories in Tiruchirappalli	8.09
(b)	Strengthening of Professional and Executive Employment Office, Madras with additional staff	1.73
(c)	Sanction of additional typists for Directorate and Employment Market Information Units	2.95
(d)	Supply of 12 drawers card index steel cabinets to 10 Employment Exchanges ..	0.40
		<hr/>
		13.17
		<hr/>

Outlay.

31.12. The total outlay on schemes for improvement of Employment Services in Tamil Nadu during the Plan period is Rs. 79.03 lakhs.

TABLE 31—I.
DRAFT SIXTH FIVE-YEAR PLAN 1980-81 to 1984-85.
EMPLOYMENT SERVICE—SCHEMewise AND YEARWISE PHASING OF FINANCIAL OUTLAYS.

Serial number- (1)	Name of the Scheme, (2)	(RS. IN LAKHS.)					
		1980-81. (3)	1981-82. (4)	1982-83. (5)	1983-84. (6)	1984-85. (7)	Total. (8)
1	Setting up of a separate Employment Office for Technical categories in Tiruchirappalli.	1.89	1.55	1.55	1.55	1.55	8.09
2	Strengthening of professional and Executive Employment Office, Madras with additional staff.	0.37	0.34	0.34	0.34	0.34	1.73
3	Sanction of additional typists for Directorate and Employment Market Information Units.	0.63	0.58	0.58	0.58	0.58	2.95
4	Supply of 12 drawers card index steel cabinets to 10 Employment Exchanges	0.40	..	..	..	..	0.40
5	Strengthening of Employment Exchanges with additional staff .. .. .	..	1.71	3.20	5.66	7.70	18.27
6	Establishment of Sub-employment Offices in Districts of Salem and Ramanathapuram,	..	0.76	1.38	1.24	1.24	4.62
7	Creation of Regional Deputy Directors in four regions at Madras, Madurai, Salem and Tiruchirappalli.	..	7.04	5.46	5.46	5.46	23.42
8	Creation of a separate unit in every Employment Exchange for maintaining centralised roster for communal reservation.	..	0.63	1.22	1.77	2.10	5.72
9	Creation of separate Employment Office for Technical categories in the Districts of Madurai and Coimbatore.	..	1.82	1.66	3.48	3.32	10.28
10	Creation of the post of Senior Accounts Officer with supporting staff for Employment Wing.	..	0.54	0.46	0.46	0.46	1.92
11	Strengthening of University Employment Information and Guidance Bureaux at Madras, Madurai and Annamalainagar with one post of Assistant in each.	..	0.29	0.26	0.26	0.26	1.07
12	Strengthening of State Employment Market Information Unit with additional staff.	..	..	0.20	0.18	0.18	0.56
Total Outlay ..		<u>3.29</u>	<u>15.26</u>	<u>16.31</u>	<u>20.98</u>	<u>21.19</u>	<u>79.03</u>

CRAFTSMEN TRAINING.

Performance during the Plan periods:

31.13. Tamil Nadu has made commendable progress in implementing the Industrial Training Institute Programme. At the end of the Second Plan there were 10 Industrial Training Institutes with 3,368 seats. During the Third Five-Year Plan, against the target of 14 new Industrial Training Institutes with 3,500 seats, 20 new institutes were started with 6,224 seats. Thus at the end of the Third Plan there were 30 Industrial Training Institutes with a total sanctioned seating capacity of 9,592.

31.14. In the Annual Plans, 1966-67 and 1967-68, 3,520 additional seats were introduced and one more Industrial Training Institute was started. During the Fourth Plan period there was no expansion, but only diversification of trades to an extent of 368 seats. During the Fifth Plan period, 2 more units with 32 seats have been started at the Industrial Campus, Adyar, to meet the growing demand in the trade of Mechanic(General) Engineering. Thus at the end of 31st March 1980 there were 30 Industrial Training Institutes, one Industrial Training Centre, and one Industrial Training Unit with a total seating capacity of 13,176. Of the 32 Industrial Training Institutes/Units, only one Institute is run exclusively for women candidates with a sanctioned capacity of 256.

31.15. At the end of 31st March 1980, 12,300 candidates were undergoing training in these institutes of which, 2,230 were scheduled castes; scheduled tribes, and 321 were women. Training is given in 29 engineering, and 9 non-engineering trades. The annual out turn is about 8,000.

Approach to the Plan, 1980-1985 :

31.16. With a view to generate maximum employment including self employment and to ensure a balance between technical education and trained manpower requirements, the training programmes are proposed to be re-oriented so as to cater to the growing demand for skilled workers in different sectors of the economy such as agriculture, and agro-industries, organised industries, cottage and small scale industries and, in the tertiary sector. It would be necessary to organise training facilities in the trades and occupations where there is growing demand as also plan for training facilities for special categories such as women, physically handicapped and scheduled castes/tribes. Quality improvement of training is yet another aspect which will receive attention in the Plan period.

31.17. Industrial growth is largely dependent on the availability of skills. It is estimated that at the end of 1982-83 there might be demand for additional employment of 2,30,000 skilled persons in Tamil Nadu in the manufacturing industries.

The number of manufacturing industries is also expected to go up from 6,000 to 8,000 by the end of 1982-83.

31.18. Eighteen per cent of the seats will be reserved for scheduled castes/scheduled tribes; 31 per cent to backward classes; 5 per cent to Burma/Sri Lanka repatriates and 5 per cent of the seats to ex-servicemen.

Plan Proposals, 1980-85.

Starting of new Industrial Training Institutes.

(i) Tirunelveli.

31.19. During April, 1980, 82,075 women students appeared for X Standard examination, and 53,073 have been declared eligible for higher studies. An equal number of women candidates will be coming out successfully every year. For such a massive out turn from high schools, the opening for the women candidates is very limited as far as the vocational training is concerned. Women are not forthcoming to join certain trades like fitter, turner, machinist, etc., due to social taboos, non-availability of residential or inadequate transport facilities. There is, however, some marginal response in trades like Draughtsman (civil, mechanical), Mechanic [Radio and Television, instrument] etc. At present, there are 65 girls undergoing training in such trades in other Industrial Training Institutes. Co-education is looked down upon in the rural/semi-rural areas. As almost all our Industrial Training Institutes are located in semi-urban areas, the girl students are reluctant to join and work with male students. To begin with, it is proposed to start one new Industrial Training Institute exclusively for Women at Tirunelveli with a seating capacity of 268 seats. The courses suggested for women are Draughtsmen (civil), Mechanic (Radio and Television), Mechanic (Instrument), Stenography (English), Commercial practices, Hand composing and Proof Reading, etc. This proposal is in conformity with the suggestions of the Planning Commission, Government of India and the recommendations of the National Federation for Indian Women, for providing training facilities for women. The cost of the scheme will be Rs. 43.00 lakhs.

(ii) Tirupur.

31.20. After the formation of Periyar district from the erstwhile Coimbatore district, two of the three Industrial Training Institutes at Erode and Dharapuram are coming under the new Periyar district. The towns of Coimbatore and Tirupur are industrial areas. In order to provide the educated youth of Tirupur area with training facilities, it is proposed to start an Industrial Training Institute at Tirupur in Coimbatore district with 264 seats during the Plan period.

The trades to be introduced are Mechanic, Wiremen, Fitter, Stenography, Machinist, Draughtsmen, and hand weaving of fancy and furnishing fabrics, with an emphasis on fitter trade. The cost of the scheme will be Rs. 57.24 lakhs.

(iii) Arkonam,

31.21. At present, there are two Industrial Training Institutes in North Arcot district. The district of North Arcot covers different kinds of areas of which Arkonam and surrounding places are backward. There is bonded labour and exploitation of the poor and weaker sections by others. As there are no training facilities at Arkonam it would be proper to provide some facilities for the younger generation of this area, to equip them with skills and to increase their employability. Therefore, it is proposed to start an Industrial Training Institute at Arkonam with 288 seats. It is proposed to impart training in trades such as Mechanic (Radio and Television), Fitter, Mechanic (Diesel), Turner, Welder, Tractor Mechanic, Sheet metal worker, Stenography, etc. The cost of the scheme will be Rs. 65.80 lakhs.

31.22. The above schemes contemplate the acquisition of land, construction of buildings, purchase of tools, machinery, furnitures, etc., provision of staff and payment of stipend to the trainees.

Construction of permanent hostel building for three Industrial Training Institutes :

31.23. Only 24 Industrial Training Institutes have been provided with hostel buildings. Hostel accommodation is to be provided to one-third of the total sanctioned seats of the respective Industrial Training Institutes. The Training Units at Erode, Karaikudi, Theni, Pudukottai and Tuticorin which were started at the end of the Third Five Year Plan have no hostel buildings. To begin with, it is proposed to provide three Industrial Training Institutes with hostel buildings with necessary amenities, during the Plan period at a total cost of Rs. 21.00 lakhs. The provision of hostel accommodation will help the students to attend their classes in time by saving the time now expended on journeys to and fro.

Diversification of Trades in Industrial Training Institutes :

31.24. The scheme contemplates diversification of trades in the Industrial Training Institutes and abolition of less popular trades and introduction of new and more employable trades in their places. Since 1970, 768 seats have been diversified in 16 Industrial Training Institutes in Tamil Nadu. During the Fifth Plan period, 368 seats have been diversified.

31.25. During the Plan period, it is proposed to abolish 176 seats in six Industrial Training Institutes at Tiruchirappalli, Chengalpattu, Mettur

dam, Salem, Ariyalur and Nagapattinam. The trades to be newly introduced are Mechanic (General Electronics, Farm; motor Vehicle), Tool and Dye Maker, Draughtsman (civil), etc. The total seats for which new trades are to be introduced are 192. The introduction of the new trades is in conformity with the suggestions of the State Level Special Committee on Electronics, representation of the Salem Steel Plant Limited and Local Advisory Committee of certain Industrial Training Institutes. The cost of providing the new trades will be Rs. 31.18 lakhs.

Replacement of equipment and purchase of additional tools and equipment for certain trades :

31.26. Some of the machineries like welding transformers, lathes, drilling machines, grinding machines, etc. purchased during the Second and Third Five-Year Plan periods have become worn out due to constant use and are not giving the accuracy expected from them. It is necessary to replace the old machines to improve the standards of training. During the Plan period it is proposed to replace machinery for various engineering trades at a total cost of Rs. 30.00 lakhs.

31.27. The Trade Committee and the National Council for Training in Vocational Trades has recommended that the existing trades of machinists be merged into one trade, Machinist, which comprises of all machine shop work. The trade of machinist at present is taught in 23 Industrial Training Institutes. The student strength for this trade is 1,044. A stock of the machinery available in these Industrial Training Institutes were taken and the excess machinery in certain Industrial Training Institutes have been redeployed to other Industrial Training Institutes which do not have machinery required according to the new standard list and the syllabus. Therefore, new machineries are to be purchased according to the revised syllabus. It is proposed to purchase 26 tool and cutter grinders; 39 surface grinders; 23 universal milling machines and 22 silicon carbide grinders at a cost of Rs. 30.00 lakhs.

Development of audio-visual aids in various Industrial Training Institutes :

31.28. At present, facilities for audio-visual aids are available only in 2 Industrial Training Institutes at Ambattur and at Madurai. Therefore, it is proposed to provide 16 mm, projectors to 8 districts headquarters Industrial Training Institutes at Coimbatore, Virudhunagar, Salem, Tiruchirappalli, Pettai, Thanjavur, Vellore and Cuddalore. It is also proposed to supply one film strip-cum-slide projector and one epidioscope to all the 32 Industrial Training Institutes. The existing film libraries in the two Industrial Training Institutes will also be strengthened with additional films and, film strips and slides. A provision of Rs. 6.60 lakhs has been made for this scheme.

Curriculum Development Cell :

31.29. A Cell to advise changes in or modifications in the syllabi and curriculum of various courses, preparation of trade manuals, charts, text books, information sheets, etc. in simple English and regional language will be located in the Directorate at a cost of Rs. 10.00 lakhs. The Cell will also study the impact of technological innovation on vocational training.

Production Centres :

31.30. It is proposed to start Production Centres in three Industrial Training Institutes at North Madras, Madurai and Coimbatore as a complementary workshop to TANSI to meet the surplus job orders of Government departments as well as to take up private work at competitive rates. An outlay of Rs. 8.00 lakhs has been provided.

Introduction of additional seats in the Industrial Training Institutes :

31.31. During the Plan period, it is proposed to introduce about 170 additional seats in three Industrial Training Institutes in the State. The additional trades to be covered are grinder, restaurant management, leather, draughtsman (Mec.), mechanic (radio and television) tool and dye maker, stenography, watch and clock maker, machinist, etc. The proposed trades have scope for employment in newly emerging industries as also afford scope for self employment ventures. An outlay of Rs. 50.00 lakhs has been proposed.

Apprentice Training Scheme :

31.32. The Apprentice Training Scheme is a continuous process. While the Industrial Training Institutes give basic training in various trades, the apprentices are given necessary shop floor training coupled with appropriate related instruction during the apprenticeship training. In order to implement the scheme effectively the organisation is proposed to be strengthened through appointment of additional staff at a cost of Rs. 19.37 lakhs.

31.33. The quantitative achievement is of no value if the requisite quality is not maintained in the training imparted to the apprentices. It is, therefore, proposed to start more Related Instruction Centres so as to improve the quality of related instruction and to reduce the congestion in the existing centres. There are 12 related Instruction Centres at present. During the Plan period, it is proposed to start separate Related Instruction Centres at Ambattur, Madurai, Pettai, Vellore and Tiruchirappalli at a cost of Rs. 13.82 lakhs.

31.34. It is also proposed to start new Related Instruction Centres at Chingleput, Dharapuram and Hosur in order to provide more facilities to the apprentices who have to attend classes once in every five weeks at far away places where these facilities are now available.

A provision of Rs. 6.54 lakhs has been made towards provision of additional staff in these Centres. The Related Instruction Centre at Cuddalore is also proposed to be strengthened at a cost of Rs. 0.50 lakh.

Short-Term Training Programme to Rural Youth :

31.35. The Government of Tamil Nadu have sanctioned a scheme for imparting short-term training to rural youth in 11 crafts through 19 Industrial Training Institutes. The scheme aims at upgrading the skills of young rural craftsmen in order to enable them to do their jobs in a more efficient and effective manner. It also aims at imparting skills to persons from targetted groups who have remained unskilled till now. The overall objective of the scheme is to retain skilled manpower in rural areas, preventing them from migrating to urban areas. The skills that would be useful in the rural context were determined through a survey spread over 380 villages covering 60 blocks. Training is imparted in the Industrial Training Institutes for 11 trades for a period of 3 months in the evenings. After completion of the training, each trainee is provided with a tool kit worth Rs. 100 on half cost basis. So far, 3,216 rural youths have been trained.

31.36. The actual working of the scheme has revealed certain deficiencies. In order to set right these deficiencies, it is proposed to convert the present part time courses to full time courses in all the 19 Industrial Training Institutes and provide free hostel accommodation in order to benefit youth coming from the remote villages.

31.37. It is also proposed to extend the short term training programme to four Industrial Training Institutes during the Plan period. Each batch of training will have 480 trainees and in a year 1,920 youth will be covered. The scheme envisages the appointment of full time teachers, construction of workshops, dormitory type of hostel accommodation, purchase of raw material, etc. An outlay of Rs. 68.15 lakhs has been earmarked for this programme.

Other Programmes :

31.38. The other programmes aimed at strengthening the existing set up and for improving the quality of the training imparted are, (i) Training of Junior Officers in Central Institute at a cost of Rs. 5.50 lakhs; (ii) Strengthening the State Directorate at a cost of Rs. 11.00 lakhs ; (iii) Strengthening the Industrial Training Institute

as per NCTVT Pattern at a cost of Rs. 40-00 lakhs; (iv) Providing exhaust fans for the workshop and construction of urinals and lavatories at a cost of Rs. 25-00 lakhs ; (v) Conducting evening classes for industrial workers at a cost of Rs. 4-95 lakhs ; (vi) Strengthening the Industrial Training Institute at Madurai at a cost of Rs. 0-66 lakh; (vii) Construction of class rooms and provision of audio visual aids to the Industrial Training Institute at North Madras, Ambattur, Guindy and Madurai at a cost of Rs. 12-00 lakhs ; (viii) Provision of vehicle under apprenticeship scheme at a cost of Rs. 2-90 lakhs ; (ix) Strengthening of staff training programme at the Industrial

Training Institute at Ambattur at a cost of Rs. 3-00 lakhs ; (x) Provision of modern facilities at the Industrial Training Institute at Coimbatore at a cost of Rs. 28-00 lakhs and (xi) Establishment of modern concept wing at the Industrial Training Institute at Ambattur at a cost of Rs. 1-74 lakhs.

Outlay :

31-39. The outlay proposed for the craftsmen, apprenticeship and rural training schemes for the Plan period is Rs. 595-95 lakhs.

TABLE 31-II.

Scheme-wise and Year-wise Phasing of outlays—Craftsmen Training.

<i>Serial number.</i>	<i>Programme.</i>	1980-81.	1981-82.	1982-83.	1983-84.	1984-85.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
<i>I. Craftsmen Training Scheme :</i>							
1	Starting of new I.T.Is. for Women at Tirunelveli.	..	..	23.02	13.00	6.98	43.00
2	Starting of new I.T.I. at Tirupur (Coimbatore District).	..	30.56	15.56	5.56	5.56	57.24
3	Starting of new I.T.I. at Arokonam, N. A. Dt.	..	37.95	15.95	5.95	5.95	65.80
4	Replacement of machinery and equipment.	..	10.00	10.00	5.00	5.00	30.00
5	Purchase of additional items of tools and equipments for the trade of Machinist.	..	10.00	10.00	5.00	5.00	30.00
6	Diversification of trades in I.T.Is.	..	10.88	10.08	5.08	5.94	31.18
7	Construction of permanent hostel building for 3 I.T.Is.	..	7.00	7.00	7.00	..	21.00
8	Deputation of J.T.Os. working in the I.T.Is. to various C.T.Is. for training.	..	2.50	1.00	1.00	1.00	5.50
9	Development of audio visual aids in various I.T.Is.	..	4.65	0.65	0.65	0.65	6.60
10	Formation of curriculum Development Cell in the Office of the D.E.T., Madras.	..	3.25	2.25	2.25	2.25	10.00
11	Strengthening of State Directorate and Regional Offices of Deputy Directors.	..	2.90	2.70	2.70	2.70	11.00
12	Strengthening of I.T.Is. as per NCTVT pattern.	..	10.06	9.98	9.98	9.98	40.00
13	Provision of exhaust fans in the workshop of I.T.Is.	..	5.00	5.00	5.00	..	15.00
14	Construction of additional urinals and lavatories in I.T.Is.	..	5.00	5.00	..	..	10.00
15	Starting of productivity centres in 3 I.T.Is.	..	2.00	2.00	2.00	2.00	8.00
16	Scheme for evening classes for industrial workers at I.T.I., Trichy and Mettur-dam.	..	1.65	1.10	1.10	1.10	4.95
17	Introduction of additional seats in the I.T.Is.	..	22.69	21.93	2.69	2.69	50.00

LABOUR WELFARE PROGRAMMES.

Review of the Fifth Plan.

31-40. At the end of the year 1979, 412 plantations were on the list employing about 79,172 workers. There are 705 trade mark owners having 1,574 industrial premises in the State. About 14,260 were employed in them. There were 21,730 establishments, covered by the Tamil Nadu catering establishment Act, 1958 as on January 1980, employing 68,922 workers. The number of shops and establishments covered were 2,21,642. These shops and establishments were employing 3,23,644 persons during the year 1979. At the end of 1979 there were 9,277 factories registered under the Factories Act, 1948 employing about 5.75 lakh workers. The number of registered motor transport undertakings were 1,359, employing 50,156 workers and over 52,738 workers were employed in beedi and cigar manufacture in 1,382 establishments in the State.

31-41. By the end of 1979, Government have fixed/revised the minimum rates of wages for employment in (1) cinemas; (2) under local authority; (3) in bricks and tile manufactory; (4) in match and fire works manufactory; (5) in Sago industry; (6) in salt pans; (7) Motor Transport; (8) in Agriculture and ancillary to agriculture; (9) snuff and tobacco manufactory; (10) road construction; (11) flour and rice mills; (12) stone crushing; (13) plantations; (14) hotels and restaurants. Proposal for fixations revision of minimum wages for other types of employment are under the consideration of the Government. The payment of equal pay to men and women workers and for the prevention of discrimination on the ground of sex against women in the matter of employment, has so far been extended to 29 employments including plantations.

31-42. The Employees State Insurance Scheme is now in force in all the districts in the State except Dharmapuri and Nilgiris districts. At the end of 1979, this scheme was in operation in 44 areas covering 4,50,000 employees. Four Employees' State Insurance hospitals with a total bed strength of 1,533; 107 employees' State Insurance dispensaries; 9 mobile dispensaries; 3 utilisation dispensaries; 2 part-time dispensaries and 3 Central Medical Stores were functioning in the State.

31-43. In Tamil Nadu, 94 per cent of the resident plantation workers have been provided with housing accommodation. Workers education scheme of the Government of India is being implemented in the three centres in Tamil Nadu. At the end of 1978, the number of worker-teachers and workers trained were 406 and 18,967 respectively.

31-44. The Tamil Nadu Labour Welfare Board is undertaking a number of labour welfare measures which include running of Kindergarten schools for the children, tailoring classes for the wives and dependents of workers, and formation of Mahalir Mandrams and reading rooms.

31-45. Tamil Nadu is the pioneer State in implementing an Industrial Nutrition Programme with the assistance of CARE, Tamil Nadu, Madras, for the benefit of the families of industrial workers in this State. The beneficiaries are pre-school children and the pregnant and lactating women, in the families of the workmen. At present 31,627 beneficiaries are covered in 95 units under this scheme.

Approach to the plan 1980-85:

31-46. The Plan lays emphasis on the following:

(i) Effective implementation of the Minimum Wages Act, and extension of the Act to workers in the unorganised sector;

(ii) Streamlining the Industrial relations machinery at the State level;

(iii) Setting up of Safety Cells with a view to creating safety consciousness among the workers;

(iv) Extension of social security measures for the unorganised rural and urban labour;

(v) Setting up of Medical Units and Industrial Hygiene laboratory.

The Plan proposals —

Industrial Relations —

31-47. The main task of the industrial relations machinery is the administration of Industrial Disputes Act, 1947. The main aim of this social legislation is to endeavour at creating peace in industry. During 1979, there were 331 strikes and lockouts involving 6 industries and 2,75,148 workers. The mandays lost was 82,73,236. There is therefore, need to strengthen the conciliation machinery in the districts now by providing one conciliation officer for each district so that industrial disputes are settled quickly and law and order problems avoided. It is proposed to create 7 posts of labour officers for conciliation work and also raise the status of the 10 Labour Officers in major cities to the cadre of Assistant Commissioner of Labour. It is also proposed to create one post of Joint Commissioner of Labour, in the headquarters office exclusively for conciliation work. The financial implications involved will be Rs. 26.48 lakhs.

Wages legislation:

31-48. Of all the labour laws that crowd the columns of the Statute book, the most important one is easily the Minimum Wages Act. There are at present, 45 employments falling within the purview of the Act. There is exploitation of sweated labour in establishments other than factories. The Assistant Inspectors of Labour are primarily charged with the enforcement of this Act along with 11 other Acts. The work load

being heavy these Junior Officers do not find it possible to be thorough in their work, nor do they find time to educate the employers as well as the workers.

31.49. There are at present 18,000 establishments covered by the Minimum Wages Act alone. If the Minimum Wages Act and the Equal Remuneration Act specially designed to promote the interest of the weaker sections of the society are to be enforced effectively, there is need to create a separate machinery for the enforcement of them. It is proposed to create the machinery in a phased programme, and during the Plan a few posts of Deputy Inspectors of Labour and Inspectors of Labour will be created. A sum of Rs. 40.00 lakhs has been provided.

Establishment of Cells for Unorganised Sectors :

31.50. Workers in unorganised industries such as beedi, handloom, salt, coir, bricks, and tiles, timber, fisheries, laundries, rice, dhall and oil mills, road construction and building operations, matches, loading and unloading, shops and catering establishments do not have protection under various labour enactments. The only statutory protection in some of the industries is the guarantee of minimum wages. Even so, majority of the workers are ignorant about this benefit. The National Commission of Labour, has made certain recommendations for the betterment of their conditions. There is therefore, a pressing need to set up special cells to collect data and conduct a study of the problems of unorganised labour. A sum of Rs. 37.00 lakhs has been provided.

Safety Cell :

31.51. In the year 1979, there have been 57 fatal and 28,478 non-fatal accidents accounting for approximately 25,06,888 man hours being lost. The factory inspectorate consists of 23 inspectors of factories and 78 assistant inspectors of Factories as Field Officers and they are enforcing the Factories Act and 9 other enactments in 9,277 factories in our State. At present, each Inspector, inspects on an average 226 factories. The International Labour Organisation as well as the National Commission on Labour has observed that 150 factories per inspector could be a fair work load for enforcement functions. The Tamil Nadu Government, however, decided to fix 200 factories per inspector as the work load. In order to reduce the industrial accidents and to safeguard the workers' health, three safety cells are proposed to be located at three centres viz., Madras, Madurai and Coimbatore. The cost involved in setting up of the safety cells will be Rs. 53.30 lakhs.

Health care of workers :

31.52. The workers employed in different establishments covered under various labour

laws have to be guaranteed positive health and safe working conditions. There are about 2,55,133 establishments employing about 11,08,325 workers in different trades. The Industrial Hygiene Unit and Laboratory attached to factory inspectorate, confines its activities to the various working establishments registered under Factories Act. It is desirable to extend the activities of Industrial Health Services to other establishments under various labour laws and create a healthy and safe working environment. It will therefore necessitate the establishment of one Medical Unit, One Mobile X-ray Unit and one Industrial Hygiene Laboratory at a cost of Rs. 28.50 lakhs. A sum of Rs. 39.73 lakhs has also been provided for strengthening of the combined Industrial Health and Hygiene Unit and Laboratory in the State Factory Directorate.

Tamil Nadu Institute of Labour Studies :

31.53. The Tamil Nadu Institute of Labour Studies was established in March, 1973 by the Government of Tamil Nadu for the development of sound and healthy trade unionism, managerial resources, and an efficient labour administrative service. This Institute was upgraded as a first class Institute in 1978 and set up as a separate Department under the Labour and Employment Department of Government.

Scheme for the Acquisition of Land and Construction of a building with necessary amenities for the Institute :

31.54. In view of the expanding activities of the Institute, it is necessary to construct a building for the Institute to accommodate its present and proposed lines of activity with provision for residential accommodation for the participants in Training Courses. An outlay of Rs. 16.00 lakhs has been provided for this.

Starting of a Research Cell at Tamil Nadu Institute of Labour Studies :

31.55. To conduct indepth studies in the field of labour it is proposed to constitute a research cell at Madras. The cell will undertake critical studies of such matters as the causes of industrial conflicts, the trend of strikes and lock outs in various institutes, the extent of working class indebtedness, the incidence of absenteeism, etc. The outlay for this scheme is Rs. 5.00 lakhs.

Outlay:

31.56 The outlay proposed for the programmes under Labour Welfare is of the order of Rs. 246.00 lakhs.

TABLE 31-III.

Scheme-wise and year-wise phasing of outlays—Labour Welfare.

<i>Scheme.</i>	1980-81.	1981-82.	1982-83.	1983-84	1984-85.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RS. IN LAKHS).					
<i>Labour Wing :</i>						
1 Strengthening of Industrial Relations Machinery.	..	10.80	5.44	5.14	5.10	26.48
2 Separate Machinery for enforcement of Minimum Wages Act and Equal Remuneration Act.	..	5.00	15.00	20.00	..	40.00
3 Cells for unorganised sectors.	..	5.00	10.00	15.00	7.00	37.00
<i>Factories Wing :</i>						
4 Health care of workers ..	26.80	10.45	10.45	10.45	10.08	68.23
5 Setting up of Safety Cells ..	24.82	7.12	7.12	7.12	7.12	53.30
6 Tamil Nadu Institute of Labour Studies.	..	15.96	3.96	1.08	..	21.00
Grand total ..	51.62	54.33	51.97	58.79	29.30	246.01

CHAPTER 32.

STATISTICS AND EVALUATION

A. STATISTICS.

Introduction :

32.0. Timely supply of qualitative data on various aspects of the economy is an essential pre-requisite for planning and formulation of policies by Government. In Tamil Nadu, Official Statistics on several aspects of economy are collected, processed and released by the Department of Statistics. However, there is a time-lag in the release of data and in certain fields quality needs improvement. This is mainly due to delays that occur in (i) transmission of data from the point of collection to the tabulation centres; (ii) delay in checking and tabulation; (iii) delays in data processing and finally (iv) the unusual delay taken in printing and releasing.

32.1. With stress on grass-root planning, more reliable and detailed data at district and lower levels are essential. At Block level, statistics which are not available, have to be collected and processed. For State and District Income estimates, a large number of field studies have to be carried out. Statistics on capital formation have to be collected and compiled to know the economic growth of the State.

32.2. The broad objectives under the Sixth Five-Year Plan (1980-85) are to make the Statistical system sufficiently comprehensive, to provide in-house computer facilities and to provide in-house printing facilities in the Department.

(1) *Agricultural Statistics :*

32.3. The process of improvement in agricultural statistics is a continuing one. Gaps in the existing data are noticed, the coverage is found inadequate, quality lacking and time-lag too wide. Improvements in the range, quality and content of data are called for; some revision in the concepts, definitions and classification become necessary to accommodate the new changing situation in the farm sector and also to facilitate inter-State comparability at the National level. The entire area of yield and production estimates in crops, farm animals fisheries and forestry will have to be carefully reviewed and steps taken to ensure the availability of comprehensive, reliable and timely data. In order to place the Agricultural Statistics on a more firm and scientific basis, it is highly essential that the schemes relating to agricultural statistics should get priority attention.

Improvement in Statistics of Area :

32.4. Improvement in completeness, correctness, comprehensiveness, comparability and timely flow of area Statistics from villages are needed. Dependable area statistics are basic key

tools for computing reliable estimates of crop production. It is therefore highly necessary that the land records maintained by Karnams at the village level, and the Statistics provided by them should be thoroughly subjected to searching scrutiny.

Improvement in Statistics of Production:

32.5. At present, Crop Estimation surveys on various important crops are being conducted in Tamil Nadu every year with the main objectives of:—

(i) estimating the average yield per hectare of individual crops for the Districts and for the State, and

(ii) estimating the production of the crops for the individual District and for the State.

32.6. The estimates of average yield and production emerging out of these surveys provide details, only for the State and the Districts. Very often, details of average yield and production of important crops are required at micro levels. Similar details are required for more number of crops and therefore, these have also to be brought under the umbrella of crop estimation surveys.

32.7. The following items of work will enhance the utility of rainfall statistics:—

(i) Frequency distribution of rainfall,

(ii) Publication of weekly totals for individual stations having atleast 20 years rainfall data,

(iii) Analysis of wet and dry spells and

(iv) Publication of 70 years rainfall data.

32.8. In view of the points discussed above, it is considered necessary to include the following schemes on Agriculture statistics in the Sixth Five-Year Plan.

(1) The scheme for improving basic statistics of area.

(2) The scheme for firming up yield statistics.

(3) The schemes for strengthening of Crop Estimation Survey division.

(4) The scheme for Improvement of Rainfall Statistics.

(5) The scheme for Horticultural Statistics Cell.

(6) The scheme for construction of index numbers of agriculture economy for each district of Tamil Nadu.

(7) The scheme for collection of monthly statistics of area and production of important crops in Tamil Nadu.

III. Fisheries statistics.—

32.9. At present information only on marine fishery catch is available. Separate Estimates framed by the two agencies, viz., the State and Central Marine Research Institute, Cochin, have large differences. It has been suggested that an integrated methodology should be evolved by the State Department of Statistics and the Central Marine Fisheries Research Institute, Cochin, and that methodology should be adopted for estimating the marine fish catches.

32.10. The Statistics of Inland Water fisheries, the prices of marine and inland water fish, and cost involved in catching fish and the data on employment in fisheries are not available. Besides information on fisheries resources and estimates of production statistics of consumption and utilisation of Fish are also required. In the Sixth Five Year Plan it is proposed to fill up these gaps. The following schemes under the sector, "fishery statistics" are proposed to be included in the Sixth Five Year Plan.

(1) Integrated method for estimating the Marine Fish Landings.

(2) The Scheme for estimating the inland fish catches.

III. Industrial statistics.—

32.11. Statistics of Industrial Production are used, among others, in the estimation of State Income. At present an Annual Survey of Industries is conducted by the National Sample Survey Organisation, Government of India.

32.12. For purposes of estimating the results off factory sector on State and District levels, a copy of the return relating to factories covered by National Sample Survey Organisation are received. The data are tabulated.

32.13. To frame estimates of State Income and build similar estimates at District level, it is necessary to cover the residual factories not covered by the National Sample Survey Organisation with the following objectives.

(i) Frame estimates of net State Domestic Products (State Income) from Registered Factory Establishments.

(ii) Build up District Product (District Income) from Factory Sector.

32.14. The general characteristics like, number of factories, Capital invested, Labour employed, input, output, and value added by manufacture in registered manufacturing establishments now available give an idea of the performance of the industrial sector at macro level. The scheme given below is therefore proposed for inclusion in the Sixth Five Year Plan.

(1) Schemes for improvement of Industrial Statistics.

IV. Handloom Industry.—

32.15. The production of Handloom cloth is 600 Million metres at present in Tamil Nadu. No systematic study has been undertaken to assess the level of production and consumption of handloom cloth, and the total consumption of textiles, both mills and handlooms. The Industry's contribution to State Domestic Products is also to be studied. For this purpose, a scheme on the study of consumption pattern of textiles in Tamil Nadu is included in the Sixth Five Year Plan.

V. Housing statistics.—

32.16. Efforts have been made to collect statistics of housing and building activity from the Fourth Five Year Plan onwards. The Scheme envisages collection of data from all projects under Public Sector, the estimated cost of which is Rs. 20,000 and above and of all constructions under Private Sector by individuals in Corporations, Municipal areas and Town Panchayats of a population of 10,000 and above where Town Planning Act is enforced. The scope of the present study excludes (a) in the Public Sector, Construction costing less than Rs. 20,000, (b) in the Private Sector all construction undertaken in Town Panchayat with less than 10,000 population and (c) Village Panchayat.

VI. State Income Estimates.—

32.17. Detailed estimates of State Income are at present being framed in the Department of Statistics with the resources available. This is very useful to the Government to understand better the economy of the State and also to frame realistic policies towards economic development. Very recently the construction of State Accounts Statistics has also been taken up. However, very important, and related field of estimation of capital formation and savings are yet to be taken up in this State. The importance of computation of State Income and Capital Formation need not be stressed in view of the fact that this aggregates provide valuable indicators for the growth of economy of a State.

32.18. It is therefore proposed to include the following schemes in the Sixth Five Year Plan.

1. Improvement and Expansion of studies of State Income and allied aggregates.

2. Capital Formation in Tamil Nadu.

VII. Wholesale and Trade Statistics.—

32.19. At present data is not available to assess the total volume of internal trade carried out by various business enterprises in Tamil Nadu. At present no information are collected and compiled about the volume of internal trade carried out by various business establishments in Tamil Nadu. These statistics are essential for State Income Estimates and for taking estimates of stocks, consumption requirements and quantity available for exports, etc., required for

formulating taxation policies. The scheme for compilation of wholesale and retail trade statistics may be included in the VI Plan.

VIII. Demographic Studies.—

32.20. The importance of demographic studies has considerably increased. The Government, Quasi-Government, Private Agencies etc., are often enquiring for information on population trends for use in the plans and programmes. Certain new items of work under demographic studies with a view to analyse information on various aspects of mortality, fertility and migration relevant for population prognosis have to be undertaken. The Demographic Unit may be strengthened.

IX. Manpower and Employment Studies.—

32.21. The task of manpower planning would be more complex in the Sixth Plan. As very high priority is being given to employment generation in the Plan proposals, the Employment and Manpower cells have to play a key role in the assessment of manpower and employment potential of various plan programmes. The different and expanding training programmes and the diverse skills that proving economy demand and the problems arising out of the utilisation of these trained personnel require careful study.

32.22. Studies on unemployment and under-employment have to be intensified covering fields hitherto not covered like unemployment and under-employment in the rural areas, and under utilisation of skills in the unorganised sector. Continuous collection, compilation and dissemination of information on manpower needs and supply employment potential of schemes, and evaluation of programmes is needed. For this purpose the scheme on 'Man Power and Employment Studies' may be included in the Sixth Plan.

X. Improvement of Prices Statistics.—

32.23. It has been observed that the available statistics relating to prices do not fully meet the requirements for policy formulation and implementation. The programme of collection of price statistics should be re-oriented and integrated and the price collecting machinery of State and lower levels needs to be streamlined.

32.24. The following schemes are suggested for this purpose :—

- (i) Improvement of prices statistics at District and State levels.
- (ii) Compilation of consumer prices index numbers for certain additional centres and also for Tamil Nadu.
- (iii) Conduct of fresh middle class family level survey and preparation of indices of comparative cost.

XI. Strengthening of State Statistical Bureau : (1980-90).

32.25. There is an increasing demand for village level, block level, taluk level statistics, etc., by Government. Multifarious primary agencies

functioning under the administrative control of different State departments collect and maintain data at village level. It has been recommended that one Statistical Assistant/Statistical Inspector should be provided on a priority basis in each block to function under the District Statistical Officer to exert effective supervision of the the collection of data at micro level.

32.26 When the statistical organisation is strengthened at lower levels, the work entrusted to those statistical agencies have to be properly organised and intensively supervised in order that timely and qualitative data flow from the lower level agencies. It is, therefore, considered necessary to have one divisional office headed by an Assistant Director of Statistics for each revenue division with necessary complement of staff.

32.27. As it is proposed to have divisional offices in the districts, it is appropriate to have one Deputy Director as the head of the district offices. This office will also function as Regional Office of the Department of Statistics at the district level.

32.28. When the field organisation is strengthened with the divisional officers and district level Regional Offices it would be quite appropriate to have the status of the functionaries in the department raised on par with his counterparts in other departments like Agriculture so that there would be effective management. Hence it is proposed to upgrade all the posts of Assistant Directors of Statistics to those of Deputy Directors of Statistics and posts of Deputy Directors of Statistics into those of Joint Directors of Statistics. Besides this, it is also suggested to have 3 Additional Directors to organise and manage the Department. Appointments, upgrading and strengthening of the Department will be undertaken over a period of fifteen years. It is considered necessary to strengthen each of the District Statistical Machinery with one Typist.

32.29. A scheme for installation of telephone on a phased manner to cover all the District Offices in three years time is proposed.

XII. Electronic Data Processing Facilities and Data Bank.

32.30. It is necessary to develop a suitable system by which data collected in different sectors of economy having a bearing on planning and policy making are speedily processed, properly presented and stored in the manner desired. Electronic data processing and setting up of computerised data banks appear to be the best possible approach. It is therefore, proposed to allocate a sum of Rs. 125 lakhs towards the installation and setting up of data bank with necessary equipments and complement of staff to run the computer and maintain the data bank.

XIII. In-House Printing Facilities and Publication of Reports.

32.31. Most of the Statistical publications of the Department are available with considerable time-lag. Inordinate delays in the printing of

statistical publications in the Government Press also lead to serious time-lag in the dissemination of Statistics. Suitable steps need therefore to be taken to provide adequate printing facilities for bringing out statistical publication in time. Besides, for the conduct of large scale surveys and studies, number of questionnaires, proforma and instruction booklets have also to be printed. Hence in-house printing press facilities exclusively for the use of Department of Statistics may be established. A sum of Rs. 35 lakhs is provided for this purpose in the Plan.

XIV. Training of Statistical Personnel:

32.32 Maintenance of an efficient statistical system depends to a large extent in the competence of the Statistical Personnel manning the system. The competence of the Statistical personnel can be

improved to the desired level only by organising adequate regular training programme in statistical methodology, Official statistics, tabulation, processing and interpretation of collected data.

32.33 The training programme will be a system of three-tier one including field work, Computation and interpretation and writing of reports with a comprehensive coverage of syllabi and suited to the professional men in the Statistics Department.

XV. Statistics in Social Forestry:

32.34 Reliable statistical data in this field has to be built up. Forest area, species planted, wood cut and sold in forest, supply of raw materials available in forests to industries with reference to planning are some of the fields where detailed studies should be made.

TABLE 32-I.
STATISTICAL SCHEMES.

Schemes.	Plan outlay proposed					
	1980-81	1981-82	1982-83	1983-84	1984-85	1980-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
II. Agricultural Statistics :—						
1. Scheme for bettering basic statistics of area	8.70	79.80	131.50	220.00
2. Scheme for improvement of Rainfall Statistics	1.00	1.00	1.00	3.00
3. Construction of Index number of Agricultural Economy for each district in Tamil Nadu	1.00	1.00	1.00	3.00
4. Scheme for strengthening of the Agricultural wing of the Department of Statistics.	..	0.60	0.50	0.50	0.50	2.10
5. Horticultural Cell	2.50	2.25	2.25	7.00
6. Scheme for extension of collection of monthly statistics of area and production of important Crops for the Districts other than Thanjavur, North Arcot, and Coimbatore Districts in Tamil Nadu (Additional cost)	15.00	13.50	13.50	42.00
7. Scheme for firming up of Yield Statistics	23.00	21.00	21.00	65.00
8. Strengthening of Crop Estimation Survey division	7.00	6.00	6.00	19.00

TABLE 32-I—contd.

Schemes (1)	Plan outlay proposed,					
	1980-81 (2)	1981-82 (3)	1982-83 (4)	1983-84 (5)	1984-85 (6)	1985-86 (7)
(RUPEES IN LAKHS)						
<i>Fisheries Statistics—</i>						
9. Integrated Scheme for estimating Marine Fish landings..	2.50	2.50	2.50	7.50
10. Scheme for estimating inland Fish catches	2.00	2.00	2.00	6.00
<i>Industrial Statistics:</i>						
11. Scheme for improvement of Industrial Statistics	9.00	9.00	9.00	27.00
<i>Handloom Industries:</i>						
12. To study the consumption pattern of textile in Tamil Nadu	4.50	4.25	4.25	13.00
<i>Housing Statistics:</i>						
13. Scheme for Development of Housing Statistics in Tamil Nadu	4.00	3.50	3.50	11.00
<i>State Income Estimates:</i>						
14. Improvement and Expansion studies on State Income and allied aggregates	6.00	5.50	6.50	17.00
15. Capital formation in Tamil Nadu	2.50	2.25	2.25	2.25	9.25
<i>Wholesale and retail trade: statistics:—</i>						
16. Scheme for compilation of wholesale and retail trade statistics	6.00	6.00	6.00	18.00
<i>Demographic Studies:</i>						
17. Strengthening of Demographic Unit	1.50	1.50	1.50	4.50
<i>Manpower and Employment: Studies:</i>						
18. Manpower and employment studies	4.50	4.50	4.50	13.50
<i>Prices Statistics:</i>						
19. Improvement of prices statistics	6.00	4.50	4.50	15.00
20. Construction of consumer price Index numbers for certain additional centres..	..	3.50	1.25	1.25	1.25	7.25

TABLE 32-I—contd.

Scheme.	Approved.	Expenditure during Anticipated.				
	1980-81	1981-82	1982-83	1983-84	1984-85	1980-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)
						(RUPPES IN LAKHS.)
21. Fresh Middle Class Family Level Surveys and preparation of Indices of co-operative costlines	3.50	1.25	1.25	6.00
22. Strengthening of State Statistical Bureau to meet the overall needs—						
(i) Appointment of Statistical Inspectors at Blocklevel (376 Posts)
(ii) Upgrading the posts of Taluk Statistical Inspectors into those of Deputy Statistical Officers (Additional expenditure)
(iii) Appointment of one Typist in each of the District Statistical Units.	..	1.30	1.30	1.30	1.30	5.20
(iv) Appointment of Assistant Director of Statistical and supporting staff at Revenue Division level (51 Divisions)
(v) Upgrading the post of Assistant Director of Statistics in the District into Deputy Director of Statistics (16 posts) (Additional Expenditure)
(vi) Installation of telephone facilities in the 12 District Statistical Offices in the State on a phased programme	0.13	0.20	0.28	0.24	0.85
(vii) Upgrading the posts of Assistant Directors in the Headquarters to Deputy Directors (22 posts) (Additional expenditure)
(viii) Upgrading the posts of Deputy Directors of Statistics at Headquarters into Joint Director of Statistics (9 posts) (Additional expenditure).
(ix) Upgrading the existing posts of Joint Director of Statistics to that of Additional Director of Statistics (Additional expenditure)	0.07	0.07	0.08	0.08	0.30

TABLE 32-1—contd.

Scheme. (1)	Approved.		Expenditure during Anticipated.			
	1980-81 (2)	1981-82 (3)	1982-83 (4)	1983-84 (5)	1984-85 (6)	1980-85 (7)
(RUPEES IN LAKHS.)						
23. Electronic Data processing and Data Bank	85.00	14.00	13.00	13.00	125.00
24. Training of Statistical personnel	4.00	3.50	3.50	11.00
25. In-house printing facilities	20.00	5.00	5.00	5.00	35.00
..	693.4
Total Schemes	Rs. 693.45 lakhs.
Already approved and continuing	Rs. 88.88 lakhs.
Total	Rs. 782.33 lakhs.

Certain schemes have already been sanctioned as plan schemes and implemented by this Department. The details of expenditure during the five years of the Sixth five year Plan are furnished against each scheme.

State plan

1. Pilot Scheme for securing independent estimates of area and production of important crops in Thanjavur, North Arcot and Coimbatore districts	3.98	3.98	3.98	3.98	3.98	19.90
2. Strengthening of District Statistical Machinery	5.86	5.86	5.86	5.86	5.86	29.30
3. Scheme for introduction of shift system in the Data Processing Unit for the Department of Statistics.. ..	1.29	1.29	1.29	1.29	1.29	6.45
4. Scheme for State Accounts Statistics	1.51	1.51	1.51	1.51	1.51	7.55
5. Sample survey Organisation.	1.43	1.43	1.43	1.43	1.43	7.15
6. Strengthening of Man power cell	0.43	..	..	..	..	0.43
<i>Schemes shared equally between State and Centre.</i>						
7. Pilot Scheme for Timely Reporting of Area and Production of crops	2.25*	2.25*	2.25*	2.26*	2.25*	11.25*
8. Scheme for improvement of crop Statistics	1.37*	1.37*	1.37*	1.37*	1.37*	6.85*
Total	18.12	17.69	17.69	17.69	17.69	88.88

* Only State's share which amounts to 50 per cent of expenditure is furnished.

B. EVALUATION.

Progress in V Plan—

32.35. The Department of Evaluation and Applied Research was formed as an independent department in 1974. Prior to this period the evaluation set-up was functioning as a Cell in the Finance Department. During Fifth Plan, 28 studies were taken up and of this, studies on 20 schemes were completed. The expenditure during 1974-78 was Rs. 5.84 lakhs and the budget provision of 1978-79 was Rs. 1.45 lakhs.

Programmes during 1980-85 :—

32.36. Timely and accurate information on the performance of plan programmes and also feedback information about the problems in execution, reasons for shortfall in achieving the targets, etc., are required before suggesting any modifications in the schemes for the Annual Plans. Keeping these guidelines in view, the existing organisational structure of the State Evaluation Organisation would be strengthened to achieve the following objectives :—

(i) to take up more number of concurrent evaluation studies covering as many sectors as possible,

(ii) to adopt a sectoral approach in evaluation in which individual sectors will be taken up as a whole for evaluation as against a few schemes selected on ad hoc basis,

(iii) to reserve a part of State Evaluation capacity for joint evaluation projects with the Central Programme Evaluation Organisation, and

(iv) to start regional units at convenient centres with a view to facilitate quick completion of evaluation studies.

32.37. At present the State Evaluation Committee allots on an average 4-5 schemes per year for evaluation. Further, these schemes happen to be isolated schemes selected from the list of schemes sent by individual administrative departments of the Secretariat. As such, they do not adequately represent the priority sectors like agriculture, irrigation, power, etc. The ratio between concurrent and ex-post evaluation studies also remains arbitrary. It is proposed to take up 10 studies in each year during 1980-85 consisting of 7 concurrent and 3 ex-post evaluation studies. As recommended by the Programme Evaluation Organisation at the Annual Conference of Directors of Evaluation held in 1977, it is proposed to keep in reserve a part of the State Evaluation capacity for undertaking joint evaluation studies in respect of national priority programmes like SFDA/MFAL, DPAP, Special Animal Husbandary Programmes, Western Ghats Development Programme, etc.

Involvement of Experts—

32.38. For qualitative improvement, selective involvement of experts from outside in evaluation studies is contemplated. These personnel would be taken on contract, on full-time or part-time basis. Two experts on contract on full-time basis would be inducted from institutions like the Programme Evaluation Organisation, Universities,

etc. for a term of 2 years each and they would be paid an honorarium of Rs. 1,500—Rs. 2,000 p.m. Experts contracted on part-time basis would serve for a limited period of 3 to 4 months and would be associated with specific studies. Six such experts would be drafted each year and they would be paid Rs. 1,000—2,000 per study. An amount of Rs. 1.35 lakhs is allotted for this purpose.

In-service Training :—

32.39. The evaluation personnel have to be given frequent in-service training with a view to keeping them abreast of the latest methods of evaluation. The Programme Evaluation Organisation arranges for training programmes for senior level officers. The junior level officers/staff will have to be trained in each such leading institutions such as Institute of Financial Management and Research, Administrative Staff Training College, Madras, Institute of Development Studies (to be converted as ICSSR Regional Unit), Centre for Development Studies, Tiivandrum, and Institute for Social and Economic Change, Bangalore. An allotment of Rs. 1.00 lakh is made for training during the entire Sixth Plan period.

Strengthening the Library :—

32.40. It is proposed to strengthen the library with additional literature on Project Formulation and Appraisal, Social Cost Benefit Considerations, Financial Management, Public Economics, Evaluation Techniques, etc. The library at present is managed by one of the technical staff and a qualified Librarian would be posted during this Plan period. The cost of strengthening the library including the remuneration of the Librarian is Rs. 1.00 lakh during 1980-85.

Total Outlay :—

32.41. An outlay of Rs. 19.02 lakhs is proposed during 1980-85. Details of scheme-wise cost are shown in the Table below.

TABLE 32-II.

Item.	Proposed Outlay for 1980-85.
(1)	(2)
1. <i>Staff—</i>	(IN RUPEES)
(i) Regular	13,19,000
(ii) Experts on contract	2,28,000
2. <i>Contingency—</i>	
(i) Recurring	1,25,500
(ii) Non-recurring	33,500
(iii) Training of staff	1,00,000
(iv) Strengthening of Library books and furniture but excluding staff.	61,000
3. <i>Equipment—</i>	
(i) Pocket Calculator	5,000
(ii) Typewriter	30,000
Total	19,02,000

CHAPTER 33.

MISCELLANEOUS.

(i) ADMINISTRATIVE BUILDINGS.

I. Inspection Bungalows :—

33.0 In future, offices, residential quarters, factories, etc., are more likely to be located in Rural Areas to relieve the congestion of the City. In such a case, the Inspection Bungalows and Circuit Houses are very essential for the accommodation of Visiting Officials. 25 Inspection Bungalows of 3 suits each, are proposed for the Sixth Five-Year Plan.

II. Office Buildings (Moffusil) :—

33.1. Convenient space required for Offices are not available in the thickly populated areas. The Offices are to be located only in those busy areas since transportation will be easy for both the Public and other Officials. Most of the Offices are located in the rented buildings. Further, lot of time is consumed by way of correspondence from one office to other office. Hence, if a Central Office Building is provided and if all the offices are located in a single place, the money by way of rent and the time in correspondence can be saved. Also it is proposed to construct Police Station Buildings; the Regional Director of Animal Husbandry Offices, various Court Buildings, etc., Major Central Office Building at various District Head Quarters may be constructed.

A comparatively Minor Central Office Building at the Taluk Head Quarters can also be constructed. Provision for such Offices in 35 places has been made in the Sixth Plan.

III. Residential Quarters :—

33.2. Public Works Department is a vast department which executes the works even in remote areas. It also execute the prestigious works and the most difficult works like Anti-Sea Erosion works, etc. The Field Staff are very acutely experiencing accommodation problem in their areas of action. They are forced to live in far off places away from the site. They can be provided with the accommodation nearest to their field of activity so that full concentration in work is ensured. Officers of Police Department and Revenue Department are also to be provided accommodations. Quarters for Officers of judicial Department and quarters for Medical Officers are also to be provided.

IV. Multi Storyed Office Building in Madras City:—

33.3. These Office Buildings now proposed can accommodate all the Government Offices located in rented buildings and also the Office of the various State Government undertakings now located in Private rented buildings. The construction are to be located at specific selected location in the City.

V. Police Station :—

33.4 Police Department is entirely responsible for maintenance of law and order of the State. Permanent Police Stations are essential for their effective function. Lumpsum provision is proposed to provide permanent structures for all Police Stations.

TABLE 33, (i) I

SIXTH FIVE-YEAR PLAN SCHEMES: PROPOSALS TO PUBLIC WORKS

DEPARTMENT 1980-85.

Sl. No.	Details of Schemes	Total outlay for 1980-85. (RUPEES IN LAKHS)
1.	Inspection Bungalows and circuit Houses: New Schemes	93.00
2.	Office Building in the Moffusil New Schemes	270.00
3.	Residential Quarters (a) for P.W.D. New Schemes (b) for Police Staff: New Schemes (c) for staff of other Departments New Schemes	80.00 246.00 120.00
4.	Office Building in Madras City New Schemes	150.00
5.	Police Station Buildings	300.00
Total ..		1,259.00

(ii) STATIONERY AND PRINTING.

Proposals for the setting up of a separate press with modern machinery and equipment in the Sixth Five-Year Plan for the Stationery and Printing Department, Madras-2.

33.5 Every development, have brought in its wake, an increasing demand for printed material. The anticipated future demand and the developments make it imperative to consider the introduction of modern printing technique to modernise, develop and to keep pace with the vast developmental activities in other fields of State Administration.

33.6. Besides the backlog in the printing of standardized forms and registers, which are vitally required for the day to day functioning of all the Government departments of Tamil Nadu, a number of other items, are in arrears in the Government Press, Madras.

33.7 The arrears include several Codes, Manuals, Reports of the various Committees, etc. In spite of the fact that the Government Regional and Branch Presses were opened at

Tiruchirappalli, Salem and Vridhachalam no additional machinery and equipment was procured in establishing these presses. These presses were opened by transferring the machinery and equipment from the Government Central Press, Madras.

33-8 There is a demand from all the departments that Government press should undertake any item of work at any time and should execute it in specified time. There is also a large demand on the Printing of up-to-date manuals, codes, etc., which are at present treated as ordinary item of work, consequent on the increase of other items of work.

33-9 While on one side, the inflow of work is steadily increasing, the machinery and equipment which are old have suffered considerable

wear and tear. These machines have been put to considerable strain by working round the clock.

33-10 It is to be pointed out that after 1972 no additional new Printing machines were purchased. During this period of 8 years, the technology in printing has been completely changed. In foreign countries setting by types and printing by handfed machines have been become obsolete and they have taken to phototype-setter and printing. It is necessary that Stationery and Printing also introduces the latest technology to meet the increasing printing demands of the various Government departments.

33-11 The Proposed new Press with modern machinery can be commercialised which will yield revenue to Government.

TABLE : 33 (ii) : I

Statement showing the proposed outlay on the Scheme for the Sixth Five-year Plan.

	Total outlay for 1980-85 (RUPEES IN LAKHS.)
Setting up of a separate Press for Printing and supply of Codes Manuals, Posters etc., besides the backlog (at present) of standardized form.	185.00
	<hr style="width: 50%; margin: 0 auto;"/>
	185.00
	<hr style="width: 50%; margin: 0 auto;"/>

Part III

**THE PLANNING PROCESS
AND ORGANISATIONAL FRAMEWORK**

CHAPTER 34.

DECENTRALISATION IN PLANNING.

Decentralisation in Planning :

34.0. The federal system of Indian polity is conducive to the practice of decentralisation in Planning. And the new economic strategy of "Development from Below", particularly strengthens the role of planning at the Block and District levels, in addition to the reinforcement of the State Planning machinery. Planning implies determination of priorities not only from the stand point of resource use but also from the angle of participation of the people at all levels of administration by local, District, State and Union Governments. The continental dimensions of the Indian Economy, the rich variety of cultures, and the unique natural and physical endowments in each of the regions of India and of Tamil Nadu, justify the strategy of decentralisation in Social and Economic Planning, especially for rural development.

34.1. The State Planning Commission as part of its Perspective Plan exercise had prepared 23 Development District Perspective Plans and also identified the scope for inter-village economic development plans in the context of Integrated Rural Development. The department of Town and Country Planning had prepared, 'Regional Plans for the State'. The Tamil Nadu District Council Act of 1958, provided for the establishment of District Development Councils, which are functioning as advisory bodies to the Government.

Criteria for successful Decentralised Planning :

34.2. The criteria for successful Decentralised Planning as well as the necessary and sufficient conditions for achieving an egalitarian society should be met expeditiously so as to sustain the ideal of Decentralised Planning.

Criterion of appropriate geo-demographic size:

(i) The first criterion is that of appropriateness of the levels of Planning. At the local level, by generating local enthusiasm and providing adequate functional literacy, it is possible to sustain the enthusiasm of the people to keep the villages in each Block clean and healthy. This enthusiasm and the popular-will to keep their local habitat clean and healthy, is necessary condition for pursuing the Plan at the local level. A sufficient condition would be the flow of adequate savings and investment to provide materials and services for clean, healthy and happy population in the given area at the local level. This may be called the criterion of appropriate geo-demographic size. In the context of Indian development, a cluster of village of 5,000 to 10,000 people would constitute a viable geo-demographic unit, for local planning or Block level planning.

Intra-District Resources Mobilisation and Planning:

(ii) The second criterion is that of Intra-district resource mobilisation and simulation of plan perspective at the District level. The criterion of administration and historical realism suggests that a District could be a unit for many development activities based on agricultural practices.

The Panchayat Administration : The effective base for Decentralised Planning :

34.3. Full employment, reduction in the social and economic inequalities and the fullest utilisation of human and material resources could be efficiently realised by appropriate decentralisation along the lines suggested by the aforesaid three criteria of Decentralised Planning. The ushering in of socio-economic and institutional changes which are essential for effective economic development would be speeded up by Decentralised Planning. The Panchayat Administration that has taken root in Tamil Nadu provides us with an effective base for action.

34.4. (i) Strengthening of the planning bodies at the State and District levels should in due course lead us to the next stage of planning effort, namely strengthening the local institution for planning purposes. The financial and physical characteristics of current planning also fortify the strategy of decentralised planning. In respect of village roads, school buildings and preventive health services and primary education, we could expect a high degree of efficiency in Plan performance by a fuller association of the people with economic administration of the decentralised socio-economic overheads.

(ii) Just as federalism ensures, the advantages of collaborative actions without impairing the personality and ethos of the federal units, decentralised planning maximises socio-economic participation and a feeling of belonging to the economic process of planning without stifling local initiative and resources and market or administrative practices. The district is a geo-political unit of administration. The District Administration could be strengthened for data collection and the co-ordination of economic and new-economic factors essential for Rural Development. At present within a district there is a network of administrative and allied services. The Government of Tamil Nadu have already utilised the services of District Collectors and specially appointed District Planning Officers to draw 23 Development District Plans. These documents covering the period upto 1983-84 could be re-appraised and made the basis for further Plan exercises.

(iii) Thirdly, the criterion of the State responsibility in matters, Rural and Urban could be fully realised by developing inter-district co-ordination of Planning efforts on the basis of homogenous grouping of districts, particularly in respect of agricultural activities, cropping pattern, etc. The development of District Industries Centres and allied programmes would involve healthy competition between districts and collaboration between districts for markets and production programmes. This confirms to the criterion of the homogenous regions comprising two or more districts. Decentralisation of planning, therefore, is in terms of relationship between Union and State Governments, and more particularly between each of the State Government and the component units like the District and the Blocks. Two or three continuous districts could form such units or regions in a State and local human resource potentialities and at the same time strengthening the bonds of economic good will, for the purpose of maximising socio-economic welfare.

Participation of the local people in the Planning process :

34.5. If the Development Plan is to be truly democratic it should be built from below, that is to say, the plan that is drawn up for the development of the State should be based on the co-operation and support of people at all levels. It should reflect the views, aspirations and needs of the people for whom it is intended. It is for this reason that special efforts have to be taken to enlist the participation of the rural people in plan formulation. During the last two decades of planned development, Panchayat Raj institutions like the District Development Councils and Panchayat Union Councils have come to occupy a prominent place in the organisational arrangements involved in oneway or the other in the implementation of development and welfare schemes. It is therefore only appropriate that advantage is taken of these institutions for the purpose of ascertaining the requirements of the people instead of going in for new arrangements.

34.6. While there can be no two views regarding the importance of local participation, it is necessary to take a decision about the lowest level of organisation which may be consulted and made use of for planning purposes. Considering all aspects of the problem, particularly practicability, it is suggested that at the foundational or base level, the Blocks and at the higher level the Development Districts could be fixed as important levels for the purpose aforementioned and for special attention in the plan for 1980-85.

34.7. In ascertaining the requirements of the local people, we will have to ensure that their suggestions are on a realistic basis. The representative bodies of local people will have to be taken into confidence as regards the financial limits within which they have to contain their needs lest expectations are raised which are not capable of being fully met. The matters which will be of a primary concern to the local

people are economic infrastructure programmes relating to crops and animal husbandry, irrigation facilities, village and cottage industries and minimum needs programmes like rural water-supply, village roads, public health facilities and primary and secondary education. For these specific areas, it is possible to discuss in the local forums before hand the order of investment that is feasible under each category and the goals that have to be set for each one of these developmental activities.

34.8. For fixing the financial limits, the total outlay on all the district level schemes will have to be worked out and apportioned among the districts on the basis of a formula which will take into account the population of the districts, and certain economic and social indicators. In turn, the district allocation could be suitably distributed among the Blocks. The goals to be reached under each one of the Minimum Needs Programme will have to be set with reference to the surveys that have been conducted already or are in the process of being done in regard to rural water-supply, village roads, public health and elementary and secondary education. With reference to the above criteria, proposals may be invited from the already existing representative forums at the Block level (the Panchayat Unions) and at the District level (the District Development Councils).

Block level Planning and co-ordination at the District level :

34.9. The State Planning Commission of Tamil Nadu has been stressing for long the need for Block-level planning for accelerating rural development. From the discussions in the sections above, it may be seen that the planning process has necessarily to be initiated from below, and for that purpose, instead of attempting planning at the village-level or at the district-level, it would be more practicable to start the planning process at the level of the Blocks, i.e., the Panchayat Unions.

34.10. Besides annual and five-year plans, the Panchayat Unions (Blocks) could also profitably attempt long-range Perspective Plans with a clear range of priorities.

Monitoring and co-ordination of Block Planning at the District level :

34.11. The preparation of the Block-level plans in the different Blocks of a district should be continuously monitored and co-ordinated at the district-level, so as to ensure that the block-level planning is properly built within an overall framework of a District Plan. A suitable planning machinery has to be formed at the district-level for this purpose. The Panchayat Development Wing of the Collectorate and the Divisional Development Officers at the divisional-level should also fully assist this planning machinery to be formed, for effectively functioning as the agency for monitoring and co-ordinating the planning process in the various Blocks in the district. The District Development Council composed of

representatives of the Blocks and others could also guide and advise the planning machinery at the district-level in this task.

34-12. In addition to the Block Plans, Development Plans for urban areas covering Townships, Municipalities and Corporations in the District should also be got prepared. While monitoring and co-ordinating the planning process in the various Blocks, these urban development plans should also be fully kept in view and a proper integration of the rural and urban development plans in the district should be ensured.

Organisation and Training of suitable planning machinery at the District and Block-levels :

34-13. As indicated in section 36-11 above there is need to organise suitable planning machinery (technical planning teams) at the district level and also at the block-level. There is also need to suitably train the concerned personnel for the task.

The role of voluntary agencies :

34-14. When properly organised planning teams are in position in the blocks and the district, they could consult and actively seek the assistance of suitable voluntary agencies in the concerned areas for not only preparing the Block Plans but also for the implementation of a few sectoral

plans in which the voluntary agencies have the requisite expertise and experience. While such joint endeavours may be permitted after careful consideration by the Government or the District Collector, the ultimate responsibility for the work should always be that of the planning teams.

Guidelines for Block-level planning :

34-15. (i) It is observed that the Union Planning Commission would soon be issuing detailed operational guidelines for comprehensive Block-level planning, which will take into consideration the recommendations of the Dantwala Working Group, the Sivaraman Working Group and the various other directions issued in this regard by the Union Ministry of Agriculture and Irrigation. It is also considered now that the implementation of the Block Plans should also be co-ordinated with the functions of the District Industries Centres of the concerned districts.

(ii) The Guidelines for Block-level planning which are awaited from the Union Planning Commission are expected to be drawn up under the following five major heads : (i) The Resources Inventory and Data Base for Block-level planning ; (ii) Formulation of projects, (iii) Man-power Planning and Budgeting; (iv) Household Planning for families below the poverty line and (v). Spatial Planning for socio-economic infrastructure.

CHAPTER 35.

ENVIRONMENTAL PLANNING.

35.0. Environmental planning is of growing importance in developing and developed countries alike posing serious problems for urgent solution so as to ensure better utilisation of the human and natural resources for providing the people with a good quality of life. The natural resources in this State, as elsewhere in the Country have been exploited for centuries with little thought either of the future or of their recuperative capacity. There is ample evidence of environmental degradation all around. Human activities, including effects produced by man's livestock, tend to interrupt and at times greatly accelerate the natural processes taking place in the environment and in certain circumstances give rise to a whole series of irreversible changes. Man's activities constitute a perpetual source of disturbance of the environment. Rapid industrialisation aided by technological advances and consequent urbanisation, population explosion and intensive agricultural practices utilising plant protection chemicals and chemical fertilisers have been responsible for the deterioration in the environmental quality to a considerable extent. Till recently, the concern was only with economic growth, which looked only to the immediate and monetary return of economic activity and not to the social costs entailed. The over-exploitation of environmental resources have led to pollution of air, water and land. However, now, it is fully realised that human activities which impinge upon the natural environment have to be carefully controlled. From a preliminary stage of controlling industrial pollution, Environmental Planning has assumed to-day larger and varied dimensions. There has been considerable damage to the environment due to water, air and soil pollution caused by the indiscriminate disposal of industrial, domestic and agricultural wastes. Further desertification, diminution of pasture land, denudation of forest areas leading to soil erosion have interfered with the quality of the environment to a significant extent. Even a rapid review of the ecological situation in the State and the Country as a whole shows that there is urgent need for remedial measures.

35.1. The State Planning Commission of Tamil Nadu, as part of its Perspective Plan exercise, made a beginning by studying the ecological situation in Tamil Nadu and submitted a report. ("The Ecological Situation in Tamil Nadu and the Need for Amelioration"—The Report of the Working Group on Ecological Balances, 1973).

35.2. The Draft Five-Year Plan, 1980-85 of the Union Planning Commission has taken note of the urgent and imperative need for Environmental Planning. It is seen that in future, dams, power stations, highways, railways and similar

projects will have to be cleared from the ecological angle. This kind of clearance on ecological grounds is now being insisted upon for the first time.

35.3. During the Plan period 1980-85, careful consideration will have to be given to ecological issues wherever necessary and there should be an overall ecological approach to planning. There is already a State Environmental Board. This is an apex advisory body formed to advise the Government in making policies for the protection of environment to fit in with the programmes of development in the State. One of the functions of the Board is to review development projects in the State, at the planning stage itself, with reference to their impact on environment and suggest suitable remedial measures to protect the environment. There is also a Department of Environmental Hygiene headed by a Special Officer in the rank of a Chief Engineer.

35.4. The following are some of the broad areas identified by the State Planning Commission for contemplation of suitable measures by the concerned departments or agencies :—

(i) Environmental deterioration seriously affects forests, soils, air, surface and ground-water, fauna, navigability of river channels, reservoirs, etc. Remedial measures are urgently needed. The lack of "awareness" of the importance of proper use of the environment appears to be a great handicap. Therefore this should be set right by effective and sustained publicity and education, and by including the systematic study of the environment and its proper use as a regular part of the school and university curricula.

(ii) There is need for a comprehensive policy regarding the use of all available land in an integrated manner, ensuring selective use of the land according to its quality, to optimise productivity and to secure ecological equilibrium and amelioration.

(iii) The development of systematic ecological research and of ecological studies is essential to provide the basic knowledge. Studies of different methods of ecological improvement are also urgently needed. Programmes of research, to define the ecological types and delimit the ecological zones of Tamil Nadu, coupled with studies of the degraded areas, and experiments for improving them have to be under taken.

(iv) As Environmental Cell in the State Planning Commission is necessary, the establishment of a full-fledged Institute of Ecological Studies in the State will be valuable.

(v) At the planning stage of development projects, its impact on the environment has to be considered in the totality and suitable measures provided towards protection of environment. Three per cent of the cost of the project may be provided in the cost estimates of projects exclusively for providing environmental protection measures. The Plan provisions may include the cost towards the measures for protection of environment.

Further, incentives may be provided for implementation of environmental protection measures.

35.5. The funds for ecological studies and environmental correction may also be drawn, wherever possible, from the provisions made for Research and Development in the industrial and services sectors of the Plan, 1980-85.

PLAN FORMULATION, IMPLEMENTATION, MONITORING AND PLAN EVALUATION.

Plan Formulation :

36-1. At present, Plan programmes are drawn up every year by the Heads of Departments after ascertaining the local requirements with the information available in the concerned administrative departments through the respective district officials. When they draw up proposals for plan schemes, they do not take into account fully the local resources potential and therefore, there is no integrated approach for the development of the region. Perhaps, except for major investment programmes in sectors like Power, Irrigation and Large Industries, project formulation at the State level in other sectors is not done on scientific lines. Even while indicating the required outlay for the various schemes among different sectors, the level of expenditure incurred in the preceding years is taken as criterion for the future requirements without having a critical review on the benefits of the schemes and the need to continue such schemes in subsequent years.

36-2. In order to settle the priorities in respect of Plan schemes, an ex-ante appraisal of these projects is a must. This will be supplemented by ex-post appraisal of on-going schemes/projects which would help to weed out the programmes which could not achieve the desired objectives. The Draft Plan, 1980-85 envisages considerable increase in the outlay on Agriculture, Power, Village and Small Industries, Rural and Urban Development with a thrust on achieving more employment in the rural sector. Therefore, there is an urgent need to formulate viable schemes based on sound principles, spelling out the causes and benefits so that the required number of schemes that would optimise the benefits or the Plan investments may be chosen correctly. The Directorate of Evaluation and Applied Research undertakes a few schemes for appraisal every year, most of which are of ex-post nature. But what we require is an appraisal of all the schemes even during implementation. It is, therefore, proposed to take up an ex-ante appraisal of all the schemes costing more than rupees one crore in the State Planning Commission so that only viable and beneficial schemes with reference to our objectives would be taken up for implementation.

Monitoring Plan Schemes :

36-3. Except major schemes like Irrigation and Power, where there is a close watch and appraisal regarding their progress, there is no worthwhile monitoring as such in other sectors. But effort have been taken recently to set up Monitoring Cells in different departments under the control of the Joint Director or the Deputy Director (Budget). This work requires co-ordination at the State Planning Commission level to strengthen the planning machinery. Therefore, an effective look would be available even for

evaluation at future Plan formulation. The organisational set up for the Plan formulation and monitoring consists of four divisions in the State Planning Commission, viz., (i) Agriculture and allied services including Irrigation ; (ii) Industries, Power and Transport ; (iii) Education, Health, Labour and Employment ; and (iv) Rural and Urban Development, Housing, Water Supply and Social Welfare. These divisions require adequate strength for attending to formulation as well as monitoring. These divisions should take up current review of the projects in their respective divisions. They would obtain necessary information from the Monitoring Cells proposed to be set up in different departments and would review the progress both with reference to physical and financial targets. The findings of such reviews besides suggesting measures to overcome the problems in the execution would be very helpful in the selection of projects during the succeeding years and also in fixing the realistic targets on these schemes. Since the schemes are related to more than three or four sectors to be scrutinised in each division, the additions required in each division are : one Officer in the cadre of Deputy Director and one qualified Research Assistant.

Economic Intelligence and Area Planning Division :

36-4. The success of any Plan mostly depends on the efficiency of the planning machinery at lower levels. For drawing up an Integrated Plan, first an inventory of local resource potential and the extent of its utilisation have to be made and suitable programmes have to be evolved to achieve an overall development of the region. One Investigator for each block for collection of necessary data has been suggested in the scheme for block level planning by the Department of Statistics. To man the planning machinery at the district level and to co-ordinate the activities of the various district officers of the development departments, it is necessary to post a District Planning Officer for each district with necessary administrative and technical staff to assist him in this work. For preparing such block level plans, the services of voluntary agencies, professional institutions and local leaders would also be involved. At the Headquarters, one Economic Intelligence and Area Planning Division would be created which will be responsible for guiding the formulation of block level plans. This division would also be in charge of macro-level planning, i.e., fixing up of realistic targets of growth in different sectors, working out the inter-sectoral balances, estimates on employment and unemployment, model building, etc. An Officer in the cadre of Joint Director who has sufficient experience in macro and micro-level planning would be the Head of the Division. He would be assisted by one Officer from the Directorate of Rural Development, one Planning Officer and one Research Assistant.

36.5. The cost of strengthening the Review Divisions in the State Planning Commission and creation of an Economic Intelligence and Area Planning Division works out to about Rs. 50 lakhs during 1980-85.

Plan Implementation :

36.6. The sectoral plan programmes would continue to be implemented by the concerned administrative departments. However, in respect of schemes involving co-ordination between more than one department such as fodder development, dairy development, building programmes, development of small-scale industries, etc., the State Planning Commission would play a vital role to see that the projects are implemented within the target date and the benefits of the scheme are fully realised with the objectives pronounced.

Plan Evaluation:

36.7. An objective analysis of the achievements under selected Plan programmes would be undertaken by the Directorate of Evaluation and Applied Research. Though most of the studies will be of ex-post time, the findings would be very useful to suggest modification in the programmes whenever they are extended to other areas in the State. In preparing block-level plans and sectoral programmes, considering the multi-disciplinary nature of work involved, experts in different interests would be associated either on part time or full-time basis. The Data Centre, The Department of Statistics and the Directorate of Evaluation and Applied Research would work in close co-operation with the State Planning Commission in this respect. To make it more effective, a separate Planning and Development Department at the Secretariat for co-ordinating these agencies with the State Planning Commission has also been set up.

CENTRAL SECTOR PROJECTS.

Short notes on the projects suggested for implementation in the Central Sector are given below :—

1. Nuclear Power Plant :

37.0. There is a serious power shortage in Tamil Nadu. There are no further major hydro-electric projects to be executed. Thermal projects, already established, are facing severe shortage of coal. Karnataka, once supplier of surplus power to Tamil Nadu is now competing with this State for purchase of power from Kerala. Every year, power cuts are imposed in this State—crippling industry and agriculture, throwing a large number of people out of work, apart from curtailing production of essential goods. New industries are not choosing Tamil Nadu for their locations, for want of assured power supply. Hence it is extremely urgent and important that one more nuclear power station (500 MW—1,000 MW) is established in this State, preferably at Tuticorin.

2. Sethusamudram Project :

37.1 This project envisages cutting of a navigational canal across the narrow strip of land near Pamban to link the gulf of Mannar with the Palk Bay so that the travel distance of ships from the east to the west coast and vice versa will be reduced by about 300 to 350 miles and the travel time by about 48 hours. With the increased activity on the Eastern coast, a large number of ships would be using this new canal bringing in precious foreign exchange to this country apart from effecting considerable savings in fuel and other costs. The canal will have naval significance also. The project which has been cleared by many high level committees has been postponed for want of funds. It may be included in the Sixth Plan immediately since further delay will involve escalation of costs.

3. New Railway lines and Gauge Conversions:

37.2 The Districts of North Arcot and Dharmapuri are not well served by Railways. The road transport system is unable to take the passenger and cargo load in this area. A new railway link between Pondicherry and Bangalore is, therefore, recommended. This line, apart from opening up the above area, will serve to connect important Centres like Pondicherry (Union Territory Headquarters), Tiruvannamalai (a great pilgrim centre and an area with abundance of iron ore), Krishnagiri (a commercial and agricultural centre) and Hosur (a major industrial complex near Bangalore).

There is another area without adequate rail facilities—Periyar and Madurai districts. A new railway line between Chamrajnagar and Palani is, therefore, recommended. This will connect the great pilgrim town of Palani with the heavily populated areas in the Periyar district and the industrial areas of Coimbatore district with Karnataka State.

Apart from the above, the Railway Administration is being requested to carry out essential improvements and additions to the various Terminals like Madras Egmore, Madras Beach, Coimbatore, etc. The marshalling yards at Erode, Jolarpet, Tondiarpet, etc., also require urgent attention.

Another line between Dindigul, a market town and Cumbum, a fertile agricultural area is also recommended.

The movement of essential goods from the North to the South is seriously hampered because of the restricted metre gauge facilities available between Madras and Tuticorin, a distance of about 700 km. North-South. Tamil Nadu has been pressing the Centre for a long time to convert this major sector to Broad gauge. With the establishment of some large industries in the Tuticorin-Ramanathapuram belt there will be adequate movement towards the North also, if the conversion is sanctioned.

4. East Coast Road :

37.3. The East Coast Road from Madras to Kanyakumari is a very important link from the agricultural, industrial and military points of view. It is a pity that in spite of repeated requests that Government of India have not allocated sufficient funds for improving this road to the N. H. standards. About 720 km. of this road need upgradation at a cost of about Rs. 80 crores. This will enable a heavier volume of traffic being handled at a faster rate through the port, pilgrim and tourist centres like Mahabalipuram, Pondicherry, Cuddalore, Nagapattinam, Tiruchendur, Tuticorin etc. Since the East coast villages are frequently affected by cyclones and gales, this road will greatly aid the rushing of essential supplies and rescue teams in the event of such calamities.

5. Rapid Transit System for Madras City :

37.4. Surveys undertaken both by the Central and State Governments indicate the utter inadequacy of the present transport system in Madras City. It has been clearly established that the Bus transport system cannot be expanded very much

further because of physical limitations. It has also been established that the increased volume of commuter traffic in the coming years can be only handled by a Rapid (surface) Transit System run by the Railways. The Project Team has prepared an exhaustive project report for the function of such a transit system between Thiruvottiyur and Kasturiba Nagar. This is a technically and financially viable scheme and the State Government would like to press for its inclusion in the Sixth Plan. If, however, the Government of India decides to implement the scheme in stages, then work on the first stage between Madras Beach and Luz (a distance of 8.4 kilometres costing about Rs. 56 crores) may be started immediately.

6. Improvement of the Buckingham Canal for movement of passengers and cargo :

37.5. The Buckingham Canal remains presently an unutilised water way stretching between Nellore and Porto Novo via Madras. The development of this water way to provide for passenger and cargo movement mainly salt, paddy, firewood, etc., would greatly reduce the present congestion of traffic on roadways and railways. It would also be cheaper. Although the waterway exists, many stretches would require widening and deepening to make transportation possible. The stretch of the Buckingham Canal flowing within Madras city, is presently a stinking cesspool and its improvement into a fast flowing, clean waterways would provide hygienic surroundings to the city, enhance its beauty and also reduce traffic congestion.

7. Dry Dock at Madras.

37.6. Madras Port needs a dry dock very urgently. The present slipway is 70 years old and is not able to meet the needs of even the Port's dredging vessels which are now sent to Bombay or Calcutta for repairs. More than 600 slips call at Madras Port every year and a dry dock will be a boon to them. Madras actually requires two dry docks to be able to service various types of merchant ships, tankers, naval vessels and dredgers. There is a good base of heavy engineering workshops here and a large number of trained marine engineers. A dry dock apart from facilitating quick repair of ships and better functioning of the Port will also earn valuable foreign exchange. The cost of a dry dock of 180 metre length is estimated to be only about Rs. 8 crores. The proposal of the Madras Port Trust for this facility is "Under consideration" of the Government of India for a long time. Clearance for this project may be expedited.

8. Survey of fresh fishing grounds.

37.7. Consequent on a bilateral agreement the island 'Kacha Theevu' in the Palk Bay was handed over to Sri Lanka. This was a base for a large number of fishermen from Ramanathapuram, Tirunelveli and Kanyakumari districts

for their fishing operations. They have now been deprived of this facility, which was available to them traditionally. In order to rehabilitate them two urgent measures are necessary., (1) survey of the ocean in this area to locate fresh fishing grounds and indicate the potential for various types of fish the resources for this survey will be beyond the physical limitations of the State, and the survey can be conducted only by the Government of India which has the know-how and technical facilities, (2) rehabilitation measures for the affected fishermen like basic amenities in their new habitations and liberal financial assistance. Total commitment on the above will not be much. The Government of India may be requested to give top priority to this project.

9. Coastal Ferry Service Scheme between Madras and Tuticorin —

37.8. The development of Tuticorin as a major port and the growth of the Petro Chemical Industrial complex there, have made it an important commercial centre in Tamil Nadu. A new Thermal Power Plant has also been put up there. The passenger and Cargo traffic between Madras and Tuticorin is expected to increase considerably and in order to cater to this increased traffic, the normal metre gauge rail and road links between Madras and Tuticorin would not be adequate Coastal shipping and ferry services by sea between Madras and Tuticorin would, therefore, be a helpful addition to transport facilities and may even be shorter and more convenient. Hence a scheme for providing coastal ferry services between the two ports may be taken up in the Central Sector during the Sixth Plan period.

10 Off-shore Oil Exploration

37.9. With the increasing shortage of imported crude it becomes necessary to look out for fresh oil resources. So far only small-scale exploratory work has been done on the Cauvery basin. It is generally believed that there are rich oil deposits in the Bay of Bengal. In view of escalation of costs and urgent need for locating fresh resources, the Government of India may be requested to immediately sanction a massive oil exploration programme of the Tamil Nadu Coast.

11. Petro-Chemicals Complex at Madras:

37.10. Tamil Nadu has not made much head way in the development of large scale chemical industry, though it has got all the facilities including highly qualified engineering personnel. This is primarily due to the lack of important chemical feed stocks which are mainly available only from a Petro-Chemical Complex. Maharashtra and Gujarat have taken great strides in setting up Petro-Chemical complexes which feed a large number of industries. On the same lines, Tamil Nadu would like to press the Government of India to set up a Petro-Chemical Complex at Madras which can produce raw materials for plastics, basic chemicals and synthetic textiles industries for which there is a great scope in this State.

12. Chemical Industries:

37.11. Another feed stock to be made available for chemical industries is from lignite by gasifying the fuel into carbon monoxide and hydrogen. This is an important feed stock for producing a variety of chemicals including methanol. Facilities are available in the Neyveli Lignite Complex for setting up such a plant. If the proposal is approved, it can lead to the establishment of a Synthetic Fuel Plant in Tamil Nadu which is chronically deficient in crude oil resources. Tamil Nadu would like to press for the establishment of such a Project by the Government of India.

13. Third Level Air Service:

37.12 Tamil Nadu has several reputed tourist centres which have attracted world wide attention. But one of the reasons for international tourists skipping the State, though it has got other facilities like good hotels, guide services and local transport net-work, is lack of air service connections to these centres. The provision of domestic air service to important centres in Tamil Nadu will not only attract greater international tourist traffic and inland tourist traffic but also provide a facility for quick transport now badly needed by business circles. In this context it is considered that the provision of domestic air services to important centres like Thanjavur, Ramanathapuram, Tuticorin, Kanyakumari, Chidambaram, Vellore and Ooty, will not only give a fillip to the tourist industry and be beneficial to the people but will also augment the income of the State Government. It is therefore, urged that the State Government should be encouraged to and assisted in the provision of the third air line service connecting important places inside the State. It may be mentioned that air fields are already available at Thanjavur, Vellore and Ramanathapuram. What is needed is the improvement of the facilities in the above three centres and creating them in the four other centre. If, however, Government of India decide on policy grounds to run these domestic services themselves or entrust

them to the Indian Airlines, it is urged that the seven places mentioned above should be connected by the proposed air service. The State Government would also like to request the Government of India to allow a proportionate share of the income derived from these services, to the State Government.

14. Special Helicopter Service from Coimbatore to Ooty:

37.13 Ootacamund, the Headquarters of the Nilgiris district, is both an important tourist and Commercial Centre, with the Tea Industry and important central sector projects such as the Hindustan Photo Films located there. An annual feature of this hill station is its inaccessibility during the monsoon season, due to occurrence of large scale landslides thereby blocking both road and rail traffic between the plains and the hills. This breakdown in communication, apart from causing inconvenience to the public, also prevents essential goods and services reaching the hills and commercial traffic bothways is completely suspended. A regular air service to Ooty has been suggested under item 13 above. If however, for technical reasons this is not feasible, at least a special helicopter service to Ooty during the monsoon season should be considered.

15. Airport at Salem:

37.14 After Madras, Salem is the third largest city in the State. The District has got a very large number of industries like paper, chemicals, aluminium, plastics, textiles etc., The power-looms and the Sago factories of Salem produce goods which are sent all over India. The new Steel plant is also coming up there. A number of pilgrim centres and places of tourist importance including the hill-resort of Yercaud are situated near Salem. It lies at a distance of 200 miles from Madras and 100 miles from Coimbatore or Bangalore or Tiruchirappalli. Thus, it is ideally suited to have the next Airport in the State. The traffic generated by the businessmen, public-sector employees and tourists will be enough to make this Airport viable.

Part IV

SECTORAL ALLOCATION

ABSTRACT OF SECTORAL ALLOCATIONS OF THE STATE PLAN OUTLAY:

<i>Serial number and sector/Head of development.</i>	<i>State Plan outlay for 1980-85 approved by State Planning Commission.</i>	<i>Serial number and Sector/Head of development.</i>	<i>State Plan outlay for 1980-85 approved by State Planning Commission.</i>
(1)	(2)	(1)	(2)
	(RUPEES IN CRORES.)		(RUPEES IN CRORES.)
I. Agriculture and Allied Programmes.	708-22	VI. Social and Community Services ..	1,127-00
1. Agriculture (Includes IRD & DPAP)	299-62	1. General Education	105-95
2. Minor Irrigation	38-69	2. Technical Education	14-80
3. Soil Conservation	20-10	3. Art and Culture	2-50
4. Area Development	16-28	4. Medical and Public Health ..	93-57
5. Animal Husbandry	34-00	5. Water Supply and Sewerage ..	536-79
6. Dairy Development	6-68	6. Housing	123-69
7. Fisheries	21-33	7. Urban Development	67-60
8. Forests	67-72	8. Welfare of Scheduled Castes, Scheduled Tribes and other Back- ward Classes	119-89
9. Community Development (Includes SSS & EGS)	203-80	9. Social Welfare	20-01
III. Co-operation	58-30	10. Nutrition	31-38
III. Water and Power Development ..	1,524-30	11. Employment Services, Craftsmen Training and Labour Welfare ..	9-21
1. River Valley Projects, Irrigation and Flood Control	206-16	12. Information and Publicity ..	1-61
2. Power	1,318-14		
IV. Industry and Minerals	269-86	VII. Miscellaneous	22-95
1. Large and Medium Industries ..	167-03	1. Statistics	7-82
2. Mining and Metallurgical Indus- tries	3-86	2. Evaluation	0-19
3. Village and Small-scale Industries	98-97	3. Strengthening of Planning Machinery	0-50
W. Transport and Communications ..	252-61	4. Administrative Buildings ..	12-59
1. Roads and Bridges	150-00	5. Stationery and Printing	1-85
2. Road Transport and Inland Water ways	77-50		
3. Ports and Harbours	15-11	TOTAL—STATE PLAN OUTLAY	3,963-24
4. Tourism	10-00		

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ABSTRACT OF OUTLAYS ON CENTRALLY SPONSORED/CENTRAL SECTOR SCHEMES
IMPLEMENTED BY THE STATE GOVERNMENT.

<i>Head of Development.</i>	<i>Total outlay on Centrally sponsored/ Central sector schemes 1980-85.</i>	<i>Head of Development.</i>	<i>Total outlay on Centrally sponsored/ Central sector schemes 1980-85.</i>
(1)	(2)	(1)	(2)
	(RUPEES IN CRORES.)		(RUPEES IN CRORES.)
1. Agriculture	4.48	9. Medical (Hospitals and Dispen- saries)	1.55
2. Animal Husbandry	7.42	10. Public Health (Control of Com- municable diseases)	6.56
3. Forests	5.48	11. Family Welfare	51.64
4. Co-operation	15.73	12. Welfare of Scheduled Castes, Scheduled Tribes and other Back- ward Classes	37.57
5. Roads and Bridges	108.00	13. Social Welfare	1.40
6. Road Transport and Inland Waterways	3.10	14. Nutrition).. .. .	2.06
7. Tourism	40.74		
8. General Education (Adult Education)	0.70	TOTAL ..	286.53

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