

DRAFT FIVE YEAR PLAN

1978-83

TAMILNADU

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Volume I

Part I

A PREVIEW OF THE ECONOMY

PART I—A PREVIEW OF THE ECONOMY

CHAPTER I

A REVIEW OF OVERALL DEVELOPMENT OF THE STATE SINCE 1960—61

Income and Production :

1.0 Since the year 1950-51 which marks the commencement of the era of planned development, considerable progress has been made towards the achievement of the ideal of higher incomes as well as increased industrial and agricultural production and improvement in the material and social well-being of the people. However, some of the social evils have not been eradicated as expected. 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 overall development of the State since 1960-61.

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 1960-61 to 1976-77 at current and constant prices are given in the Table 1.1 below :

TABLE 1.1

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

Year	State Income		Per Capita Income	
	At Constant Prices (1960-61)	At Current Prices	At Constant Prices (1960-61)	At Current Prices
	(Rs. in Lakhs)	(Rs. in Lakhs)	(in Rupees)	(in Rupees)
(1)	(2)	(3)	(4)	(5)
1960—61	111185	111185	334	334
1961—62	110844	113983	325	334
1962—63	113854	116753	327	335
1963—64	116093	125065	326	351
1964—65	120122	140353	331	387
1965—66	117428	149422	317	403
1966—67	121327	175084	321	463
1967—68	127029	185618	329	481
1968—69	129148	192632	329	499
1969—70	134923	214842	335	536
1970—71	142461	240386	348	588
1971—72	150726	271631	362	653
1972—73	151878	290637	358	685
1973—74	159445	359569	369	832
1974—75	142080	379295	319	852
1975—76	162975	403732	358	887
1976—77	168527	437578	362	941

1.2 At current prices, the annual average compound growth rate of State Income in the 10 year period 1960-61 to 1970-71 was 8% and in 1970-71 to 1976-77, it was 10.5%. But, estimated at constant prices, the rates for the two periods were only 2.5% and 2.8% respectively.

1.3 The overall growth rate does not bring out the basic changes in the sectoral composition of the State Income. Nevertheless these relative trends are of great importance in assessing the nature of the economic progress made. The aggregate State Income data prepared by the Directorate of Statistics of the State Govern-

ment 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 1976-77 furnished in the following Table (1.2). 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 1.2

Net State Domestic Product and its Composition in 1970-71 and 1976-77 (QE) :
(Current Prices)

<i>Items</i>	1970-71 (Rs. lakhs)	<i>Percentage of Total</i>	1976-77 (Rs. lakhs)	<i>Percentage of Total</i>
(1)	(2)	(3)	(4)	(5)
1. Agriculture	92310	38.4	149123	34.1
2. Forestry & logging	815	0.3	1651	0.4
3. Fishing	1988	0.9	3457	0.8
4. Mining & Quarrying	1067	0.4	2574	0.5
(i) Sub-total : Primary	96180	40.0	156805	35.8
5. Manufacruing—				
5.1 Registered	30794	12.8	66128	15.1
5.2 Unregistered	19150	8.0	38745	8.8
6. Construction	5692	2.4	8906	2.1
7. Electricity, Gas & Water Supply	2720	1.1	4016	0.9
(ii) Sub-total Secondary	58356	24.3	117795	26.9
8. Transport & Communication—				
8.1 Railway	2908	1.2	3823	0.9
8.2 Transport by other means	7670	3.2	15762	3.6
8.3 Communication	2705	1.1	4291	1.0

Items	1970-71 (Rs. lakhs)	Percentage of Total	1976-77 (Rs. lakhs)	Percentage of Total
(1)	(2)	(3)	(4)	(5)
9. Trade, Storage, Hotels and restaurants	31013	12.9	62701	14.3
(ii) Sub-Total :				
Transport, Communication / Trade	44296	18.4	86577	19.8
10. Banking and Insurance	5057	2.1	14903	3.4
11. Real Estate and Ownership of Dwellings	5134	2.2	8083	1.8
(b) Sub-Total :				
Finance & Real Estate	10191	4.3	22986	5.2
12. Public Administration	7937	3.3	19447	4.4
13. Other Services	23426	9.7	33968	7.9
(i) Sub-total :				
Community & Personal Services	31363	13.0	53415	12.3
14. TOTAL : Net State Domestic Product at Factor Cost	240386	100.0	437578	100.0

1.4 The net State domestic product (quick estimates) in 1976-77 was Rs. 4,375.78 crores. To this, the Primary sector contributed Rs. 1568.05 crores or 35.8% and the Secondary sector, Rs. 1177.95 crores or 26.9%. The primary sector and the secondary sector together account for 62.7% 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 38.4% of the State Income and the industrial sector for 20.8% in 1970-71. In 1976-77, the share of the first declined to 34.1% and that of the latter increased to 23.9%.

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 worthwhile 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. 26132 crores in 1975-76. This represents an increase by four times in 15 years (at current prices). In the same period, total production increased by about 36%. 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 the Table 1.3 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 17 years in the agricultural sector.

TABLE 1.3

Production of Principal Crops and Yield per hectare 1960-61 to 1975-76

Item	1960—61		1965—66		1970—71		1975—76		%age increase in yield per hectare 75-76 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.)	Production in 000 tonnes	Yield/hectare (in Kg.)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Rice	3359	1413	3524	1409	5007	1900	5203	2029	+43.5
Cholam	631	816	513	675	543	732	766	876	+ 7.3
Cumbu	301	616	235	588	312	658	330	733	+18.9
Ragi	360	989	292	889	334	1180	481	1503	+51.9
Other Cereals	435	..	366	..	377	..	328	..	..
(a) Total Cereals	5286	..	4930	..	6573	..	7058	..	..
Bengalgram	1	544	1	543	2	543	4	563	+ 3.5
Redgram	26	453	22	456	29	461	42	519	+14.5
Other Pulses	82	..	79	..	102	..	81	..	..
(b) Total Pulses	109	..	102	..	133	..	127	..	..
Total foodgrains (a) + (b)	5395	..	5032	..	6706	..	7185	..	..
Sugarcane (gur)	686	8454	955	7363	1074	9430	1312	10224	+20.9
Chillies	102	1376	73	1425	121	1454	139	1701	+23.6
Potatoes	81	7707	57	6917	86	7382	144	14065	±82.5
Onions	181	12566	199	12511	129	12863	..	..	..
Cotton (lint)	374	167	301	169	323	196	253	207	+24.0
Groundnut (unshelled)	1057	1217	823	860	989	1004	1053	1127	— 7.4
Gingelly	42	326	38	327	43	323	31	316	— 3.1
Castor	5	417	4	421	4	415	4	391	— 6.7
Tobacco	29	1450	17	1417	16	1499	19	1405	— 3.2

1.7 It may be seen from Table 1.3 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 70.58 lakh tonnes in 1975-76. As regards commercial crops, there is an increase in the production of sugarcane (gur) from 6.86 lakh tonnes in 1960-61 to 13.12 lakh tonnes in 1975-76. Production of cotton lint however declined from 3.74 lakh tonnes to 2.53 lakh tonnes. In the case of oil seeds, a general decline 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 1975-76, the percentage increase in the yield per hectare was 43.5 in the case of rice and 51.9 in the case of ragi. Sugarcane increased by 23.9%, chillies by 23.6% and potatoes by 82.5%. Though there is a decline in the production of cotton lint in absolute terms, yet the yield per hectare increased between these two points of time by 24%. In the case of oil seeds, groundnut, gingelly 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 1975-76 between the low of 647.4 mm in 1974-75 and the high of 1152.8 mm in 1966-67. 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 rainfall, agriculture in Tamil Nadu depends greatly on irrigation. Table (1.4) below shows the extension of area under irrigation (source-wise) since 1950-51 :

TABLE 1.4
Area Irrigated (Source-wise) in Tamil Nadu

Net area irrigated by	1950-51		1960-61		1970-71		1974-75		1976-77	
	in 000 hectares (2)	%age to total (3)	in 000 hectares (4)	%age to total (5)	in 000 hectares (6)	%age to total (7)	in 000 hectares (8)	%age to total (9)	in 000 hectares (10)	%age to total (11)
1. Government Canals	786	42.37	880	35.74	883	34.07	886	36.34	676	29.01
2. Private Canals	2	0.11	2	0.08	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
4. Wells (including tube wells)	426	22.96	598	24.29	775	29.90	924	37.90	825	35.41
5. Other Sources	76	4.10	46	1.87	35	1.35	33	1.35	28	1.20
Total	1855	100.00	2462	100.00	2592	100.00	2438	100.00	2330	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 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 9.24 lakh hectares in 1974-75—an increase of 117%.

1.13 As regards land utilisation, the total geographical area according to village papers was 129.40 lakh hectares in 1950-51, 130.05 lakh hectares in 1970-71 and 130.32 lakh hectares in 1974-75. 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.

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 25 years. Of the total area under cultivation, food crops accounted for 73.1% in 1950-51 and increased marginally to 74.6% in 1974-75. Rice has taken up about half the total area under foodcrops. The area under non-food crops was 15.87 lakh hectares in 1950-51 and 16.87 lakh hectares in 1974-75 i.e., 26.9% of the total area under cultivation in 1950-51 and 25.4% in 1974-75.

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 1.5 below relating to power generation and consumption illustrate the progress made by the State in the last 17 years in this direction. It is seen that between 1960-61 and 1976-77, the installed capacity increased from 571 MW to 2364 MW or by a little more than four times and the output by less than four times, (from 2238 m.u. to 8350 m.u.), while the consumption went up from 1765 m.u. to 6080 m.u., or by about 3.5 times. The consumption per head was 60 units in 1960-61 and it increased to 146 units in 1976-77.

TABLE 1.5
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	2238	1765
1961—62	560	2551	2022
1962—63	660	2841	2273
1963—64	815	3129	2542
1964—65	945	3572	2876
1965—66	1370	4041	3286
1966—67	1470	4103	3360
1967—68	1470	4857	3937
1968—69	1570	5260	4247
1969—70	1720	5597	4532
1970—71	1965	6185	5057
1971—72	2075	6812	5380
1972—73	2171	6971	5371
1973—74	2254	7105	5355
1974—75	2254	7380	5645
1975—76	2364	8106	6268
1976—77	2364	8350	6080

*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	No. of pump-sets energised	No. of towns & villages electrified	No. of hamlets electrified
(1)	(2)	(3)	(4)
1961	117695	5668	5092
1966	256594	9388	12749
1971	529932	11714	30299
1976	742746	15948	47200

1.18 As on 31-3-78, out of the 63,759 villages and hamlets in the State, as many as 62,900 or 98.6% of the total were electrified. Similarly,

of the estimated total number of 12 lakh wells, agricultural pumpsets were energised in 8.06 lakh or 67% 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 Km. of which 33,061 Km. or 75% were surfaced and 10,958 Km. or 25% were unsurfaced but motorable. The total road length increased to 96,505 Km. in 1976 made up of 59,391 Km. (62%) surfaced and 37,114 Km. (38%) unsurfaced (Vide Table 1.6 below).

TABLE 1.6
Length of Roads by Surface as on March 31st of each year
(in kilo metres)

Year	Surfaced Roads				Unsurfaced motorable (6)	Total road length (5+6) (7)
	Cement concrete (2)	Bituminous (3)	Waterbound macadem (4)	Total (5)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1961	859	13958	18244	33061	10958	44019
1966	1040	18224	24861	44125	21442	65567
1971	1196	25713	23298	50207	23957	74164
1976	1216	33414	24761	59391	37114	96505

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 1.7 below :

TABLE 1.7
School Enrolment

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

1.21 The total number of primary schools in the State in 1976-77 was 33,036 as against 23,785 in 1960-61 representing an increase of 39% in the sixteen year period. The number of pupils in the primary and middle schools of the State increased from 28,87,538 in 1960-61 to 63,13,259 in 1976-77 or by 119%.

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. Figures given in the following table 1.8 indicate the trend in the wastage in school education in the first four years of the Fifth Five Year Plan.

TABLE 1.8
Educational Wastage (School level)

Stage (1)	1974-75			1977-78		
	Enrolment (2)	Dropouts (3)	%age of (3) to (2) (4)	Enrolment (5)	Dropouts (6)	%age of (6) to (5) (7)
Primary	1410864	641156	45.44	1393425	559306	40.14
Middle	1366399	993540	72.71	1442560	1018045	70.59
Secondary	1377046	1180930	85.76	1562967	1378127	88.17

1.23 Comparing the figures for 1977-78 with those for 1974-75, we find that there is some improvement in the position in respect of primary and middle stages. The percentage of drop-outs in the secondary level has increased because of the provision made in the Educational Rules permitting pupils who have completed VIII Standard to appear for the S.S.L.C. examination provided they have completed 18 years of age in March of that year.

Public Health :

1.24 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 382 in 1976 — a 9% increase. In the same period, the number of private non-aided hospitals and dispensaries increased from 63 to 107 or by 70%. In all, including hospitals and dispensaries, the institutions providing health facilities increased from 1385 in 1969 to 1430 in 1976 (i.e., 3.25% increase). Correspondingly, the number of beds in private hospitals and Government hospitals, including primary health centres, increased from 36,922 in 1969 to 41,089 in 1975 or by 11% and the number of doctors from 3,114 in 1969 to 4,418 in 1975 or by 42%.

Demographic trends and Unemployment :

1.25 The population of Tamil Nadu which was 333 lakhs in 1960-61 increased to 409 lakhs in 1970-71. It is estimated at 465 lakhs in the year 1976-77. This means that population increased at the rate of 2.1% in the inter-Census period 1960-70 and at the rate of 2.2% 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 22.9 in 1975-76. In fact, the birth rate shows an increase upto 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 1.9.

TABLE 1.9
Demographic Indicators

Year (1)	Popula- tion in lakhs (2)	Birth rate (per 1000 of esti- mated mid- year popu- lation) (3)	Death rate (per 1000 of esti- mated mid- year popu- lation) (4)
1960-61	333	26.7	12.1
1961-62	341	26.7	13.3
1962-63	348	25.3	11.3
1963-64	356	25.2	11.3
1964-65	363	25.4	10.8
1965-66	371	26.6	10.5
1966-67	378	26.5	11.0
1967-68	386	26.4	10.1
1968-69	393	28.1	10.4
1969-70	401	28.7	11.4
1970-71	409	27.2	10.5
1971-72	416	25.3	8.7
1972-73	424	24.4	8.4
1973-74	432	23.4	8.2
1974-75	445	22.2	7.8
1975-76	455	22.9	8.3
1976-77	465	n.a.	n.a.

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

1.26 The density of population in Tamil Nadu was 317 per sq. km. in 1970-71. It is now estimated at 341 for 1975-76. 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 16,64,500 as on September, 1976. This gives an annual increase of 2.3% and 1.6% compared with the rate of growth of population of 2.1% and 2.2%. The number of graduate job seekers increased from 8777 to 68,203 and post graduates and professional graduates from 710 to 7,726; and all the three groups including SSLCs' and under graduates from 1,15,564 to 4,12,674.

1.27 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 23.5 lakhs for Tamil Nadu. Allowing for an annual rate of growth as observed in the past few years, the corresponding figure for 1978-79 works out to 26.0 lakhs. This total will be 13.9% of the labour force of the State or 5.6% of its population.

1.28 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% of the total labour force of the country, the share of the State in the total all India unemployment is 12.63%. This is the highest figure for the States — Andhra Pradesh coming next with 12.49% and Maharashtra with 11.93%. Expressed as a percentage of the labour force, the figure for Tamil Nadu seems, however, mode-

rate, Kerala being in the worst position with more than 25%, whereas in Tamil Nadu it is 12%.

Unemployment of the educated :

1.29 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 1976 while the total number of applicants on the live register of the employment exchanges in Tamil Nadu increased from 5.89 to 9.32 lakhs or by 58%, the number of educated people in the registers went up by 71% or in absolute terms from 2.85 lakhs in 1973 to 4.87 lakhs in 1976.

1.30 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 1977, job seekers of the category of the S.S.L.C. or its equivalent increased from 1,44,009 to 3,12,568 or by 117%, the number of graduates seeking employment in the same period increased from 19,938 to 77,197 or by about 4 times and post-graduates from 1,881 to 7,825.

Unemployment among women :

1.31 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 and employment in a good number of jobs. It is estimated that in Tamil Nadu about 6.38 lakhs of women are likely to enter the labour force in the next five years. This underlines the need for taking early measures to expand the employment opportunities for women. The experience of the Maharashtra Employment Guarantee Scheme shows that in the case of the low income households, the extra income earned by the women folk substantially contributes to the households crossing the poverty line.

CHAPTER 2

REVIEW OF THE FIFTH FIVE YEAR PLAN FOR THE FOUR YEAR PERIOD 1974-78

2.0 The implementation of the various programmes of the Fifth Five Year Plan in the first four years resulted in substantial progress in the various fields of activity. There were, however, some shortfalls partly due to natural calamities. The record of this four year 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 expenditure in the first four years, i.e., during 1974-78, was of the order of Rs. 864 crores. If we include the 1978-79 annual plan provision of Rs. 305 crores, the likely plan expenditure for the Five Year period would be about Rs. 1,169 crores.

2.2 The details of outlay under the different sectors are presented in the table 2.1 appended to the chapter. It is seen that of the total outlay of Rs. 863.51 crores in the first four years, 31% 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. 567.68 crores or about two thirds of the total expenditure during the 4 years 1974-78. It is also seen that if the estimated outlay in 1978-79 is included, the total outlay falls short of the outlay proposed by the State in respect of the sectors agriculture, animal husbandry, education and public health and nutrition. On the other hand, in respect of priority sectors such as power, irrigation, water supply, 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 (10.86 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 spill over 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 fourth year of the plan was only 170 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) was commissioned in August 1978 ; the second unit of Kundah hydro electric scheme (50 MW) would be commissioned during October 1978 and it is expected that the first unit of Tuticorin thermal scheme (210 MW) would be ready in December 1978. Thus by the end of 1978, the total addition will be 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 1979-80 and 1981-82. Under rural electrification, 2267 villages and hamlets were electrified. Also, about 1.25 lakh pumpsets were energised during the plan period.

* The State had earlier proposed an outlay of Rs. 1234.35 crores for the Fifth plan.

Agriculture—Crop Production :

2.5 To meet the increasing demand for foodgrains, the Fifth Plan set the target of achieving 90.50 lakh tonnes of foodgrains 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 14.50 lakh tonnes, cotton to 4.5 lakh bales and groundnut to 13.00 lakh tonnes by the end of the 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 An analysis of the performance of the agricultural sector during the first four years of the Plan shows that production of agricultural commodities was fluctuating largely due to vagaries of the monsoon. The severe drought in the very first year of the plan, and the unprecedented floods in the last two years have adversely affected the agricultural sector to a very great extent.

2.7 The total foodgrains production in 1977-78 is expected to be of the order of 81 lakh tonnes as against the target of 90.50 lakh tonnes fixed for the end of the Plan *i.e.*, 1978-79.

Animal Husbandry and Dairy Development :

2.8 The Plan envisaged establishment of 4 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.

2.9 During the first four years of the Plan, Intensive Cattle Development Projects came into operation in 4 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 :

2.10 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 four years for the above three major schemes was 10,000 hectares, 14,110 hectares and 43,000 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 :

2.11 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 1000 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 storage and 10 ice plants.

2.12 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 4 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.

2.13 Marine fish production in 1977-78 was estimated at 2.26 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 1977-78 was estimated at 1.50 lakh tonnes as against the target of 2.30 lakh tonnes fixed for 1978-79.

Industries :

2.14 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. 14 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.

2.15 SIPCOT disbursed term loans to the tune of Rs. 4.85 crores during 1974-78 and sanctioned

Sales Tax loan of Rs. 3.11 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% of the total disbursement by the TIIC. The industrial estates programme envisaged construction of 78 sheds in Adayar, Madras, 12 sheds in Tiruchi and 19 sheds in Hosur. The entire work was completed during the four years.

2.16 Appreciable progress was made in the industrial sector of the State in the first 4 years of the Fifth Plan period. There were in 1973, 6,816 factories employing 4,53,000 workers. In 1977, the number of factories increased to 8,508 and the number of workers to 5,23,233. Another indicator of industrial progress is the quantum of electric power consumed by the industries. In 1972-73, industries accounted for the consumption of 2,463.469 million units. In 1976-77, it rose to 3,051.354 million units *i.e.*, an increase of 24%. The figures in the following table 2.1 present an overall view of the performance of select industries.

TABLE 2.1

Production in Select Industries

<i>Industries</i>	<i>Unit</i>	1973	1976	% increase 1976 over 1973
(1)	(2)	(3)	(4)	(5)
I. Basic Goods				
Cement	000 tonnes	2275	3295	44.8
Caustic soda	Do.	91	95	4.4
Mixed fertilisers & Superphosphate	Do.	224	521	132.6
Electricity	m.u.	6701	8063	20.3

II. Capital Goods

Automobiles & automobile bodies manufactured & assembled	Nos.	9178	12169	32.5
Diesel engines	00 Nos.	554	402	(—)27.5
Power transformers	000 KVA	1191	1131	(—) 5.0
Electric motors	00 Nos.	1159	989	(—)14.7

III. Intermediate Goods

Cotton yarn	000 tonnes	162.7	200.9	28.4
Tyres	000 Nos.	4973	7177	44.3
Camel back	tonnes	2900	1976	(—) 31.9

IV. Consumer Goods

Cotton woven piece goods	Million metres	134.3	162.7	21.2
Tea	00 tonnes	450	558	24.2
Sugar	000 tonnes	352	192	(—)45.5
Bicycles	000 Nos.	381	341	(—)10.5
Safety matches	Lakh gross boxes	397	1032	160.2
Motor cycle	00 Nos.	133	184	38.1
Wheat products	000 tonnes	124	138	11.3
Hydro geneated oil	tonnes	7852	6835	(—) 13.0
Jerda	tonnes	7323	8418	15.0

2.17 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 :

2.18 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.

2.19 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.

2.20 The production of cotton yarn in 1973 was 162.7 million kgs. in the State accounting for 16.2% of the total production in India. In 1976, yarn production in the State had increased to 200.9 million kgs. or 20.9% 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% of production in India to 4.2% in the same period.

Sugar Industry :

2.21 The sugar industry recorded a very satisfactory performance during the IV 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% 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 is expected to increase to 3.74 lakh tonnes in 1977-78 as detailed in the table 2.2 below :

TABLE 2.2

Year	Quantity of sugarcane crushed (lakh tonnes)				Quantity of Sugar Produced (lakh tonnes)			
	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)
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 (anticipated)	20.70	2.20	21.55	44.45	1.82	0.19	1.73	3.74

2.22 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 capacity of 1,250 tcd made trial crushing in Feb. 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 :

2.23 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 lakh tonnes in 1973 to 33.0 lakh tonnes in 1976 as shown below :

Year	Installed capacity (lakh tonnes)	Produc- tion (lakh tonnes)	Capacity utilisation (%)
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

The easy availability of raw material 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 is expected to be ready during 1978-79.

Fertiliser Industry :

2.24 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.

2.25 Fertiliser production in the State increased from 1.93 lakh tonnes in 1974-75 to 4.11 lakh tonnes in 1976-77. The capacity utilisation which was 49% in the case of production of nitrogenous fertilisers during 1974-75 increased to 71% in 1977-78 and in the case of phosphatic fertilisers from 40% to 70% of installed capacity.

Development of Infrastructures—

Roads and Road Transport :

2.26 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 10,000 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 total strength of the fleet has increased from 3,690 in 1974-75 to 5,227 by the end of 1977-78.

Education :

2.27 The Plan has laid stress on qualitative improvement of the education system apart from expansion of educational facilities. An additional 5.47 lakh pupils in the age group 6-11 were enrolled in schools during 1974-78. In 1977-78, out of 64.07 lakh children in the age group 6-11, 59.85 lakhs were attending school which gives an enrolment percentage of 93.4. The corresponding percentages for 1973-74 was 90.2. Similarly in the age group 11-14, the percentage of enrolment has increased from 52.3% to 56.8%. 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.

2.28 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 73,039 by 1977-78. Ten new colleges were opened and the number of students in the colleges increased from 1.95 lakhs to 2.09 lakhs in the same period.

Health :

2.29 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 8.3 in 1975. In the same period, infant mortality rate came down from 66.0 per 1,000 live births to 46.6. Due to efficient implementation of family welfare programmes, the birth rate has come down to 30 per 1,000 from 36 in 1971-72.

Housing :

2.30 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 35,000 houses till the end of 1977-78 for Harijans. 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 :

2.31 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 in 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.

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% 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% 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 Pudukkottai, Ramanathapuram, Tiruchirapalli, 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 Dharmaपुरi 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, Tiruchi and Pudukkottai 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. Tiruchi 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% of the State's Annual Plan outlay (1977-78).

TABLE 2-I
Progress of Fifth Plan Outlay (Rupees in lakhs)

Sl. No.	Sector	Fifth Plan provision 1974—79	Expenditure in four years 1974—78	Budget provision for 1978—79	Likely expenditure in 5 years 1974—79	Difference between (3) & (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Agriculture including Minor Irrigation, Soil Conservation, Area Development and Food	11744	6243	2601	8844	—2900
2.	Animal Husbandry and Dairy Development	1859	691	267	958	—901
3.	Fisheries	1880	662	140	802	—1078
4.	Forests & Cinchona	901	899	344	1243	342
5.	Community Development including Rural Development Project	1877	1662	362	2024	147
6.	Co-operation	2359	3722	741	4463	2104
7.	Irrigation	6809	6278	2521	8799	1990
8.	Power	32659	26454	11381	37835	5176
9.	Large Industry and Mining	4815	3023	824	3847	—968
10.	Village and Small Industries	4043	1882	528	2410	—1633
11.	Transport and Communication including Tourism & Inland waterways	9018	8663	2831	11494	2476
12.	Education including Technical Education, Art & Culture	10216	3592	1671	5263	—4953
13.	Medical and Public Health	5506	2025	671	2696	—2810
14.	Water Supply and Sewerage	9300	9130	2730	11860	2560
15.	Housing and Urban Development	7844	5744	1599	7342	—502
16.	Welfare of Scheduled Castes and Scheduled Tribes and Backward Classes	2399	3770	933	4703	2304
17.	Nutrition	5714	247	45	292	—5422
18.	Social Welfare, Labour Welfare and other Social & Economic Services	1372	597	186	782	—590
19.	Miscellaneous including I & P	3120	1067	136	1203	—1917
	Total	123435*	86351	30511	116860	—6575

*Although the State Government proposed an outlay of Rs. 1234.35 crores for the Fifth Plan, the amount was finally fixed at Rs. 1122.32 crores after discussion with the Union Planning Commission.

CHAPTER 3

BENCH MARK DATA AS ON 1-4-78

3.0 It would facilitate a clearer understanding of the significance of the development programmes for the five years, 1978-83 if an overall picture of the socio economic conditions of the State at the eve of the Plan, 1978-83 is provided. For this purpose statistical data relating to (1) Agriculture and Production, (2) Socio-economic conditions, (3) Employment Situation and (4) Per capita yield from State revenues are furnished in the four Tables 3.1, 3.2, 3.3 and 3.4 given below. These figures present a bird's eye view of the State's position.

TABLE 3.1

Agriculture and Production	
(1)	(2)
(1) Cropped area (lakh hectares) (1977-78)	
Single	59.90
Multiple	12.50
(2) Average yield of main crops (1977-78) (Kgs. per hectare)	
Rice	2210
Cholam	923
Cumbu	942
Ragi	1520
Bengalgram	565
Redgram	394
Other pulses	264
Sugarcane (gur)	11,000
Cotton (lint)	255
Groudnut (unshelled)	1047
(3) Fertiliser consumption (kgs./hectare) (1977-78)	
Nitrogen	40.1
Phosphorus	10.9
Potash	13.6

(4) Per capita availability per annum (1977-78)

Foodgrains (Kgs.) 177

Cloth (Metres) 15

(5) Electricity—Installed capacity :
as on 31-3-78 (MW) 2424

Under construction (MW) 505

TABLE 3.2

Socio-Economic Indicators (1977-78)

	(1)	(2)
1. Rural roads : Kms. per 100 sq. Km. of rural area		57.2
2. Percentage of school going children in the age group of 6-11 years (1977-78)		93.4
Percentage of school going children in the age group of 11-14 years (1977-78)		56.8
3. No. of primary schools per 100 school going children		0.46
4. No. of middle schools per 100 school going children		0.35
5. No. of high and higher secondary schools per 100 school going children		0.39
6. Percentage of literacy as per 1971 Census		39.46
7. No. of hospitals per lakh of population (1975-76)		1
8. No. of dispensaries per lakh of population (1975-76)		2
9. No. of hospital beds per lakh of population (1975-76)		85
10. Percentage of habitations covered by drinking water supply		69.90

11. Percentage of town covered by protected drinking water supply	27.39
12. No. of persons per bank branch (December 1977)	17,000
13. Per capita bank deposits (December 1976)	Rs. 259.54
14. No. of radio sets per lakh of population (1976)	3855
15. No. of commercial vehicles per lakh of urban population	404
16. Birth rate per thousand population (1976)	30.4
17. Infant mortality rate per thousand live births (1975)	47
18. Proportion of people below poverty line (August 76)	
(a) in rural areas	52.52%
(b) in urban areas	55.02%
(c) State as a whole	53.28%

TABLE 3.3

The Employment Situation

	(1)	(2)
(1) Estimated size of population (lakhs) 1978		464
Estimated size of labour force (lakhs) 1978		185
(2) Employment in public and private sectors (No. of persons employed in '000' s)		
Sector		As on 31-3-78
(1)		(2)
1. Agriculture, livestock, forestry, fishing etc		88.6
2. Mining and quarrying		30.7
3. Manufacturing		442.4
4. Construction		63.1
5. Electricity, gas, water and sanitary services		81.9
6. Trade and commerce		60.0
7. Transport, storage and communications		210.1

8. Services	
(i) Finance Insurance, real estate and business services	72.4
(ii) Community, social and personal services	674.4
Total	1723.6

TABLE 3.4

Per Capita Yield from State Revenues

	1975—76 Accounts	1977—78 B.E.
(1)	(2)	(3)
	(in Rs.)	(in Rs.)
(a) Share from Central Taxes (includes Income Tax, Estate Duties and Union Excises)	27.62	29.93
(b) State Taxes	72.01	80.44
(1) Taxes on income & property	3.63	2.11
(2) Agricultural Income tax	0.54	0.55
(3) Land Revenue	2.60	0.85
(4) Urban land tax	0.49	0.71
(5) Taxes on property	5.39	5.16
(i) Stamp duties	4.49	4.51
(ii) Registration fees	0.90	0.65
(6) Taxes on commodities & services	62.99	73.17
Total—Tax Revenue	99.63	110.37
(c) Non-Tax Revenue	27.51	28.01
(i) Grants in aid from the Centre	7.33	9.78
(ii) Other receipts	20.18	18.23
Total receipts on Revenue Accounts	127.14	138.38

NOTE.—Estimates of mid year population as furnished by the Registrar-General of India had been used for working out the per capita figures.

CHAPTER 4
THE OBJECTIVES FOR THE PLAN, 1978-83

4.0 In the light of the socio-economic conditions prevailing in the State as indicated by the statistical data presented in the preceding few pages and taking into account the major objectives of economic development stated in the Perspective Plan of Tamil Nadu (1974) and the development strategy mentioned in the Draft Five Year Plan, 1978-83 of the Union Planning Commission, the following objectives are proposed for attainment by the year 1982-83 :

- (i) Reduction of economic and social inequalities in opportunities and in incomes.
- (ii) A substantial increase in the State income, sectoral incomes as well as per capita income, consistent with reduction in inequalities of income.
- (iii) Reduction of unemployment.
- (iv) Eradication of the worst forms of poverty and an appreciable reduction of the number of people below the poverty line in the State, an improvement in the

quality of life of the weaker sections of the population.

- (v) Provision by the State of some of the basic needs of the people in the low income groups like clean drinking water, adult literacy, elementary education, health care, rural roads, rural housing for the landless and minimum services for the urban slums.

4.1 In conformity with the objectives set forth, the Plan for 1978-83 lays stress on the development of the primary sector — particularly agriculture and rural development and also on irrigation and power development. The substantial increase on power development is justified by the fact that electric power is utilised not only for the running of large industries but also for operations concerned with agricultural production and small industries. As regards social services, though as a percentage of total plan outlay there is a decrease, yet in absolute terms the increase is by nearly 100%. The investment pattern in the two plans is compared in the following table 4.1.

TABLE 4.1

Investment in the Plan, 1978-83 compared to with the Fifth Plan — 1974-75 to 1977-78
(Rs. lakhs)

Sl. No.	Sector	Fifth Plan 1974-75— 77-78 (expenditure in 4 years)	% to total	1978-83 Plan Allocation	% to total
(1)	(2)	(3)	(4)	(5)	(6)
1.	Agriculture and allied programmes	10158	11.76	34801	13.79
2.	Cooperation	3721	4.31	2982	1.18
3.	Irrigation & Power	32733	37.91	129570	51.39
	(a) Irrigation	6278	7.27	20016	7.93
	(b) Power	26455	30.64	109554	43.42
4.	Industry & Mining	4905	5.68	13339	5.29
5.	Transport & Communications	8663	10.03	18720	7.42
6.	Social Services	25276	29.27	51172	20.28
7.	Miscellaneous	895	1.04	1728	0.69
	Grand Total	86351	100.00	252312	100.00

4.2 For achieving the above mentioned objectives three sets of policy measures would have to be implemented :

- (a) Measures to generate income ; this necessitates increased production for which physical targets will have to be fixed ;
- (b) Measures to provide additional employment ; and
- (c) Measures to eradicate poverty and improve the welfare of the masses.

Measures to generate income :

4.3 The desirable level of State Income to be reached at the end of the Plan (1982-83) is estimated as given below, subject to obvious limitations arising out of the non-availability of input-output data, micro-studies pertaining to specific factor relationships and indepth enquiries relating to appropriate planning models. Besides any assumption of mechanistic relationships in Indian planning are not meaningful in view of the socio-economic and allied behavioural rigidities, which impair development, especially full employment. Nevertheless, an attempted estimate is given hereunder for broad guidelines.

The per capita income according to quick estimates in 1976-77, at constant prices (*i.e.*, 1960-61 prices) is Rs. 362. The annual growth rate for the years 1960-61 to 1975-76 is found to be 0.5%. This obviously is very low. The Union Planning Commission in its Draft Five Year Plan, 1978-83 (Vol. I, p. 13) assumes an income growth rate of 4.7% per year which works out to about 2.5% per capita income growth rate. Considering the low rate in the past and in order to be realistic, we assume a per capita income growth rate of 2% for Tamil Nadu. It is assumed that upto 1977-78, per capita income increased at the past rate of 0.5% per year. The figure for 1977-78 computed in this manner is Rs. 364. From thereon projecting on the assumption of an annual 2%

growth rate, we arrive at Rs. 402 in 1982-83. The estimated population in 1982-83 is 487 lakhs. Hence the State income in 1982-83 at 1960-61 prices will be Rs. 1,958 crores. In order to estimate the income at current prices, we have to take into account the rise in prices. Working on the basis of the whole sale price index in 1961 and also in 1976 (618 and 2,139 respectively) we get the inflation co-efficient of 2.711. Using this co-efficient the State income in 1982-83 at current prices is estimated at Rs. 5,307 crores. Comparing this figure with the State income at current prices projected for 1977-78, we find that the increase is about 17%. This would mean that the State income at current prices should have to increase in the next five year plan period at the annual rate of 3.2%. Since the rate of growth of population of Tamil Nadu as estimated by the Registrar-General of India is 1.4%, the per capita income growth rate would amount to about 2%.

4.4 For purposes of planning it is necessary to have an idea of the composition of State Income *i.e.*, the contribution of each sector to State Income and the relative changes that may be desired over a period of time. In order to make a projection of aggregate State Income and sectoral incomes over the next five years, the income of the various sectors as in 1976-77 may be grouped under six heads — agriculture, mining and manufacturing, electricity, construction, transport and services. The incomes generated under these heads are given in the table 4.2 below. We have to project the income increase under these heads for the last year of the Plan for 1978-83, namely, 1982-83. Assuming the same sectoral rate of growth as observed in the preceding five years, the income generated by these sectors in the year 1977-78 may first be projected. The Union Planning Commission in the Draft Five Year Plan for 1978-83 has assumed certain rates of growth for these sectors, for the next five years. Taking into account these expected rates and also the low actual rates pertaining to Tamil Nadu in the past few years, we fix reasonably realistic rates for the State for the five year period. Applying these rates of growth, the income of the six sectors may be projected for the last year of the Plan for 1978-83, *i.e.*, 1982-83. These details are furnished in table 4.2 below :

TABLE 4.2
Sectoral Incomes Projected 1978-83

<i>Sector</i>	1976—77	1977—78 <i>estimated</i>	<i>%age of total</i>	<i>Growth rate assumed</i>	<i>Income in 1982-83</i>	<i>%age of total</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Agriculture	61034	62011	35.8	2.0%	68470	32.9
2. Mining & Manufacturing	38374	39602	22.8	4.0%	48160	23.2
3. Electricity	3206	3389	2.0	9.5%	5340	2.6
4. Construction	3991	4195	2.4	8.5%	6313	3.0
5. Transport	9894	10290	5.9	4.0%	12510	6.0
6. Services	52028	53797	31.1	4.5%	67040	32.3
Total	168527	173284	100.0	3.8%	207833	100.0

The figures in Col. 7 of table 4.2 above show that the contribution of agriculture to the State Income declines from 36% in 1977-78 to 33% at the end of the plan period. Mining and manufacturing and transport show a marginal increase; together they account for about 28.7% in 1977-78 and 29.2% in 1982-83. The services sector also indicates an increase from 31.1% to 32.3%. This pattern of development will be in conformity with what may be expected when there is all round

economic progress.

Physical Targets :

4.5 Sectoral income growth implies a corresponding increase in the production of different categories of goods as well as services. The physical targets fixed in respect of some sectors on which much reliance is placed for the attainment of the objectives of the Plan are given in table 4.3 below :

TABLE 4.3
Physical Targets Fixed in the Plan, 1978-83

(1)	1977—78 (2)	Target for 1982—83 (3)	<i>%age increase</i> (4)
I. Agriculture			
(1) Foodgrains in '000' tonnes	8088	9725	20.2
(2) Sugar cane (gur) ,,	1946	2000	2.8
(3) Oil Seeds ,,	1203	1703	41.6
II. Power			
Installed capacity in MW	2424 (1-4-78)	4459 (1-4-83)	84.0
III. Transport			
No. of buses metro and non-metro	5130	5600	9.2
IV. Fisheries			
(i) Marine fisheries output in lakh tonnes	2.35	2.50	6.4
(ii) No. of mechanised fishing boats	2224	3414	53.5
V. Small Industries			
(a) Oil industry power ghannies (number)	600	1900	216.7
(b) Small scale industries-No. of conventional factory sheds	425	825	94.1
(c) Tiny sector-No. of sheds	2100	9100	333.3
(d) Handloom cloth production (million metres)	98	184	87.8
(e) Handloom cloth production for export (million metres)	6	34	466.7

Employment generation :

4.6 Given the objective of increasing employment opportunities, it is helpful to fix targets with regard to this objective to be attained at the end of the Plan, 1982-83.

The population of Tamil Nadu in 1976 as estimated by the Registrar-General, Government of India (451.2 lakhs) has been projected over the next few years. The addition to population in the years 1978-83 is estimated at about 30 lakhs. Assuming that 40% of the population constitute the labour force, the increase in the labour force in the five year period, 1978-83 will be 12 lakhs. The number of unemployed people in Tamil Nadu at the end of March 1978 is estimated at 26 lakhs. Adding to this, the increase in the labour force in the five years period, the total employment that will have to be created will be of the order of 38 lakhs. Part of this will be absorbed in the agricultural sector and the rest in the various other sectors. The total number of persons employed in the agricultural sector according to 1971 Census was 95 lakhs. Assuming an increase of 1% per annum in agricultural employment, the number employed in the agricultural sector during 1977-78 will be 102 lakhs. This sector has already reached the limits of its absorption capacity in the matter of employment. It is therefore reasonable to assume that at best the agricultural sector will provide employment for only an additional 5 lakhs during the 1978-83 Plan years. So far as the non-agricultural sectors are concerned, the additional employment will be generated both directly and indirectly — directly in the various construction works including road construction and irrigation works and indirectly as a result of the expansion of the economy. According to the sectoral programmes of development incorporated in the Plan, the additional employment that will be created both direct and indirect will be of the order of 11 lakhs. This will be the effect of the investment envisaged in the public sector in the 1978-83 plan. It is safe to assume that the expansion of employment opportunities in the private sector will be an equal number. Thus the total employment generation in the plan period will work out to 27 lakhs (5 + 11 + 11) leaving a balance of 11 lakhs. Thus at the end of the Plan period, the level of unemployment in the State will be reduced from 26 to 11 lakhs.

4.7 The number of people getting employment in the different sectors of the economy as a result of the implementation of the State investment programmes, namely 11 lakhs of people, will be distributed in the manner shown in the table 4.4 below.

TABLE 4.4

Sectoral Employment Generation—1978-83

<i>Sector</i>	<i>Employment (persons)</i>
(1)	(2)
1. Agriculture	13,390
2. Animal Husbandry	3,745
3. Dairy Development	2,104
4. Fisheries	35,713
5. Forestry	16,031
6. Community Development & Panchayats	22,000
7. Irrigation	1,13,444
8. Power	14,283
9. Large and Medium Industries	3,00,015
10. Mineral Development	4,250
11. Transport	20,963
12. Education	23,700
13. Health and Family Planning	6,805
14. Water Supply & Sanitation	19,560
15. Town Planning & Urban Development	28,000
16. Small Scale Industries, Khadi and Village Industries & Handlooms	4,08,582
17. Housing	5,344
18. Roads and bridges	72,921
19. Craftsman training and labour welfare	1,828
Total	11,12,678

Eradication of poverty :

4.8 For assessing the magnitude of poverty among the people of the State, poverty level has to be defined in terms of minimum level of consumption. The data relating to the distribution of population according to the monthly per capita consumption expenditure furnished by the National Sample Survey is generally used for determining the level of poverty in a particular year and also the size of population below poverty line.

4.9 Using the norm of Rs. 15 as per capita monthly consumption expenditure at 1960-61 prices necessary for a minimum standard of living in rural areas (*i.e.*, just above poverty line) and Rs. 22.50 in urban areas and with suitable adjustments for price increase since 1960-61, the Director of Statistics of Tamil Nadu has estimated the magnitude of poverty in the State in 1976 as 52.5% of the population below poverty line in rural areas, 55.0% in urban areas and 53.3% for the State as a whole.

4.10 The population of Tamil Nadu for 1976 is estimated at 452 lakhs of which rural population is 310 lakhs and urban 142 lakhs. Thus, in absolute terms, the number of people below poverty line is 165 lakhs in rural areas and 80.2 lakhs in urban areas.

4.11 As in the case of unemployment, the position of Tamil Nadu in the matter of poverty also seems to be worse than the national average.

4.12 The emphasis laid in the present Plan on rural and agricultural development and the implementation of the schemes coming under these heads will contribute appreciably to the eradication of poverty. Schemes which come under community development, village and small industries, fisheries and animal husbandry, roads and bridges and housing are labour-intensive and the benefits of these will substantially accrue to the weaker sections of the population.

4.13 But apart from the priority sectors, the great importance attached to the minimum needs programme will also help to improve the material welfare of the people below poverty line. The schemes of development envisaged under the Minimum Needs Programme have a high construction component and will create substantial additional employment for unskilled labour. However, so far as amelioration of poverty conditions is concerned, the contribution of employment to the reduction of poverty is much less than that of a rise in wage rate. It is seen that for every one rupee increase in the per capita income, the percentage of people below poverty line will decline by only 0.03 per cent. On the other hand, if the wage per person per day is raised by one rupee, the proportion of people below poverty line will fall by 5.36%.

CHAPTER 5

FINANCIAL RESOURCES FOR THE PLAN

5.0 Taking note of the recommendations of the Seventh Finance Commission, we have worked out the financial resources for the Plan 1978-83. With the Central assistance and market borrowings at current year's level, the following table gives in one view the financial position.

	1978-83 (Rs. in crores)
State's own resources	430.40
Resources of the Electricity Board	104.42
Resources of the Transport Corporations	41.54
	<hr/>
	576.36
Additional Resources Mobilisation	163.28
Central assistance at current Year's level	479.50
Total Resources	<hr/>
	1219.14

5.1 It is seen that the resources add upto Rs. 1,219.14 crores leaving a large gap in financing the Plan. It is hoped that the G.O.I., will give liberal Central assistance for the Plan in order to enable the State to implement the Plan. The total market borrowings of the States and Centre has been on the increase appreciably during the past few years. The State would suggest proportionate increase in the market borrowings of the State Governments also. This will give scope for increasing the market borrowing significantly which will go to cover the gap in resources.

A detailed break up of the resource is given in the following table 5.2

TABLE 5.2
Estimate of Resources for the Plan, 1978-83

(1)	<i>Total</i> 1974—78 (2)	<i>Total</i> 1978—83 (3)
(Rs. in Crores)		
I. State's Own Resources :		
Balance from current revenues	*134.81	66.86
Miscellaneous capital receipts	-71.23	24.11
Total — I	63.58	90.97
(*Includes Additional Mobilisation Rs. 186.22 crores)		
II. State's borrowings		
Share of Small Savings (Gross)	67.51	65.90
P.F. (Net)	74.13	146.68
Total — II	30.29	56.15
	171.93	268.73
III. Support from Institutions :		
L.I.C. (Housing)	5.36	8.43
R.B.I.	9.33	10.09
L.I.C. (Water Supply)	18.58	36.63
Market borrowings (TIDCO, Housing Board, MMC)	13.20	16.50
Total — III	46.47	71.65
IV. T.N.E.B. :		
Own Resources	90.19	-46.42
Market borrowings (Net)	47.71	93.55
L.I.C. (Gross)	24.01	42.85
Rural Electrification Corporation (Gross)	12.77	14.44
Total — IV	174.68	104.42

(1)	Total 1974—78 (2)	Total 1978—83 (3)
	(Rs. in Crores)	
V. Transport Corporations :		
Own Resources	17.38	41.54
VI. Drawings on cash balance (Net)	24.22	(—)0.95
VII. Total of (I—VI)	498.26	576.36
VIII. Anticipated assistance of the Government of India	333.31	479.50
IX. Total of (VII + VIII)	831.57	1055.86
X. Additional Resource Mobilisation (1978-79 measures)		
State	..	84.28
T.N.E.B.	..	79.00
XI. Total	831.57	1219.14
XII. Plan Outlay	..	2523.12
Gap	..	1303.98

PART II—SECTORAL PLANS

A. PRIMARY SECTOR

CHAPTER 6

AGRICULTURE AND MINOR IRRIGATION

6.0 Agriculture is the dominating 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 in Tamil Nadu. In 1975-76 the primary sector (agriculture and allied activities) accounted for 39.24% of the State income. According to the 1971 Census 69.7% of the population lives in rural areas and 61.7% of the total working force are engaged in agriculture (cultivators and agricultural labourers put together).

Progress made in the past few years :

(a) 1960-61 to 1973-74 :

6.1 In the matter of agricultural development, the objective has all along been to make this sector contribute its most to the general economic progress of the State. Steps taken to ensure proper utilization of land, increased use of chemical fertilisers, expansion of irrigation facilities, the introduction of high yielding variety seeds and perhaps most important of all, the welcome response of the farmers to modernisation of agriculture, all these have resulted in substantial increase in agricultural production in Tamil Nadu. The gross cropped area in the State increased from 73 lakh hectares in 1960-61 to 77 lakh hectares in 1973-74. Nearly 45% of this area is irrigated. Food-grains production reached a peak level of 73 lakh tonnes in 1973-74 as against 54 lakh tonnes in 1960-61. Production of rice alone recorded an increase of nearly 20 lakhs tonnes from 36 lakh tonnes in 1960-61 to 56 lakh tonnes in 1973-74. In the same period, productivity of rice rose from 1413 kgs. per hectare to 2057 kgs. Production of groundnut and sugarcane also increased considerably.

(b) Fifth Plan period —first four years —1974-75—1977-78 :

6.2 The major objective of the Fifth Plan was to consolidate the gains of previous plans and to achieve higher productivity in crops through a

strategy of multiple cropping and expansion of the area under high yielding varieties in cereals, millets and other commercial crops. The agricultural development programmes aimed at providing a balanced diet to the growing population, ensuring adequate supply of raw materials to industry like sugar, sago, textile, etc., and providing additional employment to the people in rural areas. The plan aimed at an overall increase of 24 per cent in agricultural production with a higher percentage increase in respect of crops other than rice.

6.3 A total outlay of Rs. 66.70 crores was envisaged on development programmes including minor irrigation, soil conservation and area development. For agricultural development programmes alone an outlay of Rs. 25.98 crores was provided. The plan fixed a target of 90 lakh tonnes of foodgrains production as against the actual of 72.98 lakh tonnes in the year 1973-74. The target for rice production was fixed at 67 lakh tonnes — an increase of about 12 lakh tonnes from a base level of 55.58 lakh tonnes in 1973-74.

6.4 The State's effort to boost up agricultural production suffered a severe setback even in the first year of the plan. The next three years were in no way better and presented a series of challenges to the farmers and agricultural extension workers in the State.

6.5 Rainfall during the North-east monsoon season in 1974-75, the first year of the plan, was a meagre 177.5 mm as against the normal level 444.7 mm. In fact, the State had not faced such a situation in the preceding one hundred years. The delay in the onset of the South-west monsoon and its uneven distribution made the situation worse and the State had to face widespread drought conditions. The area under foodgrains in 1974-75 declined to 44.04 lakh hectares as against 50.65 lakh hectares in the previous year and the food-grains production fell sharply from 73 lakh tonnes to 48 lakh tonnes in the same period.

6.6 Thanks to timely rains the agricultural sector recovered from the ravages of drought, and foodgrains production improved in 1975-76. This prosperity however was very shortlived. The year 1976-77 started with a promising note but later developments proved to be quite adverse. The failure of the south-west monsoon and the subsequent erratic conditions affected paddy cultivation over a wide area. The poor storage in the reservoirs and the delayed release of water, had a serious deleterious effect on agricultural operations. To prevent further deterioration, the extension staff encouraged the farmers to adopt alternate cropping patterns in the river-valley areas. For the first time, the department advocated, broadcasting of paddy in the new delta areas in Thanjavur district and raising of millet crops in areas which otherwise would have remained fallow.

6.7 The State had to face the fury of nature again in the year 1977-78. While the crops withered for want of water in 1974-75, it was abundance or too much of water that caused severe damage to the farm sector in 1977-78. Practically the entire southern districts with the exception of Tirunelveli and Kanyakumari were affected by the severe cyclonic storm that hit the State in November 1977 leaving behind a trail of misery. In terms of production, the loss has been estimated at two lakh tonnes of paddy and one lakh tonnes of other crops. Furthermore, the cyclone caused irreparable damage to the life and property of a vast section of the farming community.

6.8 The table below shows the achievements in the Fifth Plan period.

TABLE 6.1
Crop Production : Achievements and / Targets : 1973-78

Sl. No.	Item	Unit	Production	
			1973-74	1977-78
(1)	(2)	(3)	(4)	(5)
1.	Foodgrains			
	(a) Cereals	'000 tonnes'	7094	7891
	(b) Pulses	Do.	205	197
2.	Sugarcane in terms of gur	Do.	1760	1946
3.	Oil seeds major (Total)	Do.	1307	1203
	(a) Groundnut	Do.	1199	1018
	(b) Gingelly	Do.	31	39
	(c) Others	Do.	77	146
4.	Cotton	(1,000 bales of 170 kgs each)	448	404

6.9 The physical targets set for the final year of the Fifth Plan, as originally contemplated, were sought to be achieved mostly by (a) introducing high yielding varieties (b) increased use of

fertilisers (c) extension of cropped areas (d) soil and water conservation and minor irrigation and (e) plant protection measures. The details are given in the following table :—

TABLE 6.2

Selected programmes—achievements in the years : 1973-74 and 1977-78

Sl. No.	Item	Unit	Achievement	
			1973—74	1977—78
(1)	(2)	(3)	(4)	(5)
1.	High yielding varieties : Foodgrains—paddy, wheat, maize, jowar, bajra	'000' hectares	2333	2641
2.	Consumption of chemical fertilisers (nutrients)	Do.	337	462
3.	Increase in gross cropped area	Do.	7649	7147
4.	Soil & water conservation of agricultural lands	Do.	46	34
5.	Minor irrigation	Do.	71	119
6.	Plant protection (technical grade material)	Tonnes	3547	5328

It may be seen from Table 6.1 that though between the years 1973-74 and 1977-78 there was an appreciable increase in cereals production and also in sugarcane, there is a noticeable fall under pulses, oilseeds and cotton. A reference to Table 6.2 would show that the increase in the production of foodgrains must largely have been due to the popularisation of high yielding varieties and the step up in the consumption of chemical fertilisers. The effect of adverse seasonal conditions is seen in the decline in the additions made to cropped area. Obviously, much reliance had to be placed on minor irrigation which is reflected in the increase in area covered.

Position at the end of the Fifth Plan and targets**for the Sixth Plan :**

6.10 The Medium Term Plan, 1978-83 of the State aims at further stepping up agricultural production on a selective basis. Increased production can be brought about either by increasing the area under cultivation or by increasing yield per hectare or by a combination of both. It is observed that the production of rice has very nearly reached, the desirable upper limit and hence the emphasis may be shifted to commercial crops and also to some extent to a few food crops other than rice. The following table gives an idea of the extent of increase envisaged under the different items of crops and also the means by which this end is to be attained.

TABLE 6.3

Crop Production 1977-78, 1982-83

Area : '000' hectares
Production : '000' tonnes
Yield : Kgs./hectare

Sl. No.	Item	Achievement 1977-78			Targets 1982-83		
		Area	Yield	Production	Area	Yield	Production
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	(a) Rice	2670	2210	5901	2700	2520	6800
	(b) Maize	20	1100	22	40	1250	50

TABLE 6.3 (Contd.)

Sl. No.	Item	Achievement 1977-78			Targets 1982-83		
		Area	Yield	Production	Area	Yield	Production
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(c) Jowar	768	923	718	800	1250	1000
	(d) Bajra	434	942	409	450	1110	500
	(e) Other cereals	747	1126	841	700	1290	900
	(f) Pulses	590	334	197	1383	344	475
	Total foodgrains	5229	854	8088	6073	865	9725
2.	Sugarcane (gur)	164	11000	1946	165	12120	2000
3.	Oilseeds						
	(a) Groundnut	972	1047	1018	1150	1280	1472
	(b) Gingelly	124	314	39	150	500	75
	(c) Castor	11	393	4	14	420	6
	(d) Sunflower	175	811	142	175	857	150
	Total	1282	933	1203	1489	1144	1703
4.	Cotton	253	255	404	320	270	500
5.	Tobacco	21	1457	31	23	1520	35
6.	Coconut	110	8900	98	140	10000	140
			nuts	crores of nuts		nuts	crores of nuts

It is seen from the Table that the production of rice is expected to increase from 5901,000 tonnes to 6800,000 tonnes. The area under cultivation of rice is expected to increase marginally, which means that the improvement in the production expected will be due mostly to productivity per hectare. On the other hand, in the case of pulses, the production would more than double and this increase will be due almost entirely to the considerable expansion in the area under cultivation. As regards oil seeds, in the case of groundnut the increase in production from 1018,000 to 1472,000 tonnes will be effected by increase in area under cultivation from 972,000 hectares to 1150,000

hectares. But apart from increase in acreage, the yield per hectare has also to go up from 1047 kgs/hectare to 1280 kgs/hectare. Similar increase in productivity is envisaged in the case of gingelly and castor. The output of cotton will go up by about 80% (from 404,000 to 500,000 tonnes) and this increase will be largely due to the increase in the area under cultivation.

6.11 In the aggregate, the increase in production which will be achieved in respect of the different crops will, in value terms, amount to Rs. 437.16 crores. The details are shown in the Table below :

TABLE 6.4

Crop	Additional production anticipated (in lakh tonnes)	Value of additional production (Rupees in Crores)	
		(1)	(2)
Rice	8.99	143.84	(at Rs. 1,600/tonne)
Millets	4.60	50.60	(at Rs. 1,100/tonne)
Pulses	2.78	83.40	(at Rs. 3,000/tonne)
Groundnut	4.54	90.80	(at Rs. 2,000/tonne)
Gingelly	0.36	12.60	(at Rs. 3,500/tonne)
Castor	0.02	0.40	(at Rs. 2,000/tonne)
Sunflower	0.08	1.20	(at Rs. 1,500/tonne)
Cotton	0.96	11.52	(at Rs. 1,200/bale of lint)
Sugarcane (Gur)	0.54	8.10	(at Rs. 1,500/MT)
Fruits	3.02	30.00	(at Rs. 1,000/tonne)
Vegetables	0.47	4.70	(At Rs. 1,000/tonne)
		437.16	

A critical review of the position

6.12 While in the case of particular crops, the growth in output in recent years has been appreciable, yet considering the agricultural sector as a whole, the performance is modest, if not unimpressive. Since 1970-71, the annual rate of growth of State income was 2.8% but that of income from the agricultural sector was 0.6% only. The share of agricultural income to total income has also remained more or less constant at 35 to 37%. It is also worth noting that while the Government outlay on agriculture between 1960-61 and 1975-76

increased by more than seven times, the income from agriculture increased only by about three times. This is shown below :

TABLE 6.5

Growth of State income compared with outlay on agriculture

(Rs. in Crores)

Year	Total outlay on agriculture	State income from agriculture (at current prices)
(1)	(2)	(3)
1960—61	3.62	496
1965—66	13.52	539
1969—70	20.09	720
1970—71	19.10	883
1971—72	22.27	1071
1972—73	22.81	1094
1973—74	22.90	1531
1974—75	24.71	1694
1975—76	26.31	1444

Slow growth is the combined effect of a series of factors which reflect the level of performance of the agricultural sector. These are mentioned below seriatim.

6.13 The net and gross area sown has remained static throughout the period subsequent to 1961-62. This is in spite of sizeable 'culturable waste' land brought under the plough. In 1961-62 the net and gross area sown were 60.2 lakh hectares and 72.7 lakh hectares respectively. The corresponding figures for 1976-77 were 60.1 lakh hectares and 71.5 lakh hectares.

6.14 Another distressing feature is the rise in the extent of 'current fallow' in the last few years. While between 1961-62 and 1976-77, the area categorised as 'culturable waste' decreased from 6.9 lakh hectares to 3.8 lakh hectares, the area under current fallows increased from 9.7 lakh hectares to 14.1 lakh hectares. The chances of increasing the net area sown seem to be bleak due to increasing urbanisation and industrialisation.

6.15 The net and gross area irrigated has also remained static. In view of the poor ground water position, non-availability of electricity for energising the motors, and unpredictable monsoons, the scope for increasing the net area irrigated is also very limited. Of the 50 lakh holdings about 18 lakh holdings are wholly irrigated and more than 16 lakh holdings are completely unirrigated, while the rest of the area is partly irrigated. In 1961-62, the net area irrigated was 25.0 lakh hectares and gross area irrigated was 32.1 lakh hectares. The figures for 1976-77 are 23.3 lakh hectares and 30.0 lakh hectares respectively.

6.16 Cropping intensity has also remained more or less the same. The cropping intensity in irrigated area in 1961-62 was 128%. It increased to 136% in 1973-74 but came down to 129% in 1976-77. It has varied from year to year from the low of 128% to the high of 136%.

6.17 The cropping pattern continues to be almost static, with very little shift from food crops to commercial crops. Food crops accounted for 75.7% of the gross area sown in 1961-62 and non-food crops 24.3%. In 1976-77 the first increased to 77% and the latter came down to 23%. Among the cereals, the area under millets viz., cholam, cumbu and ragi shows a decreasing trend. There is an increase in the area under pulses, sugarcane and groundnut while that under cotton is decreasing.

6.18 There has been an increase in the consumption of important nutrients-nitrogen, phosphorus and potash. The increase is mostly due to the larger availability of the materials and the expansion of rural credit for crop production. Even so, the actual average consumption of fertilisers per hectare is well below the requirement indicated by experts. Thus the required amount of nitrogen is 65.3 kgs/hectare, while the actual average consumption is only 27.2 kgs/hectare. Further, even the relatively small increase in the quantity of fertilisers used by the farmers cannot be said to have yielded the best results in so far as the majority of the farmers using them would not have applied the required amount of nutrients at the right time to the crops. Hence, it is essential to formulate schemes to educate the farmers about the importance of applying optimum recommended dose of nutrients for getting the best results.

6.19 The number of small and marginal holdings is increasing. At present about 80% of the holdings are less than 1.3 hectares in size. With increase in population the per capita cultivable area which was about 0.29 hectares as per 1971 Census is getting reduced further. The percentage of small and marginal farmers remains quite high. 79% of the agricultural holdings are less than 2 hectares in extent. The number of agricultural labourers has increased from 28.28 lakhs in 1961 to 44.90 lakhs in 1971*i.e.*, an increase of 60% in ten years.

6.20 Eventhough there is an increase in outlay in absolute terms on Agriculture in the Five Year Plans, yet as a percentage of the total plan outlay, the allocation for agriculture has been decreasing. In the First Plan 10.4% of the total plan outlay was on Agriculture development, in the Second Plan 2.9%, Third Plan 4.4%, Fourth Plan 5.6% and in the Fifth Plan 3.7%.

Approach to the Five Year Plan 1978-83 :

6.21 Keeping in view the problems confronting the agricultural sector, the objectives of the VI Plan are drawn up. The programmes based on the objectives outlined below aim at checking the adverse trends in certain areas of the agricultural sector. This in turn would facilitate increased production and lead to optimum utilisation of the natural resources. The programmes would cover :

(a) Better land and water use :

6.22 Stress is laid on better land management and water management and on increasing the intensity of cultivation. In the past seventeen years Rs. 238.30 crores have been spent on the building up of additional irrigation assets. The first thing to do in this connection is to examine whether optimal use has been made of these facilities and find out the causes for any under utilization or uneconomic utilization. For this purpose, the setting up of a high power committee with Chief Engineer (Irrigation) as the Chairman and four members drawn from the department^s of Agriculture, Revenue and representatives of farmers is suggested.

6.23 Much depends upon the efficiency of the irrigation system and on water storage and conveyance and the selection of the appropriate cropping

pattern suited to the water supply situation. Afforestation in the catchment areas in the Western ghats as well as in the hills and hillocks of the plains will help better precipitation and prevent silting of the storage systems. Continuous improvements to the conveyance system to prevent transmission losses and better systems of water control in the main canals are essential. The present system of maintenance of canals and minor irrigation sources needs to be critically examined at the grassroots level. Possibilities of sinking community wells for augmenting flow irrigation will have to be explored in each area. Better planning for conjunctive use of surface and sub-surface water will have to be done at the command area level. In a State like Tamil Nadu where possibilities of tapping major water resources are practically non-existent, great attention will have to be bestowed on planning and development of micro water sheds in the existing command areas.

6.24 If these proposals are to be carried out effectively, a thorough and drastic change in our style of planning and execution of water management is necessary. Of primary importance is the adoption of methods by which the local people and the field functionaries can be made to get involved in the planning and execution of water management projects. Command area development is a well-conceived idea but the machinery by which it is made operative needs streamlining.

6.25 As stated earlier, despite the extension of irrigation facilities, cropping intensity has remained more or less static. Better water management and land use necessarily leads to more intensive use of land. But apart from this, there is scope for raising the degree of cropping intensity, by better utilization of dry lands with the help of modern technology. It would be possible to bring a large number of the rural population above povertyline if proper attention is given to dry farming and to the setting up of village industries in the upland areas. At present there are two obstacles in the way of such a programme. One is the risk involved in seasonal failures and the other is the inadequacy of capital for investment. However, introduction of measures like crop insurance, provision of more adequate credit facilities, larger Government assistance for works like land shaping, gully ploughing, formation of

percolation ponds, sinking of wells etc., and policy measures like waiver of agricultural income tax on dry areas will induce the farmers to take to the new technologies. It is worthwhile to make an effort to find out the various possible methods by which Government may give assistance to the farmers with a view to achieve higher intensity of cropping in the dry areas of the State.

(b) The problem of increase in the extent of fallow land :

6.26 Steps should be taken to arrest this trend. Ten to eleven lakh hectares of cultivable lands remain fallow every year. The reasons for this unwelcome trend have to be analysed. About 17.70 lakh hectares are classified as forest lands in the plains and 3.85 lakh hectares are classified as 'poramboke' lands. All these lands can be put to better use by first studying the 'land capability' and then formulating and implementing suitable land use programmes.

There is great scope for raising orchards on a large scale interspersed with fodder trees, shrubs and grasses in all these areas. With better planning and greater care, these fallow lands can be converted into use at no great cost. Establishment of 'land and water use Boards' at the State and district levels with powers to formulate, execute and evaluate plans will largely help in bringing about the desirable changes in land and water use in the State.

(c) Shifting the cropping pattern :

6.27 Thanks to the efforts made in the earlier plan periods, the State has now become self-sufficient in the matter of foodgrains. It is proper at this stage, to shift the emphasis from basic food crops to protective food items like pulses, fruits and vegetables and also to non-food crops or commercial crops. It is seen that in the last 20 years the proportion of land devoted to food crops and commercial crops has remained static around the ratio 3 : 1. To bring about the desired change, the following measures are suggested (a) water regulation either through executive action or legislation in the command areas with the objective of reducing the area under paddy cultivation if the nature of the soil is suitable for commercial crops. To start with, pilot projects can be started in the Coimbatore and Ramanathapuram districts. (b) Fixation of suitable prices

for the different agricultural commodities in a discriminating manner so as to dissuade the farmers from cultivating particular crops, or to encourage them to grow more of the desired items. (c) Establishment of processing industries which would create demand for certain raw materials required in the industry and thereby induce crop pattern changes. (d) Provide the necessary marketing facilities, storage, distribution etc.

A competent body of experts may examine this issue in detail.

(d) Need for improving productivity:

6.28 Farmers are to be trained in the better use of agricultural inputs. Small farming and dry farming are to be made remunerative through increased coverage of improved production techniques. High cost agricultural inputs like fertilisers and pesticides have already been brought under the Essential Commodities Act. Possibilities of reducing their cost and replacing high cost inputs by low cost substitutes must be continuously explored. Apart from lowering the price of inputs, it is important to ensure the supply of seeds, fertilisers and pesticides to the farmer in time and also keep up the quality of these materials. Although credit facilities to the farmers have been expanding, yet there is the frequent complaint that this assistance does not reach the farmer at the time of his need. These problems are interlinked and therefore have to be tackled together. Formation of Farmers Service Societies with responsibilities for area development, and for the marketing of agricultural inputs and outputs and provision of credit is an ideal means of getting over these difficulties.

6.29 In this connection it is relevant to point out the importance of research. We have established a sound research base in the State by the formation of a chain of research centres under the Agricultural University and the Department of Agriculture. The activities of these centres have to be modified to suit the future requirements. Up till now attention was focussed on the evolving of better crop varieties and ideal crop management techniques without reference to resource availability. With the emergence of new problems, it has become necessary to concentrate on other areas of research such as land and water management, better exploitation of the

available potentialities and the evolving of an improved system of conveyance and distribution of water. It is equally important to work out methods of narrowing the gap between research on the one hand and extension work and the farmer on the other. This calls for a restructuring of the research organisation.

(e) Marketing of agricultural produce :

6.30 Market prices of agricultural inputs and outputs have a tremendous influence on crop productivity, cropping intensity and employment potential of the farm sector. Farming in Tamil Nadu is gradually ceasing to be a way of life and getting oriented to a market economy. Commercialization of agriculture necessitates the creation of an infrastructure that will be congenial to the transformation. One of the major requirements is to ensure a stable price for the farmers' output. The farmers would shift to new crops such as soya bean, jute, sunflower etc., only if they are assured of a guaranteed minimum or floor price for their produce and a predetermined price for the inputs which they use. But this floor price should be a realistic one and should be fixed and announced in advance of the agricultural seasons. Also, an agency or organisational set up should be devised which would be responsible for procuring the products offered by the farmers. The feasibility of setting up an Agricultural Prices Commission at the State level and a Corporation for purchasing major agricultural commodities has to be examined.

6.31 Exploitation of farmers by middlemen has been a traditional evil in the country and in the State. This problem has to be solved by establishing a much larger number of market yards for agricultural commodities, provision of storage facilities in these yards and also by making arrangements for advancing to the farmers money on the security of goods stored in the warehouses of the market commodities. Suitable amendments to the existing Acts and Rules of market committees will have to be made early. Besides, a chain of Co-operative Market Societies will have to be formed on the model of the IGNDP Vegetable Market Society to benefit the vegetable and fruit growers.

6.32 A link up of the small industries in the villages with the farming community will be a

desirable development from the point of view of both the small industrialist and the farmer. The industrial units may provide credit, inputs and technological know-how to the farmers while the latter supply the raw materials needed in the small industries. The industries will be assured of a stable supply of the raw materials while the farmers will be assured of a market for their produce at a predetermined price. The possibilities of linking up major oil mills, rice mills and cotton mills with the farm sector have to be explored.

Programmes and Financial Allocations in the Plan 1978-83 :

6.33 The development programmes included in the VI Plan and the financial outlays under each head are shown in the following table. Leaving out the expenditure on spill over schemes which account for Rs. 3.14 crores, the balance Rs. 202.59 crores of the total outlay is divided into (a) existing schemes and (b) new schemes. The existing scheme in turn are split into schemes as originally contemplated on the one hand and existing schemes as

expanded on the other. Outlay on new schemes is divided into capital expenditure and revenue expenditure.

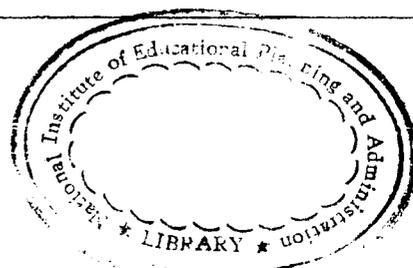
Of the total outlay of Rs. 205.69 crores 55% (Rs. 112.14 crores) is on new schemes and 45% on existing schemes (Rs. 93.55 crores).

However, the share of outlay as between new or existing schemes differs among the different heads. Of the total envisaged outlay on new schemes, the major part *i.e.*, about 70% is taken up by Minor Irrigation, (under the Public Works Department and the Agriculture Department), Tamil Nadu Agricultural University and Agricultural Marketing. As against this, the bulk of the existing schemes comes under land utilisation and purchase and distribution of seeds. Of the total outlay on all the heads both existing and new, seven items — Land utilisation, Crop Production, Seeds, Minor Irrigation, Agricultural University and Agricultural Marketing — take up 87%, Minor Irrigation alone accounting for 23%.

TABLE 6.6
Distribution of outlay under Agriculture—1978-83

Sl. No.	Name of the Scheme	Spillover	Existing	Strengthening	New Schemes		Total
					Capital	Revenue	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Land utilisation	123.90	660.70	2542.50	314.20	1568.91	5089.81
2.	Crop Production	20.84	1360.06	185.90	50.00	699.36	2436.16
3.	Seeds Production	114.50	1906.35	499.00	..	..	2469.85
4.	Manures and Fertilisers	..	70.00	15.25	12.00	101.17	198.42
5.	Plant Protection	..	1219.70	..	2.60	344.10	1566.40
6.	Research and Education	11.70	76.95	257.98	140.40	364.69	851.72
7.	Mechanisation	..	72.80	..	15.00	9.00	92.80
8.	Minor Irrigation :						
	(a) Agricultural Department	43.15	223.65	..	1.75	2533.95	2602.50
	(b) Public Works Department						
	(including Ground Water Survey Rs. 430 lakhs)	..	..	..	2170.00	..	2170.00
9.	Tamil Nadu Agricultural University	..	..	..	..	1500.00	1500.00
10.	Agricultural Marketing	..	..	..	1000.00	541.02	1541.02
11.	Agro Industries	50.00	..	50.00
TOTAL		313.69	5590.21	3450.63	3755.95	7498.20	20568.68

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Programme under the Plan 1978-83 :

6.34 Land Utilisation : Some of the more important projects under Land Utilisation are the following :

(a) Conservation and reclamation :

(i) **Soil Conservation :** The purpose of this project is to protect land from the hazards of soil erosion caused by wind and water. The slopy, dry cultivated lands of the State are susceptible to soil erosion. An area of 7.39 lakh hectares of land has been protected by means of soil conservation measures (including the programme for 1977-78). It is proposed under the VI Plan to protect one lakh hectare per year doubling the present programme.

(ii) **Ravine reclamation schemes:** Productive land is turned into ravine land due to the neglect of water shed management and becomes unfit for cultivation. At present, the total area affected in this manner is 9900 hectares and this is observed to increase year after year due to continued mismanagement of water shed. The area so far reclaimed is 1200 hectares ; an area of 500 hectares is proposed to be treated and reclaimed every year. The total area to be covered in the VI Plan is 2500 acres.

(iii) **Reclamation of problem soils :** The purpose is to reclaim the problem soils like alkaline, saline and acedic soil and make them more productive. 10,000 acres will be covered every year during the plan period. It is programmed to supply right type of soil amendment after conducting soil tests. The soil amendment will be distributed at 50% subsidised cost.

(b) Better utilisation of land :

(i) A substantial extent of cultivable area in the State is either not utilised or under utilised or badly utilised. Net area sown is almost static around 60 lakh hectares. Cultural waste, pastures and grazing lands, land used for trees and grooves, other fallows, barren and uncultivable land together account for 20 lakh hectares now. In addition nearly 10 lakh hectares remain unused every year as current fallows. After identifying the additional areas suitable for cultivation, suitable measures will have to be taken to bring such areas into use.

(ii) Dry land development on water shed basis :

In order to increase production and employment potential in the dry land areas through better land and water use and judicious exploitation of community assets, the Department proposes to take up in each district a water shed area of about 2,000 hectares of dry land for development on an integrated basis.

(c) Command area development :

The primary object of this scheme is efficient use of cultivable land and water in the command areas. The area commanded by a group of 5-8 tanks interlinked and extending over about 2,000 hectares will be taken up as a unit for development. Suitable steps to overcome the problems faced by the community and individual farmers will be taken to achieve the objectives.

About 75% of the irrigated holdings in the State are less than 1.5 acres each in size. Hence, about 3,000 to 4,000 holdings may have to be tackled in each command area of 2,000 hectares. The acreage cropping intensity for the irrigated area is now 130%. Assuming that the development programme would increase the cropping intensity by 20%, the gross area sown will increase by 400 hectares. If the average income is Rs. 1,000 per hectare, then 400 hectares will increase the income by Rs. 4 lakhs per year. Further, if better management will increase income by Rs. 250 per hectare, the gross area sown will account for an additional income of Rs. 6.5 lakhs in each command area. Thus an additional income of Rs. 126 lakhs can be expected from all the 12 centres per year, apart from an increase in employment upto 20%.

(d) Other Schemes :

(i) Village prosperity through agricultural development :

This project aims at increasing rural income and employment in 374 selected villages in the State through better farming and exploitation of the available resources and technology to serve as models to other villages. Under this scheme, each village will be taken up as a unit of planning and encouraged not only to make maximum use of the available community assets but also to develop new assets for the betterment of the community. The village selected will have both wet and dry

lands covering about 400 hectares. A "Farmers Service Society" will be formed in each village to attend to this work. The Plan for the village will have the following strategies — better land and water use, fertility improvement, mixed cropping, increasing cropping intensity, better utilisation of community assets, improvement of the existing community assets and development of new assets and improving farmers competence.

(ii) In addition to the foregoing projects, it is also proposed to construct 250 cement thrashing floors in Thanjavur district. The cost is estimated at Rs. 25 lakhs. This will benefit the farmers by saving the produce from damage due to rains. Under construction should also be included building programmes involving a cost of Rs.150.00 lakhs in the VI Plan period.

Crop Production :

6.35 Of the total allotment of Rs. 25.6 crores under this head more than Rs. 15 crores will be on existing schemes including the strengthening of existing schemes and about Rs. 10 crores on new schemes. The most important projects under this head are :

(a) Popularising the growing of better quality of coconut trees in the State :

The scheme would involve supply of quality coconut seedlings and rejuvenation of existing coconut trees in urban areas. The purpose is to make the State self sufficient in its requirement of coconut for edible purpose in some selected cities.

(b) Pilot project for pulses development :

The objective of this project is to demonstrate the production potential of pulses for a five year term in compact blocks in Coimbatore and North Arcot districts covering 20,000 hectares in each district. The present production in these areas is 300 kilogram per hectare. Future production as a result of the five year programme will be 600 kilogram per hectare. This will be achieved by raising the crops under protective irrigation and through adoption of better techniques of cultivation.

(c) Introduction of Soya beans :

At present the production of Soya beans which is a protein rich food is tried only in research

centres. But in these centres it has proved its worth and the present proposal is to extend the cultivation of this crop and popularise it among the farmers. The method to be adopted is to demonstrate the growing of Soya beans in 150 farms of one acre each. Since this is a new crop it is proposed to grant a subsidy of Rs. 500 per acre to the farmers to help them in meeting the costs of cultivation.

(d) Groundnut production :

Special efforts will be made to increase the production of groundnut ; One project relates to the extension of area under irrigated groundnut. The idea is to increase the production of groundnut by 3 lakh tonnes. The present area under irrigated groundnut is 2.05 lakh hectares with an average production of 3 lakh metric tonnes per hectare. Potential centres in the district of Chingleput, Coimbatore, Madurai and Tanjore will be selected for bringing more area under groundnut. It is proposed to increase the productivity of groundnut from 1125 kilograms to 1245 kilograms per hectare. The methods to be adopted are popularising the use of optimum dose of fertilizers, use of micro nutrients, gypsum and adoption of plant protection measures.

(e) Cotton : Extension of cotton area in Tanjore Rice Fallows :

Though there is scope for raising cotton in about 2 lakh acres in Tanjore district, at present only about 9000 acres are under Cotton. The variety used is the short duration MCU 7 specially evolved for this tract. It is proposed to set up a Cotton Corporation for the State with the object of relieving the cotton growers from resorting to distress sale of cotton kapas. Formation of a Cotton Corporation in Tamil Nadu will enable the procurement of cotton in the centres where the Cotton Corporation of India is not functioning. It will be necessary to procure about 1 lakh bales out of the total production of 4 lakh bales in order to stabilising prices effectively.

(f) Encouragement of fruits and vegetables growing :

This scheme envisages the establishment of orchards in compact areas over a period of five years. The scheme will be implemented in 2000 acres in each district excepting Kanyakumari and Nilgiris. The areas will be selected and suitable

ruit-bearing plants and trees will be introduced. The cultivators will be supplied with pedigree plant materials at nominal rates. Loans will be arranged through Commercial banks and technical know-how will be imparted through departmental staff. Another project is to develop vegetable production in belt areas of the municipalities in the State. 20 urban centres will be taken up during the Sixth Plan period for intensive vegetable production in Kitchen Gardens.

Seeds :

6.36 The objective of certified seed production is to make available sufficient quantity of certified seeds at reasonable cost and in time to the farmers. The emphasis will be more on quality rather than on quantity. At present, the department distributes seeds to farmers to cover 7% of the cropped area under paddy and jowar, 15% of cropped area under ragi and 30% of cropped area under hybrid millets and hybrid maize. The sources of production are : State Seed Farms, Seed Centres and co-operative and private growers. The State Seed Farms are mainly concentrating on the production of paddy, millets and hybrid millet seeds. The project to be implemented in the Sixth Plan envisages the opening of five new State Seed Farms of 1,000 acres and improve the facilities now available for the adoption of water management practices in garden lands, land shaping in dry lands improvement of the irrigation facilities either by tapping ground water or by river pumping schemes wherever it is feasible and also providing improved machinery to raise the level of efficiency and reduce expenditure on certified seed production.

Allied to this scheme is the one to produce the following foundation seeds every year during the Sixth Plan period for production of certified seeds :

Items (1)	(Quantity in MT)	
	1978—79 (2)	1982—83 (3)
Paddy	300	300
Jowar	10	30
Ragi	1	1
Jowar HY	18	20
Bajra HY	2.5	3.5
Maize HY	20	24

The Department of Agriculture is the sole producer of foundation seeds to cater to the needs of the department as well as private producers. Foundation seeds are produced in select State Seed Farms only wherever potentialities exist and risk is minimum.

Production of foundation seeds of paddy, millets, hybrid millets, hybrid maize and, to some extent, cotton and pulses alone were taken up during the Fifth Plan. This will be extended to the other crops in the Sixth Plan period. In order to ensure better performance, it is proposed to set up a Directorate of Seed Certification. The aim is to ensure strict quality control on seed production in the State.

Manures and fertilisers :

6.37 Among the important programmes under this head are :—

(a) Fertiliser Promotion Programme :

Though utilisation of fertiliser has become popular with the farmers, yet the optimum utilisation of fertilisers under varying agronomic conditions is still to be realised. Utilisation of fertilisers in rainfed areas is relatively low. The objective of this scheme in the Sixth Plan period will be to devote special attention to these areas and increase the consumption of fertilisers. The consumption of fertilisers in 1977 is expected to be the highest so far (4.1 lakh tonnes). The implementation of this scheme will increase the consumption to 6.0 lakh tonnes by the end of the Sixth Plan.

(b) Scheme for popularising the use of zinc sulphate as fertiliser to increase production :

For this purpose large scale demonstrations in not less than 10 acres will be made to convince the farmers of the efficacy of zinc sulphate application. One such demonstration in each block will be held every year. This has to be repeated for two or three years to cover a sufficiently large number of farmers. Subsidy on an acre basis will be provided to the farmers to cover the extra expenses on zinc sulphate and other labour expenses.

(c) Scheme for the multiplication and use of blue green algae :

The proposed programme envisages popularisation of this bio-fertiliser by two methods. One is preparation and maintenance of an algae bank to multiply and supply the algae for field application. Second to lay out large scale demonstration with algae application to supply 25 kg. N/ha.

(d) Pilot project on the recycling of natural resources:

The purpose is to determine the feasibility and work out methods for efficient recycling of natural resources for improving rural economy. Cattle dung is used as manure for the crops. It is possible to get full manurial value and use it profitably. For this purpose two pilot projects would be established one at Kovilpatti and another at Cuddalore.

(e) Central Control Laboratory : In order to improve the quality of work in the Chemistry laboratories, a scheme is proposed for the establishment of a Central Control Laboratory. The laboratory at the Agricultural Experiment Institute at Kudimiyamalai will be upgraded as a Central Control Laboratory.

6.38 Plant Protection :

(a) Strengthening of plant protection service in Tamil Nadu :

It is proposed to supply adequate number of plant protection equipments in time to the farmers. Because of the capital cost involved, individual farmers may not be in a position to own their own equipments. As such, it is necessary for the department to stock sufficient number of equipments. The Department is having about 7,000 power sprayers out of which about 1,000 units become unserviceable every year due to normal wear and tear. Annual replacement of the units is essential. The Department will purchase 1,000 power sprayers every year to meet the demand. Also, farmers and other agencies will be encouraged to own their own equipment.

(b) Programme for Pest and Disease surveillance:

The proposal under this scheme is to collect information on the population dynamics of pests and information level of crop pathogen to forewarn the Extension agency of the department and the farmers to minimise the loss by need

based timely plant protection and to build up a calendar of crop pests and diseases and an efficient forecasting system.

There will be a special programme under this head for cotton. It is proposed to conduct pest surveillance in specific areas so that the right time for initiating pest control operation may be forecasted.

(c) Establishment of customs service centres by unemployed and underemployed persons in rural areas :

Under this programme 5,000 rural unemployed and underemployed persons will be trained in the handling and maintenance of plant protection equipments, electric motors and oil engines at the rate of 1,000 per year. Marginal farmers and agricultural labourers will be selected for training. The Small Farmers Development Agency and leading banks will jointly select the persons for training. On completion of the training each will be supplied with a power sprayer at 50% subsidised cost. The balance 50% of the cost will be met by the lending banks as loan to be recovered in two years at quarterly intervals with a nominal interest. The trained persons will be encouraged to organise themselves as squads and register themselves to undertake custom spraying.

(d) Training of teachers in plant protection :

Under this scheme a one day training will be given in the identification of common pests and diseases to village school teachers at the rate of one teacher from each village and a maximum of 20 per development block. They will act as a liason agency between the farmer and the extension staff.

6.39 Research and Education :

(a) Scheme for strengthening the experiment base in the State :

At present there are four Regional Experiment Stations and a few sub stations in which research is being undertaken. Adaptive research which is the responsibility of the department is done mostly in the farmers' holdings. Facilities for carrying out research on important aspects like dry farming are not available. The present scheme envisages the establishment of a strong research

experiment base for the extension services. Facilities will be created for screening varieties and testing research findings in each district for developing "crop production techniques" suited to each agro climatic region in a district.

(b) In addition to the above mentioned scheme, provision will be made for educating the farmers on improved agricultural techniques and improving the facilities in soil testing laboratories and equipping them for the analysis of micro-nutrients. It is also proposed to open new farms for the production of breeder seeds and nucleous seeds of Paddy, Millets, Cotton, Oil Seeds, Pulses and Vegetables.

(c) Special attention will be devoted to the training of staff. The facilities available at the Agricultural Experiment Institute at Kudimiyamalai will be enlarged so that the Institute can function effectively as a State level institute for training the District Level Officers, District Level Subject Specialists and other research personnel. Facilities to get post graduate qualification will be provided to Senior Officers of the Department. This is with the purpose of increasing the technical competence of the higher level staff. The staff engaged in seed production will be trained in the maintenance and repairs of processing units and in storage and packing methods. Further, it is proposed to set up a Regional Information Unit Press. The idea is to set up four Regional Printing Presses at Vellore, Trichy, Coimbatore and Madurai for quick dissemination of information relating to new agricultural methods and modern technology among farmers.

6.40 Mechanisation :

Under Mechanisation the amount allotted in the Sixth Plan is a little less than Rs. 1 crore. The major part of it is taken up with existing schemes and their extension. For new schemes the allotment will be about Rs. 20 lakhs. The following are the more important schemes :

(a) Distribution of labour saving implements in the rainfed cotton tract :

The conventional methods of stepping up production have only very limited scope in the case of rainfed cotton. Hence alternative methods are to be made use of. Rainfed cotton is mostly grown by the small farmers and the use of dry

farming implements is found to be not within their means. Under the present scheme, the small and marginal farmers in rainfed tracts will be supplied with dry farming implements like seed drill, bund farmer etc. at 50% subsidy. As a result of using labour saving implements cost of cultivation is reduced and operations done in time and the yield is expected to go up by 5%.

(b) Popularisation of the use of improved implements in dry land farming :

The objective is to popularise the use of labour saving seed drill for sowing crops in lines. Line sowing adopted by the use of labour saving (bullock drawn) seed drill will ensure speedy sowing, optimum sowing depth and optimum plant population which will contribute to the best utilisation of soil moisture. The present scheme is proposed to encourage small farmers to take to the use of seed drill. It is programmed to distribute drills during the plan period at 50% cost. This implement can be fabricated by the village artisans themselves. The scheme envisages distribution of 1,000 bullock drawn seed drills per year at Rs. 200 per unit.

6.41. Minor Irrigation :

Minor Irrigation comes under two heads :

- (a) Minor irrigation works taken up by the Agriculture Department.
- (b) Minor irrigation works under the Public Works Department.

6.42. Minor Irrigation under the Agriculture Department :

Under Minor Irrigation of the Agriculture Department the following four schemes are in operation :

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

The sinking of either open wells or tube wells is relatively cheap and if the supply of water from these wells is steady and adequate, it will appreciably improve agricultural production. Hence, it is extremely important to give top priority

to this minor irrigation scheme. Another advantage is that the works would be the source of a considerable amount of employment of a recurring nature in rural areas. This can also lead to self-employment of rural artisans such as electricians, pump operators, fitters, plumbers etc.

During off-season if there is no demand for agricultural work, the drilling rigs and machinery could be used for augmenting the supply of drinking water in the rural areas. The following targets have been fixed for the 5 year period 1978-83.

<i>Name of the Scheme</i>	<i>Total No. proposed in the sixth plan</i>	<i>Additional Irrigated area</i>	<i>Additional production in tonnes</i>
1. Private Tube Well Scheme	22,500	4,50,000	2,25,000
2. Boring in Well Scheme	11,350	22,700	11,350
3. Deepening of Wellss	13,700	27,400	13,700
4. Filter Point Tube Wells	13,200	1,32,000	66,000
		6,32,100 Acres	3,16,050 Tonnes

Apart from the above mentioned schemes for tapping ground water, the following specific projects are also included under Minor Irrigation in the Sixth Plan.

(i) Scheme for sinking open wells in drought-prone areas :

The purpose is to provide a permanent remedy for acute shortage of irrigation water in Dharmapuri district even when there is failure of monsoon. Dharmapuri district is having an annual rainfall of about 725 mm only. Due to erratic monsoons, this district is facing frequently drought conditions. The scheme is to sink open wells nearby percolation ponds to a depth of 40 ft. These wells will act as a reservoir so as to enable the farmer to preserve the water for some more time to suit their cropping pattern. In Dharmapuri district, it is proposed to sink 2,500 open wells over a period of five years at the rate of 500 a year.

(ii) Area Development Programme :

One of the major irrigation potential of the State is minor irrigation tanks numbering in all 37,203 in the State. Of these, 27,917 tanks have an ayacut of about 50 hectares and less per tank. As these tanks are heavily silted due to mis-

management of water sheds, the capacity of the tanks is also reduced and in turn the command area covered by these has shrunk considerably. The scheme contemplates : firstly, water shed treatment to prevent further soil erosion and deposition in the tanks ; secondly, increasing the capacity of the tank ; and thirdly, developing the ayacut by better water and crop management.

(iii) Demonstration of Sprinkler Irrigation System

The purpose of this project is to demonstrate the benefits of the sprinkler irrigation method and to popularise it. In Dharmapuri district, the terrain is generally undulating. By the use of sprinklers in such a terrain, the heavy cost of land levelling could be avoided. Also, irrigation can be controlled with regard to time and periodicity and the quantity can be safely limited to the root zone. Thus, a larger area can be irrigated with the same quantity of water. Excavation of irrigation and distribution channels can also be avoided thereby increasing the area under crop. In the absence of electricity, the sprinkler system could be worked with oil engine units. It is proposed to introduce five units of sprinkler irrigated sets and lay-out 125 sprinkler demonstration plots during the Sixth Plan period. The farmers who are willing to take up this method will be

helped to get loan from the Land Development Banks for this purpose.

6.43. Minor Irrigation under the Public Works Department :

Small tanks commanding less than 100 acres under the control of Panchayat Unions, and in ex-zamins areas were taken up by the Public Works Department from 1974 with the objective of restoring the tanks and/or improving them. During the Sixth Plan period, it is proposed to take up minor irrigation works under the following heads :

- (1) Special Minor Irrigation Programme.
- (2) Accelerated Minor Irrigation Programme.
- (3) Modernisation of Tank Irrigation and
- (4) Desilting-cum-Reclamation Schemes.

6.44 This work will facilitate improved storage in the tanks and thereby increase the irrigation potential under the tanks and assure at least one crop in a year. The major portion of the area under this minor irrigation source belongs to the small farmers who will benefit greatly. Besides, improvement works will generate additional employment not only directly because of the execution of the schemes but also indirectly as a result of the extension of the area under the ayacut. A sum of Rs. 17.4 crores has been provided for undertaking these works by the Public Works Department. This includes a provision of Rs. 1.73 crores for Pambar Reservoir Project in Dharmapuri district.

6.45 Survey of ground water is an important item of work in so far as we are fast approaching the limits of the surface water available. The Directorate of ground water is continuing their survey throughout Tamil Nadu. For carrying out the survey during the plan period and for the purchase of special equipments needed for surveying ground water potential in the hard rock areas and for conducting tests, a sum of Rs. 3.94 crores is provided during the plan period.

6.46. Organisational and Institutional Improvements :

(a) Tamil Nadu Agricultural University :

The Tamil Nadu Agricultural University was set up and entrusted with the educational activities in agricultural discipline in the districts of Coimbatore and Madurai. Apart from teaching, the University has taken up research activities also under the Indian Council of Agricultural Research. During the V Plan, a sum of Rs. 1.21 crores was given as assistance to the Tamil Nadu Agricultural University. But the University has been pressing for greater facilities for conducting research on a number of subjects of practical value such as evolving different varieties of seeds suitable for the different agro-climatic conditions and evolving agronomical practices suited to the different regions of the State. The Veterinary college and its research activities have also been taken over by the Tamil Nadu Agricultural University. A new college providing a B.Sc., course in Fisheries was also started last year. The Tamil Nadu Agricultural University has proposed to start post graduate courses in a number of disciplines under the different faculties. A provision of Rs. 15 crores is made in the plan to enable the Tamil Nadu Agricultural University to carry out its programmes of expansion. These programmes include development and strengthening teaching, research and extension education, re-organisation of the under graduate and post-graduate courses in the Veterinary College at Madras, additional facilities for students and staff in Madurai and expansion of the Fisheries College at Tuticorin.

(b) Agricultural Marketing :

Agricultural marketing was under the control of the Directorate of Agriculture with a skeleton staff of one Deputy Director of Agriculture, 12 District Agricultural Officers, one Deputy Agricultural Officer (Marketing) for each district and 14 Deputy Agricultural Officers incharge of Agmark Laboratories in the State. Four out of the twelve District Agricultural Officers were assisting the Director of Agriculture and Deputy Director of Agriculture at the head-quarters. A separate Directorate of Marketing was created in the year 1977 which commenced functioning from 2-10-77. It is proposed to strengthen this organistaion in

the VI Plan period. The schemes comprise setting up of Agmark Laboratories, organisation of regulated markets in the State and grading of agricultural commodities at producers level. The Agmark Laboratories will ensure grading of oils, butter, honey, curry powder, turmeric, etc., to ensure the quality of the commodities. Similarly, grading of rice, pulses, eggs, fruits and jaggery is also to be taken up according to refraction standards. To cope up with the increased activities during the plan, it is proposed to expand the Directorate of marketing by appointing one District Agricultural Officer for each district and one Deputy Agricultural Officer for each taluk in addition to the staff employed in the Agmark Laboratories, kapas grading centres and commercial grading centres in the regulated markets. There will be 4 regional Deputy Directors of Agriculture to supervise the marketing activities in the State. The Directorate of Marketing will be assisted by a Joint Director for the work connected with regulated markets and another Joint Director for all items of work other than those relating to regulated markets. A sum of Rs. 15.41 crores is provided for this purpose in the VI Plan.

(c) Agro Industries :

The Agro Industries Corporation is assisting the farmers by providing facilities for the servicing of their tractors and other farm machinery. Assistance is also given to the farmers to hire tractors for the preparatory work in cultivation. The Corporation is making an effort to popularise the cultivation of sun flower in Tamil Nadu by purchasing sun flower seeds from the farmers, extracting oil from the seeds and marketing the oil, all this in order to demonstrate the attractiveness of the crop from a commercial point of view. To help the Agro Industries Corporation to expand its activities, a sum of Rs. 50 lakhs is provided in the VI Plan towards equity shares.

(d) Strengthening and reorganisation of the Department of Agriculture :

The Department of Agriculture which was established on the recommendation of the Indian Famine Commission of 1880 has grown and now

covers a large number of activities originally not envisaged. The dis-integrated growth of the organisation over the years, the need for employing grassroot extension workers with high technical competence and the emergence of a large number of research findings which have to be filled, tested and passed on to the extension workers, call for re-organisation of the Department. Re-organisation would involve the creation of a Central core with a permanent organisational set up which will be responsible for agricultural developmental activities. Also, there will be a special staff to be appointed for specific periods to carry out specific activities. The total cost of the scheme to be implemented in the VI Plan period would be Rs. 920.00 lakhs.

6.47 In addition, it is proposed to establish a planning Cell for the Directorate. This cell would attend to planning, monitoring and evaluation of development schemes. At present each division at the Directorate is doing this exercise in a disjointed manner. This has not contributed to the efficient utilisation of the available scarce resources. Moreover, evaluation has been done without much concern for other inter-related schemes. The Planning Cell is proposed with the idea of rectifying these defects.

Centrally Sponsored and Central Sector Schemes :

6.48 Development schemes for commercial crops, oil seeds and also some demonstration programme and training schemes are now being implemented under Centrally Sponsored Scheme. During the four years 1974-78 the actual expenditure on the Centrally Sponsored Schemes was Rs. 3.90 crores. A provision of Rs. 1.40 crores has been made for the 1978-79 annual plan. Most of these schemes have to be continued during the 1978-83 plan also to get the desired benefit. An outlay of Rs. 9.14 crores may be required for continuing the existing schemes.

6.49 A few schemes are also being implemented under the Central Sector. For continuing them in the plan period, an outlay of Rs. 8.32 crores has been proposed.

TABLE 6.1-A*

ABSTRACT

(Rs. in lakhs)

Sl. No.	Name of the Programme	Spillover	Outlays on Development Schemes representing additional/extension of existing Institution Establishment/Programme		New Development Schemes on Capital Account	New Development Schemes on Revenue Account	Total
			Existing Schemes	Strengthening of Schemes			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Land utilisation	123.50	660.70	2542.50	314.20	1448.91	5089.81
2.	Crop Production	20.84	1480.06	185.90	50.00	699.36	2436.16
3.	Seeds	114.50	1906.35	449.00	..	..	2469.85
4.	Manures and Fertilisers	..	70.00	15.25	12.00	101.17	198.42
5.	Plant Protection	..	1219.70	..	2.60	344.10	1566.40
6.	Research and Education	11.70	76.95	257.98	140.40	364.69	851.72
7.	Mechanisation	..	72.80	..	15.00	5.00	92.80
8.	Minor Irrigation by Agriculture Department	43.15	223.65	..	1.75	2333.95	2602.50
9.	Agricultural Marketing	..	..	..	1000.00	541.02	1541.02
10.	Minor irrigation by Public Works Department including Ground Water and Water Institute	..	..	..	2170.00	..	2170.00
11.	Tamil Nadu Agricultural University	..	..	..	..	1500.00	1500.00
12.	Agro Industries	..	..	..	50.00	..	50.00
Total		313.69	5710.21	3450.63	3755.95	7338.20	20568.68

*For details of schemes, refer Table 6.1B.

TABLE 6.1-B

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Land Utilisation :							
1.	Soil conservation and water conservation in Hills and Plains	113.50	..	1456.50	..	..	1570.00
2.	Soil Testing Laboratories	10.00	28.90	..	..	..	38.90
3.	Ravine Reclamation Scheme	..	..	149.20	..	..	149.20
4.	Soil and Land use survey organisation	..	20.00	..	..	..	20.00
5.	Mobile Soil Testing Vans	..	7.25	..	..	..	7.25
6.	Water use management in Thanjavur district	..	19.95	..	..	..	19.95
7.	Intensive cultivation in select areas	..	112.65	..	..	..	112.65
8.	Indo-German Nilgiris Development Project	..	82.80	..	..	..	82.80
9.	Drought Prone Area Programme	..	227.85	..	..	..	227.85
10.	Large Scale Orchards for Tribals in Kolli and Kalrayan Hills	..	34.05	..	..	..	34.05
11.	Agricultural schemes in Tribal areas	..	90.95	..	..	..	90.95
12.	Strengthening of Regional and District Staff	..	4.50	..	..	..	4.50
13.	Opening of additional agricultural depots in blocks	..	28.35	..	..	..	28.35
14.	Physical verification of Depots	..	3.45	..	..	..	3.45
15.	Scheme for the development of existing Soil Testing Laboratories to undertake testing of fertiliser and pesticides	..	..	16.80	..	..	16.80
16.	Scheme for strengthening and reorganising the Department of Agriculture	..	..	920.00	..	..	920.00
17.	To reclaim the problem soils like alkaline, saline and acidic soils and make them more productive	..	..	..	..	106.30	106.30
18.	Scheme for better utilisation of the uncultivated lands	..	..	..	..	10.50	10.50

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
19.	Dryland Development on watershed basis	..	..	..	..	180.00	180.00
20.	Command area development on watershed basis (concept)	..	..	..	139.20	96.80	236.00
21.	Water management works in irrigation command areas in Tanjore District	..	..	..	..	91.80	91.80
22.	Lower Bhavani Command Area Development Programme	..	..	..	..	45.51	45.51
23.	Periyar Project Command Area Development	..	..	..	..	32.38	32.38
24.	Soil conservation Demonstration Project in Puthar Command areas	..	..	..	..	96.34	96.34
25.	Village Prosperity through agricultural Development	..	..	..	..	780.88	780.88
26.	Planning Cell for the Directorate	..	..	..	..	8.40	8.40
27.	Construction of cement thrashing floors in Thanjavur District	..	..	..	25.00	..	25.00
28.	Construction of building complex in the Districts	..	..	..	150.00	..	150.00
Total—I		123.50	660.70	2542.50	314.20	1448.91	5089.81

II. Crop Production :

1.	Establishment of Elite Gardens for Banana	20.84	29.11	..	..	..	49.95
2.	High Yielding Varieties Programme	..	15.00	..	..	..	15.00
3.	Increasing the production of oilseeds	..	738.85	..	..	..	738.85
4.	Integrated Coconut Development	..	145.00	..	..	..	145.00
5.	Production and distribution of T X D Coconut seedlings	..	11.25	25.89	..	..	37.14
6.	Supply of quality coconut seedlings—Rejuvenation of existing Coconut trees	..	..	5.83	..	..	5.83

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7.	Sugarcane Development	..	20.45	..	..	..	20.45
8.	Cotton Development	..	286.80	..	..	..	286.80
9.	Cotton Seed Multiplication Scheme	..	..	94.55	..	..	94.55
10.	Tobacco Development	..	0.85	..	..	..	0.85
11.	Development of Potato cultivation in Hills	..	32.20	..	..	..	32.20
12.	Tapioca cultivation	..	13.80	..	..	..	13.80
13.	Development of Horticulture	..	120.00	..	..	..	120.00
14.	Government Orchard-cum-Nursery	..	50.95	39.03	..	..	89.98
15.	Development of Pine apple production	..	5.10	..	..	..	5.10
16.	Establishment of Tropical Fruit Research Institute	..	10.70	..	..	..	10.70
17.	Establishment of Vegetable Seed Production Centre	..	..	20.60	..	..	20.60
18.	Exploitation of Drylands for higher production	..	..	..	..	26.25	26.25
19.	Replacement of areas under Fodder cholam with potential HYV	..	..	..	..	25.00	25.00
20.	Pilot Pulses Development Project	..	..	..	..	43.30	43.30
21.	Plant Protection Cover for Redgram	..	..	..	..	58.35	58.35
22.	Plant Protection Pulses in Rice fallows	..	..	..	..	38.98	38.98
23.	Phosphate application for pulses	..	..	..	..	72.04	72.04
24.	DAP spraying	..	..	..	..	13.50	13.50
25.	Popularising of cow-pea and lab-lab	..	..	..	..	27.50	27.50
26.	Introduction of Soya beans	..	..	..	..	3.75	3.75
27.	Extension of area under irrigated groundnut	..	..	..	..	41.36	41.36

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
28.	Increasing the production of groundnut by adoption of improved agronomic practices	..	..	..	..	200.18	200.18
29.	Oilseeds opening of seed centre	..	..	..	20.00	41.00	61.00
30.	Extension of cotton areas in Thanjavur Rice fallows	..	..	..	..	61.19	61.19
31.	Cotton Corporation in Tamil Nadu	..	..	..	30.00	20.00	50.00
32.	Development of Fruits-Estt. of Orchards in Compact areas	..	..	..	..	21.12	21.12
33.	Development of vegetable production	..	..	..	..	5.84	5.84
Total — II		20.84	1480.06	185.90	50.00	699.36	2436.16
III. Seeds							
1.	Improvement to State and Seed Farm	65.80	211.95	..	..	..	277.75
2.	Procurement and distribution of paddy and other seeds (Certified Seed Production)	33.05	1390.85	260.00	..	..	1683.90
3.	Foundation Seed Production — Paddy and Millets	..	..	100.00	..	..	100.00
4.	Multiplication and distribution of pulses seeds	..	231.80	..	..	..	231.80
5.	Seeds Certification Programme	15.65	6.60	..	..	..	22.25
6.	Creation of Directorate of Seed Certification	..	..	36.00	..	..	36.00
7.	Creation of independent seed Inspectorate	..	2.00	13.00	..	..	15.00
8.	Infrastructure Development for Seed Centres	..	..	13.00	..	..	13.00
9.	Improvement to existing seed testing laboratories	..	4.25	27.00	..	..	31.25
10.	Improvement to S.P. Units	..	53.90	..	..	..	53.90
11.	Assistance to State Farms Corporation	..	5.00	..	..	..	5.00
Total — III		114.50	1906.35	449.00	..	..	2469.85

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IV. Manures and Fertilisers :							
1.	Procurement and distribution of green manure seeds	..	70.00	..	..	..	70.00
2.	Increasing the production of bacterial culture	..	..	1.25	..	..	1.25
3.	Establishment of one more micro-biological laboratory	..	..	14.00	..	..	14.00
4.	Fertiliser Promotion Programme	..	..	..	5.20	49.00	54.20
5.	Scheme for popularising use of zinc sulphate	..	..	..	..	11.22	11.22
6.	Scheme for popularising use of Blue Green Algae	..	..	..	..	31.90	31.90
7.	Pilot project on Recycling of natural resources	..	..	..	2.80	1.30	4.10
8.	Establishment of Central Control Laboratory	..	..	..	4.00	7.75	11.75
Total — IV		..	70.00	15.25	12.00	101.17	198.42
V. Plant Protection :							
1.	Crop and Plant Protection	..	1000.00	..	..	..	1000.00
2.	Mass ground spraying	..	195.00	..	..	..	195.00
3.	Pesticide Testing Laboratories	..	14.45	..	..	..	14.45
4.	Parasite Breeding Centres	..	8.95	..	..	..	8.95
5.	Mobile Service Units for sprayers and dusters	..	1.30	..	..	..	1.30
6.	Strengthening of plant protection services in Tamil Nadu	..	..	..	..	59.00	59.00
7.	Pests and Diseases surveillance programme	..	..	..	..	217.60	217.60
8.	Cotton Pest surveillance and Integrated Plant Protection	..	..	..	1.20	24.25	25.45
9.	Establishment of custom service centres by rural unemployed and under employed	..	..	..	1.40	37.50	38.90
10.	Training in Plant Protection	..	..	..	..	5.75	5.75
Total — V		..	1219.70	..	2.60	344.10	1566.40

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VI. Research and Education :							
1.	Establishment of A.E.S.	0.60	23.75	..	..	..	24.35
2.	Improving facilities for analysing micro-nutrients	11.10	..	21.82	..	..	32.92
3.	Establishment of Paddy Experimental Station, Kanyakumari	..	3.70	..	..	..	3.70
4.	Development of Breeders Seeds of Millets	..	4.50	..	..	..	4.50
5.	Multi Crop Research Station, Pattukottai	..	0.05	..	..	..	0.05
6.	Evaluation of cumbu-resistance to greenear	..	6.55	..	..	..	6.55
7.	Scheme for Wet land pulses, Aduthurai	..	0.05	..	..	..	0.05
8.	Improvement of sunflower at Tindivanam	..	3.00	..	..	..	3.00
9.	Banana Research Station	..	0.05	..	..	..	0.05
10.	Studies on welt and button shedding in coconut	..	2.80	..	..	..	2.80
11.	Crop substitution studies	..	4.80	..	..	..	4.80
12.	Co-ordinating unit for adaptive research programme	..	2.10	..	..	..	2.10
13.	Scheme for strengthening experiment base in the State	..	..	125.60	..	..	125.60
14.	Establishment of a State Agricultural Training Institute at Annappannai	..	3.50	..	..	..	3.50
15.	Documentary films on Agricultural subjects	..	9.00	..	..	..	9.00
16.	Agricultural Information Service	..	3.10	..	..	..	3.10
17.	Agricultural Schools	..	10.00	..	..	..	10.00
18.	Strengthening of existing Farmers' Training Centres and opening of new centres	..	..	110.56	..	..	110.56

TABLE 6.1-B — Contd.

(Rs. in lakhs.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
19.	Scheme for the production of Breeders and nucleous seeds	..	..	..	35.00	23.00	58.00
20.	Scheme for establishment of Experiment Sub-Station for Cotton, Coconut and Dry farming	..	..	..	37.00	27.00	64.00
21.	Scheme for establishment of Adaptive Research Centres	..	..	..	41.00	85.00	126.00
22.	Scheme for identification and control of nematodes	..	..	..	21.60	15.15	36.75
23.	Scheme for isolation of new bio-fertiliser and establishment of production centre	..	..	..	4.00	3.04	7.04
24.	Training staff to increase the Technical competence	..	..	..	..	115.10	115.10
25.	Post graduate training to staff	..	..	..	..	86.40	86.40
26.	Training the staff engaged in seed production	..	..	..	..	5.50	5.50
27.	Setting up of Regional Information Unit Press	..	..	..	1.80	4.50	6.30
Total—IV		11.70	76.95	257.98	140.40	364.69	851.72
VII. Mechanisation :							
1.	Tractor Hiring Scheme	..	65.00	..	..	..	65.00
2.	Mobile Service Unit	..	1.20	..	..	..	1.20
3.	Tractor Workshop	..	6.60	..	..	..	6.60
4.	Popularisation of the use of improved implements in Dry-land Farming	..	..	..	..	5.00	5.00
5.	Distribution of labour saving implements in rainfed cotton tract	..	..	..	15.00	..	15.00
Total—VII		..	72.80	..	15.00	5.00	92.80

TABLE 6.1-B — Contd.

(Rs. in lakhs)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VIII. Minor Irrigation :							
1.	Deepening of wells in rocky areas with the department equipment	25.00	8.75	..	..	..	33.75
2.	Sinking of private tube wells	18.15	190.90	..	..	..	209.05
3.	Strengthening of ground and surface water	..	24.00	..	..	..	24.00
4.	Supply of inputs for drills	..	..	..	..	300.00	300.00
5.	Double shift for rotary drills	..	..	..	..	38.00	38.00
6.	Conversion of percussion into Rotary drills	..	..	..	..	15.00	15.00
7.	Repowering of hammer drills	..	..	..	..	7.80	7.80
8.	Area Development Programme	..	..	..	..	1965.00	1965.00
9.	Scheme for sinking open wells in Drought Prone Areas	..	..	..	..	..	..
10.	Demonstration of sprinkler irrigation	..	..	..	1.75	8.15	9.90
Total—VIII		43.15	223.65	..	1.75	2333.95	2602.50
IX. Agricultural Marketing							
1.	Kapas Grading	1.75	35.00	..	..	..	36.75
2.	Commercial Grading	2.80	100.00	..	..	..	102.80
3.	Agmark Grading	5.72	100.00	..	..	..	105.72
4.	Training	3.00	..	..	..	..	3.00
5.	Market Survey	..	..	..	..	4.60	4.60
6.	Publicity and Propaganda	..	..	..	..	4.35	4.35
7.	Apex Laboratory	..	..	..	..	8.80	8.80
8.	Building for Ag. Mark laboratory	..	..	..	25.00	..	25.00
9.	Strengthening Directorate of Marketing	..	..	..	..	250.00	250.00
10.	Facilities to be provided to regulated market as 50% subsidy and 50% loan	..	..	..	1000.00	..	1000.00
Total—IX		13.27	235.00	..	1025.00	267.75	1541.02

CROP PRODUCTION - ACHIEVEMENTS AND TARGETS

Sl. No.	Item	Unit	Actual Production		Target
			1973-74	1977-78	1982-83
(1)	(2)	(3)	(4)	(5)	(6)
1.	Foodgrains—Total	Thousand tonnes			
	(a) Cereals		7094	7891	9250
	(b) Pulses	Do.	205	197	475
2.	Sugarcane (in terms of Gur)	Do.	1760	1946	2000
3.	Oilseeds Total	Do.	1307	1203	1700
	(a) Major oilseeds				
	1. Groundnut	Do.	1199	1018	1472
	2. Gingelly	Do.	31	39	75
4.	Cotton	Thousand bales of 170 kgs. each	448	404	500
			(bales of 180 kgs.)	(bales of 170 kgs.)	(bales of 170 kgs.)
5.	Jute	Thousands bales of 180 kgs each.	..	..	..

CROP PRODUCTION : TARGETS FOR TERMINAL YEARS

Sl. No.	Item	Achievement 1977-78			Targets 1982-83		
		Area	Yield	Production	Area	Yield	Production
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Foodgrains :						
	(a) Rice :						
	(i) Autumn	..	..	..	..	..	..
	(ii) Winter	Under finalisation. To be finalised					
	(iii) Summer	..	..	..	..	..	..
	Total (Rice)	2670	2210	5901	2700	2520	6800
	(b) Wheat	Area is negligible					

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(c) Maize	20	1100	22	40	1250	50
	(d) Jowar	768	923	718	800	1250	1000
	(e) Bajra	434	942	409	450	1110	500
	(f) Other cereals	747	1126	841	700	1290	900
	(g) Pulses	590	334	197	1383	344	475
	Total Foodgrains	5229	..	8088	6073	..	9725
2.	Sugarcane (Gur)	164	11000	1946	165	12120	2000
3.	Oilseeds						
	(a) Major Oilseeds :						
	Groundnut	972	1047	1018	1150	1280	1472
	Gingelly	124	314	39	150	500	75
	Castor	11	393	4	14	420	6
	Sunflower	175	811	142	175	857	150
	Total	1282	933	1203	1489	1144	1703
4.	Cotton	253	255	404	320	270	500
5.	Jute and Mesta	..	..	..	..	..	..
6.	Tobacco	21	1457	31	23	1520	35
7.	Coconut	110	8900 nuts	98 Crores of nuts	140	10000 nuts	140 crores
8.	Potato	12	12900	153	13	13460	175

STATE : TAMIL NADU

AGR. 21.

Five Year Plan 1978-83

SELECTED PROGRAMMES : ACHIEVEMENTS AND TARGETS

Sl. No.	Item	Unit	Actual Achievement		Target for 1982-83
			1973-74	1977-78	
(1)	(2)	(3)	(4)	(5)	(6)
1.	High Yielding Varieties	Thousand hec.			
	(a) Paddy	Do.	2144	2300	2400
	(b) Wheat	..	..	..	..
	(c) Maize	Do.	18	20	40
	(d) Jowar	Do.	16	111	200
	(e) Bajra	Do.	155	210	400
	Total (a) to (e)		2333	2641	3040

(1)	(2)	(3)	(4)	(5)	(6)
2.	Consumption of chemical fertilisers (nutrients)	Thousand tonnes			
	(a) Nitrogenous (in terms of N)		195	287	375
	(b) Phosphatic (in terms of P2Q)	Do.	70	78	100
	(c) Potassic (in terms of K2Q)	Do.	72	97	125
	Total (a) to (c)		337	462	600
3.	Increase in gross cropped area	Do.	7649	7147	7700
4.	Soil and water conservation of agricultural lands	Do.	46	34	100
5.	Minor Irrigation	Do.	71	119	126
6.	Plant Protection (technical grade material)	Tonnes	3547	5328	8819

STATE : TAMIL NADU

AGR. 22

Five Year Plan 1978-83

SELECTED PROGRAMMES — ACHIEVEMENTS & TARGETS

Sl. No.	Item	Unit	Achievement 1977-78	Target 1982-83
(1)	(2)	(3)	(4)	(5)
1.	Organic Manures and Green Manuring	Thousand hecs.	..	..
	(a) Urban Compost		..	..
	(b) Green Manuring (Dept. Distribution)		71	60
2.	Plant Protection (Technical Grade Material)	Tonnes		
	(a) Consumption of pesticides		5152	8429
	(b) Seed treatment chemical		44	90
	(c) Fungicides		101	184
	(d) Others		31	116
			5328	8819
3.	Certified Seed quantity distributed :	Thousand tonnes		
	(a) Food crops :			
	(i) Cereals	Do.	12702	10930
	(ii) Pulses	Do.	1429	2400

(1)	(2)	(3)	(4)	(5)
<i>(b) Others :</i>				
	<i>(i) Cotton</i>		3275	4695
	<i>(ii) Oilseeds (G. Nut, Gingelly, Castor, Sunflower)</i>	Do.	4809	5976
	<i>iii) Jute</i>	Do.	..	..
	<i>(iv) Potato</i>	Do.	889	1200
	<i>(v) Vegetable</i>	Do.	50	80
	<i>(vi) Fodder crops</i>	Do.	..	..
	Total (a) & (b)		23154	25281
4. Agricultural Machinery and Implements		Nos.		
	<i>(a) Tractors (Fleet Strength)</i>	Do.	177	177
	<i>(b) Power Tillers</i>	Do.	..	..
	<i>(c) Threshers</i>	Do.	..	..
	<i>(d) Seed-cum-Fertiliser drills</i>	Do.	..	10000
	<i>(e) Sprayers/dusters (Distribution ryots)</i>	Do.	..	..
	<i>(i) Hand operated</i>	Do.	2727	3000
	<i>(ii) Power Operated</i>	Do.		
5. Agricultural Machinery Hiring Centres		Nos.		
	<i>(a) Operated by agro-industries Corporation</i>	Do.	..	..
	<i>(b) Operated by others</i>	Do.	..	..
6. Land Reclamation			Figures not readily available	
	<i>(i) Alkaline</i>			
	<i>(ii) Others</i>			
7. (a) Regulated markets		Nos.		
	<i>(b) Sub-market yards</i>		..	..
	Total		..	..
8. Grading Units :				
	<i>(a) Co-operative</i>		..	..
	<i>(b) Departmental</i>		..	..
	<i>(c) Others</i>		..	..
	Total		..	..

Five Year Plan 1978-83

MINOR IRRIGATION PROGRAMMES, ACHIEVEMENTS AND TARGETS

Benefits	Surface water Schemes	(000 hectares)	
		Ground water Schemes	Total
(1)	(2)	(3)	(4)
1. Gross area under minor irrigation after deducting Depreciation			
(i) 1973-74 (actuals)			
(a) Potential		76	76
(b) Utilisation		71	71
(ii) 1977-78 (actuals)			
(a) Potential		109	109
(b) Utilisation		119	119
(iii) 1982-83 (Target)			
(a) Potential		126	126
(b) Utilisation		..	..
2. Physical Programme			
	upto 1972-73	upto 1973-74	(No. in '000 upto 1982-83)
(a) Surface water schemes			
(i) Flow schemes	..	..	..
(ii) Lift schemes	..	..	..
(b) Groundwater schemes			
(i) Dig wells	..	..	..
(ii) Improvement of dugwells by boring and deepening	14	16	26
(iii) Tubewells			
(a) State	..	..	..
(b) Private	20	14	23
(c) Filter Point Tubewells	21	11	13
(iv) Diesel pumpsets	..	..	..
(v) Electric pumpsets	..	..	..

3. Outlays/Expenditure	Fifth Plan		Five Year Plan (1978-1983) (Rs in lakhs)			
	State	Institutional	Private	State	Institutional	Private
1. Surface Water Schemes :						
(i) Flow Schemes	..	..	..	..	..	..
(ii) Lift Schemes	..	..	..	..	..	..
2. Ground Water Schemes	219.52	..	..	1881.39	..	..
3. Investigation of Minor Irrigation Schemes	..	..	..	..	..	..
(i) Surface Water Schemes	..	..	..	..	..	..
(ii) Ground Water Schemes	..	..	..	..	..	..

STATE : TAMIL NADU

AGR. 29

Five Yearn Plan 1978-83

RURAL DEVELOPMENT

Achievements and Selected Physical Targets and Programmes

1. Total No of blocks covered under special programmes	1977—78		1982—83	
	No. of blocks	No. of beneficiaries	No. of blocks	No. of beneficiaries
(1) S.F.D.A.	167	1,65,754	..	..
(a) Central	..	..	..	..
(b) State	..	..	..	..
(ii) D.P.A.P.				
(a) Central	..	..	..	..
(b) State (Centrally sponored)	48	80,000 (approximately)	48	1,60,000

Proposed coverage of beneficiaries during 1978-83	Total	Scheduled Castes	Scheduled Tribes
(i) Small farmers	1,60,000	20 to 30 %	
(ii) Marginal farmers			
(iii) Agricultural labourers			

Five Year Plan 1978-83

**AGRICULTURE AND RURAL DEVELOPMENT HEADWISE/SUB HEADWISE BREAK UP
OF THE FINANCIAL OUTLAYS**

(Rs. in lakhs)

Sl. No.	Head of Development/ Programme	Fifth Plan approved outlay	Approved out-lay 78—79	Proposed outlay		1978—83
				Total	Capital	Foreign exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Agricultural Research and Education :						
1.	Agricultural Research	54.01	12.39	374.16	97.63	..
2.	Agricultural Education	..	2.43	1500.00	350.00	..
	Total	54.01	14.82	1874.16	447.63	..
II. Agricultural Extension and Administration						
1.	Direction and Administration	41.52	0.90	162.90	160.57	..
2.	Agricultural Extension	350.36	34.00	951.80	..	..
3.	Extension Education and Farmers Training	47.37	5.13	349.46	11.80	..
4.	Adoptive Research	2.00	0.42	128.10	41.00	..
5.	Agricultural Economics and Statistics	..	..	..	..	..
	Total	441.25	40.45	1592.26	213.37	..
III. Agricultural Inputs :						
1.	Seeds	1398.27	383.64	2469.85	48.17	..
2.	Fertilisers & Manures	167.56	14.00	198.42	12.00	..
3.	Plant Protection	4303.48	409.14	1566.40	2.60	..
4.	Implements & Machinery	435.00	16.54	92.80	15.00	:
	Total	6304.31	823.32	4327.47	77.77	..
IV. Crop Oriented Programmes						
1.	High Yielding Varieties Programme	34.40	3.00	66.25	..	..
2.	Pulses	..	..	257.42	1.65	..
3.	Commercial Crops	713.19	250.00	1789.20	53.56	..
4.	Horticultural crops and plantations	138.56	23.54	323.29	5.03	..
	Total	886.15	276.54	2436.16	60.24	..

(1)	(2)	(3)	(4)	(5)	(6)	(7)
V. Agricultural Marketing	..	..	1541.02	1000.00	..	..
VI. Land Reforms	..	..	..	..	..	..
VII. Minor Irrigation						
1. Surveys and investigations of ground water resources	..	121.60	430.00	..	..	..
2. Loan and subsidy to private irrigation works for small farmers, Tribal farmers etc.	..	..	..	..	..	..
3. Equipment for ground water schemes	..	..	..	..	..	..
4. State (Deep) Tubewells	219.52	49.37	2602.50	19.36	..	..
5. Survey and Investigation of surface water schemes	..	..	..	..	..	..
6. Surface flow schemes	..	..	..	..	..	..
7. State Lift Irrigation	..	..	..	..	..	..
8. Loan and subsidy to Co-op. lift irrigation scheme	..	..	..	..	..	..
9. Share capital contribution and subsidy towards water rate of tubewells/lift irrigation corporations	..	..	..	..	..	..
10. Establishment	..	..	..	..	..	..
11. Any other expenditure	..	..	..	..	..	..
12. Desilting-cum-Renovation of Tank Works	..	..	1740.00	1740.00	..	..
Total	219.52	170.97	4772.50	1759.36		
VIII. Soil and Water Conservation						
1. Direction & Administration	1.50	..	..	..	..	..
2. Soil Survey and Testing	81.96	13.23	82.95	..	..	..
3. Research, Education and Training	18.00	..	..	..	..	..
4. Soil Conservation schemes	726.00	307.47	1719.20	..	..	..
5. Other expenditure	0.25	..	..	..	..	..
Total	827.71	320.70	1802.15			
IX. Agro Industries	..	..	50.00	50.00	..	..
X. Rural Development						
1. Integrated Rural Development :						
(a) S.F.D.A.	..	..	..	..	..	..
(b) D.P.A.P.	..	45.57	227.85	10.00	..	..
(c) C.A.D.	..	..	..	..	..	..
(d) Others	..	..	..	..	..	..
2. Area Development Programme of states	625.48	69.81	1945.11	166.70	..	..
3. Desert Development	..	..	..	..	..	..
4. Food for work programme	..	..	..	..	..	..
Total	625.48	115.38	2172.96	166.70		
Grand Total I to X	9356.43	1762.18	20568.68	3785.07		

AGRICULTURE AND RURAL DEVELOPMENT — EMPLOYMENT GENERATION

Sl. No.	Head of Development/ Programme	Likely Employment Generation (Nos.)					Total
		Scientists	Technical	Administ- ration	skilled	Unskilled	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Agricultural Research and Education:							
(1)	Agricultural Research	67	83	38	36	105	329
(2)	Agricultural Education	..	..	..	..	..	..
	Total I	67	83	38	36	105	329
II. Agricultural Extension and Administration:							
(1)	Direction and Administration	..	..	..	..	..	..
(2)	Agricultural Extension	..	2514	798	230	1395	4937
(3)	Extension Education and Farmer's Training	..	92	24	60	58	234
(4)	Adoptive Research	56	70	28	14	28	196
(5)	Agricultural Economics and Statistics	..	..	..	..	..	..
	Total II	56	2676	850	304	1481	5367
III. Agricultural Inputs:							
(1)	Seeds	2	74	15	8	28	127
(2)	Fertilisers	6	65	17	23	35	146
(3)	Plant Protection	2	296	8	20	41	367
	Total III	10	435	40	51	104	640
IV. Crop Oriented Programme:							
(1)	H.Y.P.	..	..	..	..	..	..
(2)	Pulses	..	26	..	..	..	26
(3)	Commercial Crops	..	152	44	22	71	289
(4)	Horticultural Crops and Plantations	..	46	6	..	110	162
	Total IV	..	224	50	22	181	477

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
V. Land Reforms							
VI. Minor Irrigation :							
(1) Survey and investigation of groundwater resources					NIL		
(2) Loan and subsidy to private irrigation works for small farmers, tribal farmers, etc.					NIL		
(3) Equipment for groundwater schemes					NIL		
(4) State (Deep) Tube-wells					NIL		
(5) Survey and investigation of surface water schemes					NIL		
(6) Surface flow schemes					NIL		
(7) State lift irrigation schemes	..	1238	370	380	1366	3354	
(8) Loan and subsidy to Co-op. lift irrigation scheme					NIL		
(9) Share capital contribution and subsidy towards water-rates of tube-wells/lift irrigation corporations					NIL		
(10) Establishment					NIL		
(11) Any other expenditure					NIL		
Total VI	..	1238	370	380	1366	3354	
VII. Soil and Water Conservation :							
1. Direction and Administration	..	..	..	..	..	..	..
2. Soil Survey and Testing	..	52	10	24	40	126	
3. Research, Education and Training	..	..	..	..	..	..	..
4. Soil Conservation Scheme	..	..	..	..	..	..	..
5. Other expenditure — Area Development	5	1529	574	168	821	3092	
Total VII	5	1581	584	192	861	3218	
Grand Total I to VII	138	6237	1932	985	4098	13385	

AGRICULTURAL EDUCATION AND TRAINING DURING FIVE YEARS (In Number)

Sl. No.	Item	Agriculture	Animal husbandry	Dairy	Fisheries	Forestry	Agricultural Engg.	Home Science	Basic Science
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
I. University Education* :									
(i) State Agricultural University :									
	(a) Graduates	1073	584	..	60	..	245	93†	..
	(b) Post Graduates								
	M.Sc.	882	320	..	..	..	58	71	..
	Ph.D.	239	107	..	..	..	..	..	41
(ii) Colleges :									
	(a) Graduates								
	(b) Post Graduates								
	M.Sc.	..	..	..	..	..	..	..	..
	Ph.D.	..	..	..	..	..	..	..	..
II. Professional Training									
III. Vocational Training									
IV. Skill Formation									
V. Training Institutes :									
	(a) University Colleges	..	..	..	..	..	..	..	..
	(b) Postgraduate Institute	..	..	..	..	..	..	..	..
	(c) Professional/vocational training centre								
	(i) Extension Training								
	(ii) Krishi Vigyan Kendras	..	..	..	..	..	..	..	..
	(iii) Young Farmers Training Centre	..	..	..	..	..	..	..	..
	(iv) Gyan Kendras	..	..	..	..	..	..	..	..
	(v) Farmers/Artisans Training Centres	1.50 lakhs	..	..	..	..	..	..	..

*Total number likely to come out during the five year 1978-83.

†B.Sc. (Horticulture).

CHAPTER 7

ANIMAL HUSBANDRY

7.0 Livestock Development has an important role in the economic development of the country. Firstly, it is the means to provide food of high nutritive value for the people ; secondly, it has large employment potential and contributes to the economic wellbeing of the weaker sections and the State as a whole. The objective of the Livestock Programme for the VI Plan will be to ensure increased quantity of milk, meat and eggs by raising the productivity of livestock through improved breeding techniques, feed practices and health cover. This will enable the individual families, mostly in rural areas, to earn additional subsidiary income and augment the supply of items of food other than cereals and vegetables.

7.1 The programmes implemented in the previous Plan resulted in the creation of an excellent network of service centres and the improvement in the productive capacity of the cattle. The present Plan aims at increasing the percapita availability of milk to 135 gms per day. The programme now drawn up for the Plan 1978-83, apart from seeking to extend the service facilities to more areas also visualises the reorganisation of the existing centres with a view to make them more efficient in their functioning.

7.2 An abstract of the development schemes envisaged in the Plan 1978-83, involving an outlay of Rs. 35.32 crores is given below :

	(Rs. in lakhs)
1. Cattle Development	1955.46
2. Sheep and goat	49.31
3. Piggery development	60.69
4. Rabbit development	2.58
5. Poultry development (including Assistance to TAPCO Rs. 1.00 crore)	274.76
6. Animal health cover	1053.76
7. Fodder development	24.79
8. Strengthening of Planning and Administration	78.68
9. Animal Husbandry Statistics	32.13
Total	3532.16

Cattle Development:

7.3 The proper means of stepping up production of milk is to improve the genetic potentiality of our cattle by taking up cross-breeding work on a massive scale. The cross breed animal-holstein friesian—is best suited for the hilly areas in the western ghats and the district of Kanyakumari. Cross-breed Jersey is to be introduced in the other districts except the tracts of Kangeyam and Umbalacheri where selective breeding will be done. Local buffaloes which are undersized and do not yield sufficient milk should have to be upgraded by cross-breeding with the Murra variety.

7.4 At present, 10 Livestock farms are functioning to meet the requirement of pedigree livestock. In the Plan 1978-83 it is proposed to reorganise these farms as indicated below for improving the genetic potential :

<i>Name of Farm</i>	<i>Breeds to be developed</i>
(1)	(2)
1. District Livestock Farm, Hosur	Sindhi pure and cross bred and Jersey. Mandya : Horses.
2. Livestock Farm, Pudukkottai.	Mandya sheep, Kilakaraisal sheep, Kangeyam cattle, pigs and goats.
3. District Livestock Farm, Orathanad	Murra buffaloes
4. District Livestock Farm, Ootacamund.	Friesian, Friesian cross-breed, Sindhi, Pigs.
5. Livestock Farm, Abhishekapatti.	Sindhi, Kilakaraisal, Pigs.
6. Livestock Farm, Korukkai.	Umbalacheri
7. Livestock Farm, Echankottai	Jersey.
8. Sheep Farm, Sathur	Ramnad white, Vembur.
9. Sheep Farm, Chinnasalem.	Mecheri.
10. Livestock Farm, Chettinad.	Murrah buffaloes and Pigs.

7.5 Intensive cattle development projects are in operation in 6 districts *viz.*, Tirunelveli, Madurai, Ramanathapuram, Thanjavur, Pudukkottai and Coimbatore. It is proposed to extend intensive cattle development projects to 6 more centres. The number of Key Village blocks will be increased from 39- to 79. The main thrust of the project will be the development of cross-breeding. The objective is that the entire population of cattle and buffaloes which are in the breedable age should be brought under the scheme of artificial insemination in order to improve their quality and productivity. For this purpose, the sub-centres for artificial insemination will be increased to 2,100. The method that will be adopted is the frozen semen technique and in order to extend this facility, freezing centres will be located in 12 centres and 4 liquid nitrogen plants will be set up to produce liquid nitrogen required for artificial insemination. Also 750 Veterinary Assistant Surgeons and 1500 Livestock Inspectors will be given training in frozen-semen technique. Exotic cattle will be imported to produce frozen semen required for artificial insemination.

7.6 A basic requirement for improving livestock is the development of feed and fodder resources. The breeding programme will not give the desired results unless effective arrangements are made for providing nutritious feed. It is proposed to take up fodder development on a large scale as indicated below :

- (1) Raising fodder in Coconut plantations ;
- (2) Development of pasture in poramboke lands ;
- (3) Laying of demonstration farms to produce fodder grass and to develop feeding practices ;
- (4) Distribution of fodder slips and seeds and training farmers in the cultivation of fodder.

Sheep and Goat Development :

7.7 The availability of goat meat, which is preferred, has to be increased by stepping up goat population in the State. A goat unit will be established in the District Livestock Farm, Pudukkottai, for supplying pure breed 'does' and 'bucks'. A scheme for the multiplication

of red rams and an intensive seed development project have been proposed under 'Centrally Sponsored' and World Bank Aid.

Piggery Development :

7.8 Pigs being prolific breeders, it is possible to achieve steady progress in the multiplication of their number. In the Plan 1978-83, it is proposed to increase the existing exotic breeds to promote increased quantity of pork so that it can be processed and marketed for consumption in the town areas. For this purpose, a Pork dressing and processing plant is to be set up.

Poultry Development :

7.9 There are at present 29 Poultry Extension centres and 2 hatcheries in our State. Apart from maintaining them, steps will be taken for supplying chicken to develop backyard poultry units which it is expected would support about 2 lakh families mostly belonging to the weaker sections. The Poultry Development Corporation will arrange for marketing of birds and eggs produced by these units. The health cover of these units will be attended to by the Animal Husbandry staff of that area. Three laboratories to analyse the poultry feed will be set up to ensure quality feed for the poultry.

Animal Health Cover :

7.10 637 Veterinary dispensaries are functioning in the State besides 38 Veterinary hospitals and 10 Veterinary hospitals-cum-key village centres. 50 Veterinary dispensaries will be upgraded as Veterinary hospitals, increasing the number of veterinary hospitals to 88. Besides, 125 Veterinary dispensaries will be started during the Plan period. There are at present only 4 clinical centres at Tirunelveli, Tiruchirapalli, Coimbatore and Madras. 29 Veterinary hospitals out of 38 functioning and 10 Veterinary hospital-cum-key village centres will be upgraded as Clinical Centres, thus bringing the total clinical centres in the State to 43. 14 district level hospitals will be upgraded to poly-clinics to introduce multi-disciplinary approach to the combating of animal diseases.

7.11 The Institute of Veterinary Preventive Medicine will be strengthened adequately for the production of preventive medicine required to

cope up with the increasing volume of work in the districts and in the Directorate of Animal Husbandry. The technical staff and supporting staff will be strengthened besides creating a Planning Cell in the Directorate of Animal Husbandry for proper planning, reviewing and monitoring the Plan schemes.

7.12 Over and above the schemes listed above involving an outlay of Rs. 35.32 crores, a few more schemes have been suggested which may be taken up as 'Centrally Sponsored' schemes or may be financed by World Bank aid. These are as follows :

(Rs. in lakhs)	
1. Carcass Utilisation Centre (Centrally Sponsored)	5.57
2. Disease-free Zone (Centrally sponsored)	4133.23
3. Establishment of Madras Red-ram Multiplication Farm	110.40
Total	4249.20
4. Intensive Sheep Development Project (World Bank aid)	4749.21

TABLE 7.1

Animal Husbandry—Financial Outlays

(Rs. in lakhs)

Sl. No.	Head of Development Programme	Fifth Plan approved outlay	Approved outlay 1978-79	Proposed outlay 1978—83		
				Total	Capital	Foreign exchange
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	Direction, Administration and Extension	10.05	..	78.68	..	..
2.	Veterinary Services and Animal Health	197.07	38.76	1053.76	136.80	..
3.	Research/Assistance to Agricultural University	..	..	..	..	..
4.	Investigation and Statistics	..	..	32.13	..	..
5.	Cattle Development	426.53	94.37	1955.46	100.40	..
6.	Poultry Development	25.00	0.58	274.76	8.15	.
7.	Sheep and Wool Development	84.75	..	..	..	..
8.	Piggery Development	36.70	1.18	60.69	10.00	..
9.	Goat Development	..	..	49.31	8.00	..
10.	Other Livestock Development	99.70	..	2.58	..	..
11.	Fodder and Feed Development	59.00	3.41	24.79	..	..
Total		938.80	138.30	3532.16	263.35	..

TABLE 7.11

Five Year Plan, 1978—83—Animal Husbandry — Targets of Production and Selected Physical Programmes

Sl. No.	Item	Unit	Actual Achievement		Targets
			1973—74	1977—79	1982—83
(1)	(2)	(3)	(4)	(5)	(6)

I. LIVESTOCK PRODUCTS

1. Milk	000 tonnes	1026	1690	2290
2. Eggs	In million	500	746	1092
3. Wool	Lakhs Kgs.	26	29	29

II. PHYSICAL PROGRAMMES (CUMULATIVE)

Animal Husbandry :

1. Intensive Cattle Development Project	Nos.	1	4	6
2. Frozen Semon Stations	Nos.	..	1	12
3. Artificial Insemination				
(a) Performed with exotic bull semen	in lakhs	1.02	7.38	15.78
(b) Cross Breed calves born	in lakhs	0.35	2.58	5.52
4. Sheep Breeding Farms	Nos.	2	2	..
5. Sheep and Wool Extension Centres	Nos.	..	..	..
6. Intensive Sheep Development Projects	Nos.	..	..	..
7. Poultry Breeding Farms	Nos.	..	1	..
8. Intensive Egg and Poultry Production-cum-Marketing Centres	Nos.	..		..
9. Pig Breeding Units/Farms	Nos.	7	8	..
10. Piggery Development Blocks	Nos.	..	..	..
11. Fodder Seed Production Farms	Nos.	2	5	..
12. Veterinary Hospitals	Nos.	35	48	98
13. Veterinary Dispensaries	Nos.	522	589	714
14. Veterinary Stockman Centres (Sub-Centres)	Nos.	1954	1954	2000

TABLE 7.III

Five Year Plan, 1978-83

Animal Husbandry : Employment Generation

Sl. No.	Head of Development/ Programme	Likely Employment Generation in man years					Total
		Scientists	Technical	Administ- ration	Skilled	Unskilled	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Direction, Administration and Extension	46	..	18	..	4	68
2.	Veterinary Service and Animal Husbandry	342	96	293	147	534	1412
3.	Research/Assistance to Agricultural Univesity	..	..	..	..	..	..
4.	Investigation and Statistics	13	22	76	..	2	113
5.	Cattle Development	492	225	398	192	679	1986
6.	Poultry Development	15	14	..	..	27	56
7.	Sheep and Wool Development	..	..	..	..	..	..
8.	Piggery Development	5	5	7	..	17	34
9.	Goat Development	3	8	4	..	54	69
10.	Other Livestock Development	1	..	..	..	6	7
11.	Fodder and Feed Development	..	..	..	..	..	..
	Total	917	370	796	339	1323	3745

Chapter 8

DAIRY DEVELOPMENT

Importance of Dairy Development :

8.0. Progressive urbanization and the growth of income have brought about a change in the consumption pattern of the people involving a shift from cheap and conventional items of food to a richer and more varied diet. Milk belongs to the latter category, the demand for which has steadily gone up in the metropolitan cities of the State like Madras, Madurai, Coimbatore and in the other bigger towns. It is not possible to produce the large quantities of milk required in the urban centres in the place of demand. The supply has to come from the neighbouring villages. But the traditional dairy system and supply of milk is handicapped by low productivity of animals, absence of processing and poor marketing facilities. Milk production has not kept pace with the increase in demand. The ideal nutritional standards specify consumption of 280 grams of milk per capita per day. The need for sustained effort for increasing the supply of milk within a short period of time is obvious. Measures taken in this direction would have the further advantage of diversifying our agriculture and opening up opportunities of self employment and increasing the earnings of the weaker sections of society in the rural areas.

Dairy Development under the Fifth Five-Year Plan :

8.1. The dairy development programme in Tamil Nadu has been conceived with the twin

objectives of stepping up of fluid milk production to meet the growing demand for it in the urban areas, and providing employment opportunities for the weaker sections of society in the rural areas by encouraging them to take up cattle rearing.

8.2. In the Fifth Five-Year Plan, an outlay of Rs. 1.40 crores was provided for Dairy Development, but the actual expenditure in the four years of the plan period is expected to be only of the order of Rs. 34 lakhs. The Tamil Nadu Dairy Development Corporation which was set up in 1972 has extended its activities and made significant progress in improving milk production. The Operation Flood Programme has helped the Corporation to generate internal resources for expansion of processing facilities. This programme implemented in eight districts has laid emphasis on farmers' organisation, feeder balancing facilities at Madurai, strengthening of dairy plants at Coimbatore and Ooty, improvement of Chilling Centres and expansion of the processing facilities at Madhavaram Dairy and putting up a new dairy at Ambattur. A number of small milk processing and chilling plants were established throughout the State and the total installed capacity of all the plants in the milk sheds has gone upto 10.65 lakh litres per day (inclusive of the processing facilities of supply Union) ; the average of all the plants

throughout the State works out to 6.5 lakh litres per day. The Corporation has prepared the ground for further expansion in the years to come.

Objectives for the Plan, 1978-83 :

8.3. The programme for dairy development in the Plan, 1978-83 envisages an integrated approach to the improvement of dairying which will encompass health coverage, genetic improvement and the supply of proper feed materials. The number of breedable cattle in the State is 42.32 lakh of which 22 lakhs of animals are reported to be in good condition. They yield a total of 35 lakh litres of milk. It is proposed to increase the production of 82 lakh litres a day. The main strategy to achieve the objective would be qualitative improvement of the cattle by upgrading the genetic stock through a massive programme of cross breeding and artificial insemination. On the organisation side, producers Co-operative Societies will be formed at the primary level which will be linked to the union of producers society at the district level with State federation at the apex. This would help the State in achieving a minimum of fifty per cent of the milk production through the organised sector as envisaged in the national policy. The development programme would endeavour to cover all the towns in the State with one lakh population and above—there are 17 such towns—for the supply of wholesome milk and milk products at prices which will be fair both to the producer and the consumer.

Programmes for the Plan, 1978-83 :

8.4. The master plan for dairy development for 1978-83 envisages formation of six thousand producers societies in thirteen districts where district producers unions are at present non-existent and two districts where unions are existing. The State Government has already taken a policy decision regarding the organisation arrangements for the promotion of dairy development, consistent with the national policy. The producers society at the village level, the Union of producers societies at the district level and the state federation at the apex level will help to achieve the formation of regional milk grid ultimately leading to a national milk grid.

8.5. It is proposed to set up two more plants of 10 tonnes capacity for the production of milk powder, one at Dharmapuri another at Salem and also increase the capacity of the milk powder plant at Madurai by 10 tonnes more. Five Powder plants of 5 tonnes capacity in five union areas have also been proposed. Another 50 chilling centres will be established in the State.

8.6. The Operation Flood-I has come to an end and the Operation Flood-II is likely to be launched soon. Under this programme Tamil Nadu may get about Rs. 40 crores for Dairy Development. The following schemes are proposed under this programme:—

	<i>Outlay (Rupees in crores).</i>
(a) New dairies including tankers	15
(b) Chilling centres	3
(c) Balancing facilities	7
(d) Packaging facilities	2
(e) Technical inputs including Cattle Feed Plants	12
Total ..	39

8.7. Apart from the assistance under Operation Flood-II the corporation needs substantial allocation under the Plan for schemes which are unlikely to attract assistance from Operation Flood-II. The following schemes are proposed in the 1978-83 Plan :—

	<i>(Rupees in crores.)</i>
1. Loan assistance to farmers for Purchase of milch animals (Rs. 50 lakhs per year for five years)	2.00
2. Establishment of Milk Procurement Teams at the rate of Rs. 2 lakhs per procurement team per year at 2 procurement teams per district	2.80
3. Rural Dairy Extension work grants to producers Societies for purchase of Cans, milk testing equipments, managerial subsidy, transport subsidy etc. Lumpsum allocation ..	7.20
4. Loan assistance by way of managerial subsidy and subsidies for assisting Co-operative Unions which are not covered under Operation Flood-II	4.00

	(RS. IN CRORES.)	8.8 The developmental schemes envisaged under other sectors like Calf Rearing Scheme, Small Farmers Development Agency Programme, Drought Prone Area Programme, Integrated Rural Development Programme, Hill Area Development Programme, etc. will also augment milk production.
5. Training Programmes (Dairy personnel)	2.00	
6. Survey and Statistical Units for monitoring the progress of Dairy works	2.00	
Total ..	<u>20.00</u>	

TABLE 8-I.

Five Year Plan 1978-83.

Dairy Development.

Serial number and Head of Development/Programme.	V plan approved Outlay.	Approved Outlay 1978-79 (B.E.)	Proposed Outlay 1978-83.		
			Total.	Capital.	Foreign Exchange.
(1)	(2)	(3)	(4)	(5)	(6)
(RUPEES IN LAKHS.)					
1. Direction and Administration
2. Dairy Development—					
(a) Corporations	2.44	1,600.00	..	..
(b) Dairy Co-operatives	43.43			
3. Training and Education	400.00	..	..
4. Milk Supply Schemes	2.50			
5. Others	10.03	..	..	..
Total	140.00	2,000.00	..	..

TABLE 8-II.

The Tamil Nadu Dairy Development Corporation Limited.

Targets of Production and Selected Physical Programmes.

Serial number and Item.	Unit.	Actual Achievement.		Targets. 1982-83.
		1973-74.	1977-78.	
(1)	(2)	(3)	(4)	(5)
<i>Dairying—</i>				
1. Fluid Milk Plants (including composite and feeder/balancing milk plants) in operation ..	Nos.	9	10	25
(a) Capacity (000 ⁺ litres)	000 ⁺ litres	494	496	596
(b) Quantity handled	in lakh litres/day.	1.38	3.27	..
2. Milk products factories including creameries in operation	Nos.	Nil.	1	5
(a) Capacity	lakh litres/day.	..	1.00/day	5.00/day
(b) Quantity handled	tonnes	..	576	..
3. Dairy Co-operatives unions	Numbers	21	21	21
(b) Producers union	Do.	..	2	9
4. Rural Dairy Producers Co-operative Societies ..	Do.	26	1,350	2,350

TABLE 8-III.

Employment Generation.

Serial number and Programme.	Likely Employment Generation in Man years.					Total
	Scientists	Technical	Adminis- tration	Skilled	Un-skilled	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Dairy Development—</i>						
1. Direction and Administration ..	3	10	25	..	200	238
2. Dairy Development—						
(a) Corporations	6	25	50	..	100	181
(b) Co-operatives .. .. .	..	150	25	..	200	375
3. Training and Education .. .. .	..	..	..	..	..	..
4. Milk Supply Schemes .. .. .	..	15	45	250	1000	1310
5. Others .. .. .	..	..	..	..	..	..

Chapter 9

FORESTS

9.0 Forests supply raw materials to industries like paper, rayon, matches, tanning, etc. They provide also materials for construction and other domestic uses like furniture and fuel. Apart from these, the value of forests as Nature's means of soil and water conservation, wild life preservation and sustaining the ecological balance is well recognised. It is clear that forests have important productive and protective functions and contribute significantly to the economic well being of a country. But if maximum advantage is to be derived from this natural source of wealth, two things are necessary. Firstly forests must have an adequate share of land to meet the growing demand for forest produce; secondly, productivity of forest land is as important as its extent. However, it is disappointing to note that in Tamil Nadu the area under forests continues to be low though the demand for various forest produce both for industrial and domestic purposes has been steadily increasing; nor does the yield per unit area show any improvement. As for extending the area under forests, there are obvious difficulties. Increasing pressure on land, because of population growth, the development programmes for the river vally projects, hydro projects result in the diversion of forest land. Hence, an economic plan relating to forests should not only take into account the need for maintaining and expanding the area under forests but also lay emphasis on improving its productivity and better utilisation by adopting scientific management.

Progress under the Fifth Plan (1974—78) :

9.1. An outlay of Rs. 10.40 crores was provided for forestry development schemes in the Fifth Five-Year Plan. During the four years 1974-78, the actual expenditure amounted to about Rs. 9 crores. In the 1978-79 Annual Plan, a provision of Rs. 3.44 crores has been made under this head. In physical terms, the progress made in the Fifth Plan period was satisfactory. Under the programme of plantation of quick growing species, pulp wood plantation covered 9,883 hectares, fuel wood plantation 9,962 hectares and wattle plantation 4,821 hectares. The social forestry scheme was implemented vigorously and about 25,000 hectares of poramboke lands, foreshore of tanks and waste lands around villages were brought under the farm forestry programme. Soil conservation measures were implemented over an extent of 4,960 hectares in the Vaigai and Mettur reservoir catchment areas.

Objective of the Plan, 1978-'83:

9.2. The development schemes proposed in the 1978-83 Plan will have the following four main objectives :—

(i) Increase the proportion of forest area from the current level 16.84 per cent progressively and to conserve the existing forest area from pressure to divert them for other uses ;

(ii) Provide greater avenues of employment to the weaker sections in the rural areas and to provide full and continuous employment along with ameliorative measures to the tribals living within and in proximity to the forest area.

(iii) Establish tree lands grows in and round villages, small towns and cities.

(iv) Plan and develop multiple use of forestry on lands under the control of forest department as well as on waste lands, Panchayat lands and lands on the side of roads, canals, railway lines around house-sites and ponds, etc.

Programme for 1978-83 :

9.3. Planning for the development of forest has necessarily to be a long term one. In the present plan, priority will be given to such of those schemes which would contribute to the increased supply of forest produce so that the anticipated demand for these can be met in full. The table below indicates the demand pattern for forest products in 1990.

TABLE 9.1.

Projected demand for Forest Produce in 1990.

<i>Forest products.</i>	<i>Demand in 1990. (in metric tonnes.)</i>
(1)	(2)
A. Required for Industrial Use:—	
1. Pulp wood, bamboo ..	90,000
2. Paper, Board Wood ..	20,400
3. Rayon and Staple fibre ..	32,400
4. Wood	40,000
5. Match wood	12,20,000
6. Tanning :	
(a) Wattle bark	17,600
(b) Wattle extract	1,700
(c) Myrobalam	1,800
B. Required for non-Industrial Use :—	
1. Timber	1,30,000
2. Bamboo	33,600
3. Fuel wood	10,00,000

9.4. The following schemes will be implemented in the course of 1978-83 plan Period. A total outlay of Rs. 29.95 crores is envisaged for the Plan. This includes an outlay of Rs. 2.25 crores for development of Cinchona.

Production Forestry.

9.5. Pulpwood, timber, cashewnuts, sandalwood, fuel wood, and tanning materials are important forest produces of Tamil Nadu. There are four major wood based Industries in the state, viz., the paper, rayon pulp, tan extract and the chip board and flush door industries which demand on the forest department for the supply of raw materials. But the production in the forest department for the supply of raw materials is far short of the demand by these industries. In the case of timber, fuel wood and match wood, the production from the State forest meets only small portion of the total demand. The growing tanning industry in the State requires considerable quantity of tan extract whose production also falls short of the demand. It is essential to step up the production of these items by planting quick growing species and adopting scientific forestry programme. Schemes under production forestry have been formulated keeping in mind, the growing demand for forest products.

Plantation of quick growing species :—

9.6. *Pulp wood.*—The department now supply about 80,000 tonnes of wood to the paper industry but its requirement is likely to increase substantially in the coming years. Rayon pulp industry also requires increased quantity of wood. Keeping in mind these factors, it is proposed to raise plantation of quick growing species like eucalyptus, bamboo, etc., over an area of 20,000 hectares during 1978-83 at the rate of 4,000 hectares per annum with an outlay of Rs. 2.00 crores.

9.7. *Fuel Wood.*—There is growing demand for fuel wood, an essential commodity for rural masses. The production from state forests meet just about 10 per cent of the demand. With a view to step up the production of fuel wood planting of quick growing species will be undertaken over an extent of 20,000 hectares during the five years involving an expenditure of Rs. 2.00 crores.

9.8. *Wattle*.—The leather tanning industry in the state requires about 3,000 tonnes of tan extract. The wattle plantation produces about 10,000 tonnes of wattle bark which would give about 1,500 tonnes of tan extract. Myrobalam, Konnai, Avaram barks are also used by the tanning industry. The gap is met by imports. As wattle plantation has to be stopped in Nilgiris and Upper Palani, intensive regeneration of felled plantation is proposed to meet the demand. About 10,000 hectares will be covered under this programme at an estimated cost of Rs. 50 lakhs.

9.9. *Teak, Red Sanders*:—Less than 10 per cent of the demand for timber is now met by the production from the state forest. The demand for timber is likely to increase considerably in the coming years in view of the massive housing programme envisaged in the plan and also due to increase in the requirement for furniture and other domestic requirements. It is proposed to raise teak, red sanders and other hard wood species over an extent of 2,000 hectares during the plan period to augment the timber resources of the state. Outlay is Rs. 20 lakhs.

Plantation of Forest Species for Industrial and commercial use.

9.10 *Sandal*.—Tamil Nadu is one of the few fortunate states to possess sandal wood plantation. It also brings in sizeable revenue to the State's exchequer. Only dead trees are removed for sale and the current production is of the order of 1,500 tonnes per annum. Special attention will be paid in the plan period to preserve this unique plantation to get sustained production. Artificial regeneration will be taken up in suitable tracts. Tending of natural sandal will be done in identified plots covering 2,500 hectares at a cost of Rs. 30 lakhs.

There are three sandal oil distillation factories in the state which together utilise about 230 tonnes of sandal wood. Tamil Nadu Industrial Development Corporation has proposed to set up a sandal oil distillation plant to increase the production of sandal oil which is in great demand from foreign countries besides providing employment opportunities for large number of persons.

9.11. *Cashew*.—Cashew factories in the state and other parts of our country import substantial quantity of unshelled nuts from African Countries to work to their full capacity. It is essential to increase the cashew production to feed this industry. Emphasis will be laid on improving the yield from the existing plantation by taking agronomic practices such as application of fertiliser in optimum doses, plant production measures and conserving soil and moisture. It is proposed to raise cashew plantation over an extent of 10,000 hectares during the plan, at a cost of Rs. 30 lakhs.

9.12. *Rubber*.—Rubber plantation was taken up in Kanyakumari district from 1960 and an area of about 4,148 hectares has been planted. An extent of 1,239 hectares has been progressively brought under tapping. A 5 tonne capacity factory at Keeriparai converts raw-rubber into sheet rubber, crope rubber and concentrated latex. There is scope for raising rubber plantation in about 800 hectares of land. Planting will be taken up in the plan period at an estimated cost of Rs. 75 lakhs. It is expected that the schemes contemplated under Western Ghat development programme would also help the rubber plantation programmes.

9.13. *Social Forestry*.—Social forestry consists of raising trees, grass and fodder in the farmers' own lands, village common lands, waste lands and other lands close to the habitations, to meet the ever-growing demand for fuel wood, timber and fodder. Emphasis will be laid on this scheme during the plan period in view of the limited scope for increasing the forest area on any large scale. Social forestry scheme is expected to go a long way in augmenting the production of timber, fuel wood, industrial wood, fodder, etc. and in increasing the area under tree cover. In the past, nearly 67 thousand hectares has been brought under tree cover. Tamil Nadu offers considerable scope for social forestry and with the active involvement of the people, the scheme would certainly bring about substantial benefits to the rural people in terms of increased employment opportunities and increased availability of fodder and timber.

9.14. A preliminary assessment of the area that could be brought under social forestry scheme

reveals that out of 14.64 lakh hectares of land now classified as barren and un-cultivable land, cultivable waste land and permanent pastures, about 1/3rd of the area, i.e., 4.9 lakh hectares would be suitable for raising social forestry. Six lakh hectares of tank foreshore lands, 13,000 hectares of canal bank lands, 3,000 hectares of coastal land (both revenue and private) and another 3,000 hectares along the railway line could also be brought under social forestry scheme. Small farmers may also be encouraged to take up tree plantation on their lands. A comprehensive scheme for the development of social forests has been prepared involving a total expenditure of Rs. 58.61 crores which would be implemented over a period of ten years. The International Development Association is expected to provide financial assistance for implementation of this social forestry scheme.

9.15 Briefly, the scheme envisages covering 13,000 hectares under form forestry which would involve creation of forests in and around villages in compact and suitable areas in poromboke lands, and forest lands. Afforestation of waste lands, barren slopes, road side are proposed under extension forestry which would cover an areas of 20,000 hectares. The river canal, lake fringe forest, etc. would cover 10,000 hectares where important species of economic value like teak would be raised. This would help in preventing soil erosion. A total outlay of Rs. 14.50 crores has been provided in the plan for the social forestry scheme.

9.16 *Soil Conservation*.—Afforestation of catchment areas of rivers and reservoirs and other allied measures of soil conservation are essential for averting silting of reservoirs, avoidance of erosion of land, etc. Soil Conservation measures in Vaigai catchment area and Mettur reservoir catchment area will be continued during the plan period covering a total area of 12,000 hectares. An outlay of Rs. 60 lakhs has been provided.

9.17. *Minor forest produce*.—Under this scheme species of trees of economic importance such as tamarind and bursars would be raised in an area of 10,000 hectares, at an outlay of Rs. 40 lakhs in the plan period.

9.18. *Forest Research and Survey*.—The organisation for carrying out research and surveys in forestry will be strengthened at a cost of Rs. 30 lakhs. Its scope will be enlarged and it will undertake investigation in the field of Silvi-culture, genetics, soil science etc.,

9.19. *Survey and demarcation works*.—Ex-Zamin forests, taken over by the Department, about 3,000 sq.kilo metres, will be surveyed. The forests resources survey in the districts of Nilgiris, Coimbatore, Salem and Dharmapuri will be completed by 1980-81 at a cost of Rs. 10 lakhs.

9.20. *Working plan*.—Working plans form the basis for the management of forests. An amount of Rs. 5 lakhs is proposed for purchase of survey instruments.

9.21. *Forest Communications and buildings*.—Improving communication facilities in the forest area to facilitate quicker transport of timber and other forest produce forms a very essential part of forestry development. In the Sixth Plan period special attention will be given to the improvement of living conditions of the staff in the forest areas. Apart from Rs. 40 lakhs provided for improvement of forest communications a similar amount will be allotted for the construction of quarters for the forest staff.

9.22. *Publicity and forest protection*.—For highlighting the role of forests and wild life in the welfare of the nation, adequate publicity has to be made. A provision of Rs. 10 lakhs has been made for forest publicity and propaganda. To protect the forests from fire, pests and pilferage by people, the protective staff has to be strengthened. Rs. 5 lakhs has been set apart for forest protection scheme.

9.23. *Amenities to staff*.—The forest department staff and the forest labourers have to work in remote places, amidst number of hardships. Basic amenities, such as labour line, clothing and medical aid have to be provided to them. An outlay of Rs. 30 lakhs is proposed for the same.

For mechanised logging and training of the labour an outlay of Rs. 10 lakhs is proposed.

9.24. *Wild life*: Wild life is an important national resource. It has an immense bearing on cultural, educational, aesthetic and recreational

and also economic aspects of life. Every species plays an important role in the maintenance of the balance of nature. Indiscriminate killing and destruction of wild life and rare species by poachers have resulted in adverse impact in other fields. Some of the wild life like tiger, panther, leopard, the cheetah, the sloth bear, the spotted deer, the sambhur, the gaur, etc., which were found in large numbers in the State some twenty years ago are slowly dwindling in number and some of the species are approaching extinction. For effective implementation of wild life protection Act, 1972 enacted by Parliament and Tamil Nadu Rules, 1975 on the Act, adequate infrastructure has to be built up. Mudumalai, known for its elephant, barking deer and gaur, Mundanthurai, Point Calimere, Anamalai, Kalakad, Vettangudi are the important wild life sanctuaries in Tamil Nadu. Vedantungal is an important bird sanctuary.

9.25. The accessibility and other amenities to these sanctuaries need further improvement for the purpose of conservation of the species and to attract tourists. During the Plan, it is proposed to construct watch towers at Vedanthangal, Anamalai and Vettangudi. Dormitories are proposed for Mundanthurai and Vedanthangal. Water Development works such as check dams, ponds and wells improvement to road, construction of rest houses have also been proposed in these sanctuaries.

9.26. During the plan, it is proposed to develop the following places, which have good potential as sanctuaries.—

Pichavaram	South Arcot District
Muthupettai	Thanjavur District
Courtallam	Tirunelveli District
Kodayaru	Kanyakumari District
Manjampettai	Coimbatore District
Talamalai	Coimbatore District
Hogenakal	Dharmapuri District

A total outlay of Rs. 75.00 lakhs has been provided in the plan for development schemes relating to wild life sanctuaries.

9.27. *Zoological Park*: The land where the Zoological park is now existing has been handed over to the Railways for expansion of Madras Central Station. Shifting of the Zoo to a more spacious place with an ideal environment has been engaging the attention of the State Government for quite sometime. A master plan for setting up the Zoological park at Vandalur, about 30 kms. from Madras city has been prepared. A provision of Rs. 3.00 crores has been made for setting up of Zoological park.

9.28. *Tribal Development*:—The forest department has an important role to play in uplifting the socio-economic conditions of the tribal population and bringing them to the main stream of life from their isolation. The forest development programmes in the earlier plans have number of schemes for improving the lot of the tribals who live in the forest area. Tamil Nadu has a tribal population of 3.63 lakhs forming a little less than one per cent of the State's total population. Special efforts were taken during the Fifth Plan for the tribal development through formulation of sub-plan for identified areas where there is a concentration of tribal population. The sub-plan aims at improving the economic conditions of tribals by providing educational and health facilities. The forest department on its part have employed tribals for departmental works, recruited tribals in the subordinate services and permitted free grazing of their cattle in the reserved forest and have also been allowing the tribals to remove some forest produce for their domestic and agricultural purposes.

9.29. During this plan period, it is proposed to recruit tribals for the post of watcher, ranger and forester irrespective of their age and qualification. Their skill in capturing elephants, sandal wood enumeration and extraction, and their capacity to endure hardship are valuable assets rather than any formal educational qualification and prescribed physical standards. In the afforestation Programmes "KUMRI" cultivation will be adopted on a wider area which will benefit the tribals in a substantial way, in terms of increased employment opportunities and also assure them a fair share in the crop raised. The housing conditions are far from satisfactory. It is proposed to construct 500 houses for tribals. Open-

ing of five primary schools, improvement to roads are the other important schemes to be implemented during the plan. All these would involve a total expenditure of Rs. 1.23 crores. The forestry sector plan (State scheme) has set apart an outlay of Rs. 50 lakhs for these tribal development schemes, while the remaining amount would come from central assistance.

Tamil Nadu Forest Plantation Corporation :

9-30. The TAFORN set up in 1974 took over the commercial and developmental activities from the Forest Department in South Arcot, Tiruchirappalli, Pudukottai and Ramanathapuram Districts. The Corporation is taking up plantation of eucalyptus, cashew and casuarina and also running a lac factory. The Corporation has prepared a plan to raise eucalyptus over an extent of 30,000 hectares which will be implemented during the plan period with financial assistance from banks.

Tamil Nadu Tea Plantation Corporation Limited :

9-31. What was essentially started as a rehabilitation project for Sri Lanka repatriates has since been converted into a Corporation with financial assistance from the Agricultural Refinance Development Corporation. The TANTEA has taken over about 1,500 hectares of land from the Forest Department for developing tea plantations. An area of nearly 1,300 hectares has already been planted. The Corporation has also constructed a tea factory and has proposals to set up another one at Coonoor.

9-32. *Centrally Sponsored Schemes*:—A total outlay of Rs. 6.30 crores is envisaged for the following schemes to be implemented as Centrally sponsored schemes :—

(i) To improve the yield of cashew plantation it is proposed to propagate high yielding varieties through vegetative propagation. Outlay is Rs. 5.00 lakhs.

(ii) It is proposed to raise plantation of eucalyptus, babul, casuarina, etc., in the waste lands vested with Panchayats. An area of 22,500 hectares will be covered at a total cost of Rs. 2.25 crores.

(iii) Degraded forests will be clearfelled and fuel plantation will be raised in an area of 10,000 hectares. An outlay of Rs. 1.00 crore is envisaged for this scheme.

(iv) For creation of shelter belts in coastal areas an outlay of Rs. 1.00 crore is proposed.

(v) Hill area development will be implemented in Nilgiris District at a cost of Rs. 2.00 crores.

CINCHONA.

9-33. Quinine salts required for manufacture of anti-malarial drugs and analgesics and Quinidine salts used in cardiac therapy are obtained from the bark of Cinchona trees. An area of 2,153 hectares is under Cinchona Plantation and 1,020 hectares is covered under Medicinal and Aromatic oil bearing plants. The Cinchona factory produces at present about eight to nine tonnes of Quinine and Quinidine salts and the essential oil factory produces aromatic oils which are widely used in the manufacture of cosmetics, perfumery and soaps. Owing to a fall in the demand for Quinine products, the Cinchona Industry was adversely affected during the fifties and the State Government took a policy decision not to increase the area under Cinchona. The Department diversified its activities by raising medicinal and aromatic oil bearing plants such as Scented Geranium, Eucalyptus Citriodora, Java Citronella and Patchouli. Thanks to the revival of demand for Quinine products in the International market in recent years, the department was able to sell the accumulated stocks and earned a profit of Rs. 1.41 crores during 1972-77. The demand for Quinine and Quinidine products for use in the country and for export is estimated at about 50 tonnes. As against this, the production in the country is of the order of 18 to 20 tonnes shared equally by Tamil Nadu and West Bengal. Keeping in mind the increasing demand for Quinine products in the domestic and international market and the expanding market for aromatic oils, it is proposed to take up replacement of old and unproductive Cinchona plants by new and better strains in the existing plantations, introduce scientific cultivation of medicinal and aromatic oil yielding crop and to modernise the two factories.

A total outlay of Rs. 2.25 crores is envisaged for Cinchona development during the plan period. The following programmes are contemplated:—

Scheme for Vegetative propagation and cultivation of Chinchona:

9.34. Vegetative propagation is adopted for propagating high Quinine and Quinidine yielding trees, as multiplication through seeds does not invariably turn out true to the parent. Since there is no fresh area for expansion, planning is undertaken in older areas and supplement the nutrients needed with chemical fertilisers, besides cultural operations to achieve better results. New plantings have to be undertaken after uprooting the unproductive plants and preparing the land in a scientific manner. During the plan it is proposed to cover 655 hectares under new plantation. 141 ha. will be covered with new strains by vegetative propagation involving a total outlay of Rs. 91.34 lakhs.

Scheme for expansion of intensive cultivation of Medicinal and Aromatic plants:

9.35. Scented Geranium, Eucalyptus citriodora, Java citronella and Patchouli are some of the important plants cultivated. The aromatic oils produced by the Naduvattam Factory are now increasingly being used in the manufacture of cosmetics, perfumery and soaps. The Department could not meet the entire demand due to limited production. There is scope for expanding the cultivation of these plants in a larger area. It is proposed to take up intensive and scientific cultivation of these plants to improve productivity. During the Plan period, it is proposed to take up planting of Geranium over an extent of 106 ha. and other species in an area of 101 ha. An outlay of Rs. 20.96 lakhs is envisaged.

Scheme for Intensive Research on Development of Medicinal and Aromatic Plants:

9.36. It is essential to identify suitable strains of various Medicinal and Aromatic Plants for an area to obtain optimum growth. Equally important is to evolve high yielders and to determine the optimum condition for planting, harvesting, processing the raw materials, etc., by laying experimental plots of various crops.

In addition to the Medicinal and Aromatic plants that are already under cultivation in the Department, it is proposed to introduce new medicinal plants like *Solanum laciniatum*, *Solanum Khasianum* (Drugs used in the preparation of steroid hormones and cortizone) after preliminary studies. It is also proposed to take up soil analysis in different divisions of the Department to study the optimum requirement of nutrients. For this purpose, the research activities of the Department have to be stepped up considerably. An outlay of Rs. 4.60 lakhs is proposed for this work.

Modernisation of Factories:

9.37. Some of the equipments in the Quinine Factory have become old and obsolete. It is proposed to modernise the plant by replacing the outlived parts of the machinery to maintain the quality of products. It is also proposed to replace the present system of open extraction of Chinchona bark with a closed circuit system to increase the factory efficiency and reduce the costs. Further, modification of some machine is necessary to take up manufacture of Strychnine and Brucine alkaloids from *nuxvomica* seeds. The medicinal and essential oils Factory at Naduvattam also needs modern and sophisticated equipment for purification and grafting of Medicinal and Essential oils. A new technique has been evolved for the production of Caffeine from tea waste. A few additions to the existing machinery will be necessary to process the tea waste. Modernisation of these two factories are proposed involving a total expenditure of Rs. 28 lakhs.

Buildings, Roads and other Amenities:

9.38. The plantations and the factories are located in the forest area in remote places. The existing housing facilities for the staff and the workers are inadequate. The roads inside the plantation are also not upto the standards. These basic amenities need further improvements which will certainly go a long way in providing an ideal environment for the workers to improve their productivity. Construction of staff quarters standard houses for workers, all weather roads are contemplated involving an outlay of Rs. 80.10 lakhs.

TABLE 9.I.

Forests: Scheme-wise Allocation for 1978—83 Plan:

Name of Sector.	Financial require- ment for 1978—83 Plan.
(1)	(2)
	(RUPEES IN LAKHS.)
Research and Education	30.00
Survey, Demarcation and Settlement of Forests.	5.00
Resources Survey	10.00
Working Plan (Purchase of equip- ment).	5.00
Roads	40.00
Buildings	40.00
Pulpwood plantation	2,00.00
Fuelwood plantation	2,00.00
Wattle plantation	50.00
Teak, Red Sanders	20.00
Sandal plantation	30.00
Cashew plantation	30.00
Rubber plantation	75.00
Social Forestry IDA assisted scheme State plan provision (Village forest, extension forest, river, canal, lake fringe, railway lines).	14,50.00
Vaigai and Mettur Reservoir conser- vation	60.00
Wild Life environmental Sanctuaries.	75.00
Zoological park	300.00
Forest protection	5.00
Mechanised logging and Marketing of timber transport and training.	10.00
Minor Forest plantation	40.00
Publicity and Propaganda	10.00
Planning, Statistical and evaluation cell.	5.00
Amenities to staff	30.00
Tribal Development	50.00
Total	27,70.00

Name of Sector.

(1)	(2)
	(RUPEES IN LAKHS.)
<i>Central Schemes.</i>	
Cashew Vegetative propagation ..	5.00
Extension forestry	225.00
Regeneration of degraded forest ..	1,00.00
Shelter belts in the coastal area ..	1,00.00
Hill area development	2,00.00
Total	6,30.00

TABLE 9.II.

Cinchona.

Details of Physical and Financial Targets
1978—83 Five-Year Plan.

Scheme.	Physical coverage in hec.	Proposed outlay for 1978—83.
(1)	(2)	(3)
		(RUPEES IN LAKHS.)
1 Scheme for Intensive cultivation of Cinchona and developing Vegeta- tive propagation for improving strains.	7,96	91.34
2 Expansion and Intensifi- cation of cultivation of Aromatic plants.	2,07	20.96
3 Intensive Research on Development of Medici- nal and Aromatic plants.	..	4.60
4 Gradual Modernisation of plant and equipment for the Quinine Factory Cinchona and Medici- nal and Essential Oils Factory, Naduvattam.	..	28.00
5 Provision of Buildings, roads and other ameni- ties.	..	80.10
Total	10,03	2,25.00

TABLE 9. III.

Five-Year Plan 1978-83.

Forests and Cinchona : Head-wise/Sub-headwise break up of Financial Outlays.

Serial number and Head of Development/ Programme.	Fifth Plan approved outlay.	Approved outlay 1978-79	(RUPEES IN LAKHS)		
			Proposed outlay 1978-83.		
			Total.	Capital.	Foreign exchange.
(1)	(2)	(3) (BE)	(4)	(5)	(6)
1 Direction and Administration ..		0.40	5.00	..	..
2 Research, Education and Training ..		12.23	30.00	..	..
3 Forest Conservation and Development.		32.84	15.00	..	..
4 Forest Resource Survey .. ..		..	10.00	..	..
5 Plantation Schemes including Cinchona—					
(a) Departmental	} 10,48.00	227.04	23,20.00	..	..
(b) Forest Corporation					
(c) Others					
6 Forest Development Corporations (Equity participation).		..	..	..	..
7 Forest Communications and Buildings.		11.00	80.00	..	..
8 Preservation of Wild life (includes a provision of Rs. 3.00 crores for Zoological park).		21.95	3,75.00	..	..
9 Others		11.48	1,60.00	..	..
Tribal Area Sub-plan		15.20	..	..	..
Forest Produce		11.93	..	..	..
Total ..	10,48.00	3,44.07	29,95.00	..	..

TABLE 9. IV.

Five-Year Plan 1978-83.

Forestry Programmes : Achievement and Targets.

Serial number and programme.	Unit.	Actual achievements.		Target 1982-83.
		1973-74.	1977-78.	
(1)	(2)	(3)	(4)	(5)
1 A. Economic Plantations (Short rotation species)—				
(a) Departmental	'000 hectares.	22·252	12·807	21·800
(b) Co-operative	Do.	Nil.	Nil.	Nil.
(c) Others	Do.	Nil.	Nil.	Nil.
B. Economic Plantations (Long rotation species)—				
(a) Departmental	Do.	9·478	12·762	3·900
(b) Co-operatives	Do.	Nil.	Nil.	Nil.
(c) Cinchona	Do.	..	0·255	1·003
2 Special Plantations				
A. (Short rotation species)—				
(a) Departmental	Do.	18·216	46·698	70·000
(b) Co-operative	Do.	Nil.	Nil.	Nil.
(c) Others	Do.	Nil.	Nil.	Nil.
B. Special Plantations (Long rotation species)—				
(a) Departmental	Do.	1·971	4·008	10·000
(b) Co-operative	Do.	Nil.	Nil.	Nil.
(c) Others	Do.	Nil.	Nil.	Nil.
3 Communications—				
(a) Departmental	'000' km.	0·020	0·038	0·100
(b) Co-operatives	Do.	Nil.	Nil.	Nil.
(c) Others	Do.	Nil.	Nil.	Nil.

TABLE 9. V.
Five-Year Plan 1978-83.

Forests and Cinchona Employment Generation.

<i>Serial number and Head of Development/programme.</i>	<i>Likely employment generation in Man-years.</i>					<i>Total.</i>
	<i>Scien- tists.</i>	<i>Tech- nical.</i>	<i>Adminis- tration.</i>	<i>Skilled.</i>	<i>Un- skilled.</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Direction and Administration
Research, Education and Training.	..	12	15	2	609	638
3 Forest Conservation and Develop- ment.	..	6	1	1	268	276
4 Forest Resources Survey	5,000	..
5 Plantation Schemes—						
(a) Departmental	53	27	14	61,802	61,896
(b) Forest Corporation
(c) Others
6 Forest Development Corporation (Equity Participation).
7 Forest Communication and Buildings.	2,000	2,000
8 Preservation of wild life	5,333	5,333
9 Others	4	..	..	10,465	10,469

Chapter 10

FISHERIES

10.0. Fish-food makes a substantial contribution to the requirements of animal protein for the people. In a State like Tamil Nadu where the intake of nutritional food of a vast majority of the people is far below the recommended level, fish supplements nutritionally rich food at relatively low cost. The fishing industry provides employment to a sizeable section of the work force. The exports of fish and fishery product make a significant contribution to the foreign exchange earnings of our country. Tamil Nadu accounts for 16 per cent of India's fish production. In view of the immense potential of the fisheries resources, the successive Five-Year Plans attached importance to the fishery development programmes.

10.1. Tamil Nadu is endowed with abundant natural resources for the development of both marine fisheries and inland fisheries. A long coast line of 1,000 kms. and a continental shelf of about 34,820 sq.kms. with an estimated potential 8.80 lakh tonnes offer considerable scope for stepping up of marine fish production. The present marine fish production is only of the order of 2.3 lakh tonnes. The State is also fortunate in having extensive inland fishery resources with its rivers, reservoirs, tanks, ponds estuaries, backwaters and swamps. The total culturable inland water spread in the State has been estimated

at around 3.51 lakh hectares. The inland fish production is of the order of 1.50 lakh tonnes which gives an average production of 428 kgs. per hectare. Experimental research in some tanks has shown that a production of 9,000 kgs. per hectare is possible. Some States have achieved a production of 2,500 kgs. per hectare. Compared to this, our productivity is rather very low. With sustained efforts and scientific fish culture, the productivity level in the inland fishery can be increased considerably.

Review of progress during the Fifth Plan;

10.2. A total outlay of Rs. 18.80 crores was proposed in the first instance for fishery development. However, at the subsequent stages of discussion, the outlay was scaled down and was finally fixed at Rs. 13.44 crores. In the four years 1974-78, an expenditure of Rs. 6.62 crores has been incurred. A provision of Rs. 1.4 crores is made in the 1978-79 annual plan. The likely expenditure in the 5 year period thus may come to Rs. 8.02 crores only. Adequate allocations have not been made in the annual plans though the 5 year plan has provided an allocation of Rs. 13.42 crores. The Plan aimed at increasing the total fish production to 6.30 lakh tonnes by

1978-79 (4 lakh tonnes marine fish, 2.30 lakh tonnes inland fish) from the base level, (1973-74) production of 3.74 lakh tonnes (2.24 lakh tonnes and 1.50 lakh tonnes respectively). There has not been any significant increase in the fish production during the plan period. The estimated production in 1977-78, is 3.85 lakh tonnes (2.35 lakh tonnes of marine fish and 1.5 lakh tonnes of inland fish). The drought condition in 1974-75 and the floods in 1976-77 have considerably affected the inland fish production. Slow pace of mechanisation of boats and introduction of only 4 trawlers, 2 by Fisheries Development Corporation and 2 by private sector as against the proposed 50 and poor exploitation of off-shore fishing were the main reasons for the shortfall in the target of marine fish production.

Objectives of the Plan, 1978-83 :

10.3. The main objectives of fishery development programmes are : (1) to maximise fish production—both marine and inland—by efficient exploitation of the fish potential, (2) to augment the nutritional deficiency of the population by increasing the availability of fish, (3) to provide large scale employment opportunities by expanding the fishing industry, (4) to make a sizeable contribution to the foreign exchange earning of the country by stepping up the export of shrimps, and (5) to improve the socio-economic conditions of fishermen by providing them financial assistance and other amenities.

Targets and strategy :

10.4. It is proposed to set up the marine fish production to 2.50 lakh tonnes and the inland fish production to 4.00 lakh tonnes to achieve a target of 6.50 lakh tonnes of total fish production by the end of 1982-83. Emphasis will be laid on accelerating the pace of mechanisation of boats, improving the operational efficiency of traditional fishing crafts and introduction of more trawlers to achieve the target of marine fish production. Concerted efforts will be made to improve the average production of fish per hectare in the case of inland fish by dissemination of knowledge regarding scientific culture of fresh water fish.

A total outlay of Rs. 19.55 crores is envisaged for fishery development schemes for 1978-83 plan period.

SCHEMES

MARINE FISHERIES

10.5. The continental shelf of Tamil Nadu is estimated to have a potential of 8.80 lakh tonnes. The plan programmes aim at exploiting the potential to the maximum extent. The continental shelf of the Tamil Nadu Coast has a width varying from 40 kms. to 60 kms. The areas can be divided into 3 zones—viz., in-shore (0 to 10 fathoms), off-shore (10 to 40 fathoms) and deep-sea (beyond 40 fathoms). The present exploitation is largely limited to the inshore zone and that too not to the full extent. The 1978-83 Plan aims at full exploitation of the in-shore zone and making a beginning in the off-shore fishing.

Improving the operational efficiency of traditional crafts:

10.6. According to a survey conducted in 1976, there were 34,000 catamarans and 8,000 canoes and vallams in operation in the State. With some changes or modifications, the existing traditional crafts can be made more effective for increasing the catches. This programme would greatly benefit the poorer sections of the fishermen. It is proposed to improve the operational efficiency of these traditional crafts through introduction of out-board motors, in-board motors and improved gears. The scheme envisages granting of a subsidy of 50 per cent to mechanise, atleast 10 per cent of the traditional crafts during the plan period. Fifty per cent of the cost will be given as subsidy to the fishermen. About, 3,400 catamarans and 800 canoes and vallams will get the benefit of the scheme and a total outlay of Rs. 2.7 crores has been provided.

Introduction of fibre glass boats :

10.7. Small fibre glass boats have become popular with the fishermen. It is estimated that a fibre glass boat may cost about Rs. 20,000. To make it available within the reach of the traditional fishermen, the plan proposes to extend a subsidy of 1/3 of the cost. 2,000 such boats

will be introduced during the plan period and an outlay of Rs. 1.50 crores has been made to cover the subsidy portion.

Introduction of trawlers :

10.8. With the recent demarcation of an exclusive economic zone, upto a limit of 200 miles from the coast, the possibility of exploiting the deep-sea resources in areas such as Wadge Bank in the Indian ocean has brightened. This may require introduction of a sizeable number of bigger fishing vessels. During the Fifth Plan, though we have proposed to introduce 50 trawlers, we could introduce only two. The Central Government is extending financial assistance from the Shipping Development Fund for import of trawlers. The plan aims at introducing 30 trawlers during 1978-83 plan through the Tamil Nadu Fisheries Development Corporation. For this purpose, share capital assistance to the Corporation to the extent of Rs. 50.00 lakhs will be given.

Increasing the fleet strength of mechanised boats :

10.9. The plan proposes to add 1,200 mechanised boats during 1978-83. Liberal credit facilities are now available from the banks under refinance scheme by the Agricultural Refinance Development Corporation for the purchase of mechanised boats. The banks are charging 11 per cent interest. The interest liability, when capitalised, works out to a subsidy of 10 per cent of the hull and engine. It is proposed to add 1,200 mechanised boats during the plan period. On the basis of the existing procedure for subsidy and the target for addition of mechanised boats, provision of Rs. 195 lakhs towards capital subsidy and Rs. 265 lakhs for giving margin money has been made in the plan.

Insulated box for traditional fishermen :

10.10. The use of insulated boxes by traditional fishermen will be popularised for bringing their catch to the shore without any loss of value to their catch. Each box is estimated to cost Rs. 300 and it is proposed to supply these boxes to the owners of traditional fishing craft which are to be mechanised during the plan, at a subsidised price of Rs. 150. An outlay of Rs. 10.00 lakhs has been set apart to meet this 50 per cent subsidy.

Subsidy for purchase of traditional gears :

10.11. This scheme envisages granting of 25 per cent subsidy for the purchase of gears and nylon nets. Rs. 20.00 lakhs has been earmarked for this scheme.

Mooring facilities and landing jetties :

10.12. Apart from the harbour facilities and landing jetties created for the benefit of mechanised boats under Centrally sponsored schemes, mooring facilities and landing jetties have to be provided at suitable places to cater to the needs of smaller boats and traditional crafts. Such facilities will be created at suitable places and a token provision of Rs. 25.00 lakhs has been made.

Diversification of fishing operation by mechanised boats :

10.13. The fishermen have to be educated to obtain better return from fishing operations other than bottom trawling such as gillnetting, mid-water trawling, purse-seining, trap fishing, etc., to enable the fishermen to purchase the gear required for such diversified fishing, a subsidy of 25 per cent is contemplated. The five year outlay for the scheme is Rs. 25.00 lakhs.

INLAND FISHERIES

Fish Seed Farms :

10.14. The plan programmes aim at achieving a productivity level of 1,500 Kgs. per hectare with a view to increase the total production of fresh water fish. The prime requisite for realising this targetted increase is the availability of fingerlings in sufficient numbers. It has been estimated that at the rate of 30 lakh fingerlings for every one thousand tonnes of production, 338 million fingerlings will be required at the end of the plan period to achieve the targetted production. The present annual production of fingerlings is about 50 millions. Though the Department is well equipped in the technique of breeding, the main constraint is the availability of breeding and rearing ponds. It is estimated that to establish fish seed farms, Rs. 5.00 lakhs per hectare may be required. The plan proposes to establish a total extent of 50 hectares of additional seed farms during the plan period.

Rs. 3.00 crores has been set apart for this scheme and a separate engineering wing in the Fisheries Department will be set up for construction of fish seed farms. These farms will be established at Krishnagiri, Upper Aliyar, Bhavanisagar and Tirukattupalli.

Reservoir Fisheries :

10-15. All the major reservoirs in the State are now either under the control of the Fisheries Department or the Fisheries Development Corporation for the purpose of fisheries development. Scientific culture practices, fertilisation of reservoirs where there is a closure of outlet for 4 or 5 months are proposed to increase the output from the reservoir fishing. A sum of Rs. 50.00 lakhs is proposed.

Inland brackish water fishery :

10-16. Research conducted by the Department in the culture of prawn and other compatible marine fish and molluscs in brackish water has shown encouraging results. A pilot project to develop 50 hectares of brackish water in Killai in South Arcot district has been taken up. It is proposed to establish 5 more farms during the plan period and a provision of Rs. 1.00 crore has been made.

Molluscan culture :

10-17. Central Marine Fisheries Research Institute's research on 'rope culture of mussels on rafts' has yielded promising results. A sum of Rs. 5.00 lakhs has been made in the plan to propagate the mussels cultivation.

Culture of pearls :

10-18. The commercial production of induced culture of pearls will be taken up during the plan period. A sum of Rs. 25.00 lakhs has been provided.

PROCESSING AND MARKETING

10-19. Fish being a perishable commodity requires considerable care in processing and marketing. The Department's effort to popularise the use of ice for preservation has served its purpose as can be seen from the increased demand for ice and the setting up of a number of ice plants by private people in the proximity

of coastal fishing villages. Further, the commercial activities have been transferred to the Fisheries Development Corporation. In view of these developments, the Department does not propose to set up any more new ice plants and the existing plants will be phased out.

10-20. The private sector is expected to meet the growing demand for ice by creating new capacities in places like Madras, Nagapattinam, Mallipattinam, Kodikarai, Tuticorin, Chinnamuttom and Cuddalore. The Fisheries Development Corporation will put up ice-making, freezing and cold storage plants of commercially viable size at the fisheries harbours at Madras, Tuticorin and Chinnamuttom and also introduce more number of refrigerated vehicles. The Corporation is expected to play a major role in the marketing aspects also during the plan period. For implementing these schemes, the equity base of the Corporation has to be strengthened for which the plan has earmarked Rs. 1.25 crores towards share capital assistance to the Corporation.

TRAINING

10-21. There are now 6 fishermen training centres which impart training to young fishermen in the operation and maintenance of mechanised fishing boats, navigation, seamanship, etc. Response to the training courses, offered by these centres has not been very encouraging. The number of centres will be reduced to 3 and the training course will be re-oriented so as to make them more attractive. A sum of Rs. 3.00 lakhs is proposed for this scheme.

Training programmes for brackish culture and training of fishermen whose traditional crafts are to be mechanised, in the operation of motors will also be arranged.

In-service training for the probationers in the Staff Training Institute, and short duration course for officers in the research centres are also proposed. An outlay of Rs. 5.00 lakhs has been set apart.

RESEARCH, SURVEY AND STATISTICS.

10-22. Research on increasing the survival, rate of hatchlings in nurseries, increasing the productivity of ponds and tanks by fertilisation

control of insects, determining the optimum conditions for the survival of fry and fingerling breeding and rearing of exotic fishes and composite fishing culture will be undertaken during the plan period.

To improve the availability of fisheries statistics, a statistical unit in the Fisheries Department is proposed. A total outlay of Rs. 25 lakhs has been provided for research, survey and statistics.

Aquarium and oceanarium :

10.23. Though the Madras aquarium has the unique distinction of being the first such aquarium to be opened in the country, it looks rather very small compared to other aquariums that have come up in recent years. It is proposed to expand the Madras aquarium and establish another one at Kanyakumari. Rs. 40 lakhs has been provided for these schemes.

The Mandapam-Krusadai area is endowed with rare species of marine aquatic life. Preliminary exploratory work will be undertaken during the plan period for establishing an under-water oceanarium.

AMENITIES TO FISHERMEN

10.24. Provision of link roads to fishing hamlets, water supply, electrification of fishing villages, housing facilities to fishermen will receive priority during the plan period. No separate allocation is made in the Fisheries Development Plan for provision of these amenities, but it will be ensured that the agencies, such as TWAD Board, THADCO, Electricity Board, and Highways Department implement the schemes recommended by Director of Fisheries for the benefit of fishermen. An outlay of Rs. 2 crores has been earmarked in the roads-Plan for improving the communication facilities of fishing villages. Harijan Housing and Development Corporation which has already built about 6,535 houses for fishermen will be impressed upon to earmark at least Rs. 2 crores for provision of housing facilities to fishermen.

Provision of guidelights :

10.25. It is necessary to erect guidelights and beacons at important landing centres along the coast so that fishermen could locate their base

station easily during night hours. An adhoc provision of Rs. 10 lakhs has been set apart for erection of guidelights and beacons.

Landing facilities for mechanised boats:

10.26. The Plan programmes envisage substantial increase in the fleet strength of mechanised boats. The coast line extends to a length of 1,000 km. and about 350 fishing villages are located along the coast line. Landing facilities have to be provided in as many places as possible. A total outlay of Rs. 2.50 crores is envisaged for providing landing and berthing facilities at important fish landing centres. This outlay includes a sum of Rs. 1 crore towards state's share for Centrally sponsored schemes for improving landing facilities.

CENTRALLY SPONSORED SCHEMES

Fishing harbours :

10.27. The 1978-83 plan lays emphasis on mechanisation of boats and introduction of bigger fishing vessels for exploitation of marine fish potential. If our mechanisation programme is to succeed and the objective of increased marine fish production is to be realised there is an urgent need to provide landing and berthing facilities at important landing centres along the coast in Tamil Nadu. During the earlier plans considerable improvements have been made in Madras, Cuddalore, Nagapattinam, Mandapam, Rameswaram and in a few other places. The Tuticorin Fishing Harbour which was completed recently can accommodate 400 mechanised boats and 10 medium size trawlers. Landing facilities are being improved at Kodikarai and Mallipattinam. The Madras Fishing Harbour on completion is expected to provide berthing facilities for 500 mechanised boats and 50 trawlers. About 2,200 mechanised boats are now operating along the Tamil Nadu coast. The available capacity for landing and berthing even after completion of the on-going programmes will be inadequate to meet the demand. Further, 1978-83 plan envisages addition of nearly 1,200 mechanised boats and 50 trawlers. In view of the addition in the fleet-strength proposed in the plan, it is necessary to provide harbourage facilities for bigger trawlers and mechanised boats in a larger number of places. It is proposed that a Major Fishing Harbour at Chinnamuttom

in Kanyakumari district and second stage work at Madras Fishing Harbour may be taken up during the plan period. Landing facilities may have to be provided in 9 centres. The work has to be initiated without any further delay in the following 3 places :—

Vallinokkam in Ramanathapuram district, Pazhayar in Thanjavur district, and Colachel in Kanyakumari district.

All these schemes are proposed under the Centrally Sponsored Schemes for which an outlay of Rs. 3.00 crores is proposed.

FISHING FARMERS' DEVELOPMENT AGENCY

10.28. One Fish Farmer's Development Agency has been functioning in Thanjavur district. The main objective of the scheme is to train inland fishermen and others interested in pisciculture by allotting one or two hectares of inland water spreads and guiding them in stocking and exploitation. 6 more such agencies are proposed for 1978-83 plan period. An outlay of Rs. 48.00 lakhs has been set apart.

INFRASTRUCTURAL FACILITIES IN COASTAL FISHING VILLAGES

10.29. A lumpsum provision of Rs. 1.00 crore is proposed for improving infrastructural facilities in coastal fishing villages, and establishment of brackish farms.

TABLE-10-I.

PLAN, 1978-83: Fisheries Development: Proposed outlay—Schemewise.

A. State Schemes :

<i>Name of the Scheme.</i>	<i>Proposed outlay for 1978-83 Plan.</i>	<i>Proposed outlay for 1978-83 Plan.</i>
(1)	(2)	(2)
(RUPEES IN LAKHS.)		
1 Grant of subsidy on distribution of in-board and outboard motors.	270.00	
2 Introduction of smaller fibre glass boats.	150.00	
3 Supply of insulated boxes of suitable containers to traditional fishermen.		10.00
4 Grant of subsidy on the purchase and distribution of nylon twine to the traditional sector fishermen by the Co-operatives.		20.00
5 Mooring facilities and landing jetties to traditional crafts.		25.00
6. Grant of subsidy and provision of margin money on introduction of mechanised boats.		{ 195.00 { 265.00
7 Grant of subsidy on the purchase of different types of gears (other than bottom trawls) by the existing mechanised fishing boats for diversified fishing operations.		25.00
8 Deep sea fishing (assistance to Tamil Nadu Fisheries Development Corporation).		50.00
9 Establishment of Fish Seed Farms		300.00
10 Development of Reservoir Fisheries.		50.00
11 Development of prawn Farming and Molluscan culture in Tamil Nadu.		100.00
12 Culture of edible Molluscs ..		5.00
13 Pearl Culture for commercial exploitation.		25.00
14 Strengthening of processing and Marketing facilities (assistance to Tamil Nadu Fisheries Development Corporation).		125.00
15 Training programme for Fishermen and officials.		15.00
16 Research survey and statistics ..		25.00
17 Aquarium and Oceanarium ..		40.00
18 Socio-Economic Measures to Fishermen Guide lights.		10.00
19 Fishing Harbours and landing facilities.		250.00
	Total ..	1,955.00

B. Centrally Sponsored Schemes

TABLE-10 II.

<i>Name of the scheme .</i>		<i>Proposed Outlay for 1978-83 Plan.</i>	Institutional Finance.	
(1)	(2)	(1)	(2)	<i>Proposed outlay for 1978-83 Plan.</i>
	(Rupees IN LAKHS.)			(Rs. IN LAKHS.)
1 Fish Farmers Development Agencies.	48.00			
2 Fishing Harbours—		1 Motorisation of Catamaran and Canoes (3,400 catamarans and 800 canoes).		270.00
Major Harbours ..	200.00	2 Fibre glass boats (2,000 boats) ..		300.00
Minor Harbours ..	100.00	3 Mechanisation programme (1,190 boats).		1,404.00
3 Infrastructural facilities, in fishing villages, Brackish water farming, etc. (Lumpsum provision).	100.0	4 Processing and Marketing ..		250.00
Total ..	448.00	Total ..		2,224.00

TABLE 10-III

PLAN, 1978-'83: FISHERIES

Targets of Production and Selected Physical Programmes.

Serial number and item.	Unit.	Actual Achievement		Target 1982-83.
		1973-74.	1977-78.	
(1)	(2)	(3)	(4)	(5)
I. PRODUCTION.				
1. Fish Production—				
(a) Inland ..	(000 tonnes) ..	150.00	150.00	400.00
(b) Marine ..	..	224.00	235.00	250.00
(c) Total ..	..	374.00	385.00	650.00
II. PHYSICAL PROGRAMMES (CUMULATIVE)				
2. Mechanised boats ..	Nos. Scheme ..	1,671	2,224 (The Scheme is with T.F.D.C.)	1,190
3. Trawlers ..	..	2	4	..
4 Refrigeration—				
(a) Cold Storages ..	Nos. ..	29	29	} No ice plants of complexes pro- posed by the Department.
(i) Capacity ..	Tonnes ..	67	167	
(b) Ice Plants ..	Nos. ..	24	24	
(i) Capacity ..	Tonnes ..	78	78	
(c) Freezing Plants ..	Nos. ..	3	3	
(i) Capacity ..	Tonnes ..	17½	19	
5. Fish Seed—				
(a) Produce—				
(i) Fry ..	.. Millions ..	90.00	117.6	340.00
(ii) Fingerlings ..	..	45.00	32.7	35.0
(b) Distributed—				
(i) Fry ..	.. Million ..	90.00	117.6	340.0
(ii) Fingerlings ..	.. „ ..	45.00	32.7	35.00
6. Fish Seed Farms ..				
(a) Water area ..	Nos. Hectares ..	9	12	17
		6.2862	9.2588	50
7 Brackish water Fish Farming Area.				
	Hectares ..	..	150	300

TABLE 10-IV

PLAN, 1978-83: FISHERIES

Headwise/Sub-Headwise break up of the Financial outlays.

(RUPEES IN LAKHS.)

Serial number and Head of Development/Programme.	Fifth plan approved Outlay.	Approved outlay 1978-79.	Proposed Outlay 1978-83		
			Total.	Capital.	Foreign exchange.
(1)	(2)	(3)	(4)	(5)	(6)
X. Fisheries:—					
(1) Direction and Administration	1.13	..	..	..
(2) Inland Fisheries	8.59	3,50.00	2,95.00	..
(3) Research/Education and Training	13,42.00	14.10	45.00	7.50	..
(4) Marine Fisheries	1,21.51	11,10.00	1,70.00	2,55.00
(5) Marketing and Storage	2.17	1,25.00	1,25.00	..
(6) Others	5.73	3,25.00	2,70.00	..
Total	153.23	19,55.00	8,67.50	2,55.00

TABLE 10-V

PLAN, 1978-83: FISHERIES

Employment Generation.

Serial number and Head of Development/Programme.	Likely Employment Generation in Man-Year					
	Scientist.	Technical.	Adminis- tration.	Skilled.	Unskilled.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fisheries:—						
1 Direction and Administration ..	..	..	..	..	..	..
2 Inland Fisheries	5	27	32	75	15,144*	15,283
3 Research/Education and Training	7	3	4	6	16	36
4 Marine Fisheries .. ..	..	13	12	253	8,783	9,061
5 Marketing and Storage .. ..	..	..	..	..	18,750	18,750†
6 Others	5	7	6	45	20	63
Total ..	17	50	54	379	42,713	43,213

*This includes part-time employment to about 15,000 persons in inland pisciculture.

† It is estimated that 6,250 persons will get employment opportunities in handling, transporting and marketing of 50,000 tonnes of fish.

Chapter 11

CO-OPERATION

The role of Co-operation :

11.0. Co-operative organisations have a crucial role to play in stimulating economic development of under developed countries which are predominantly agricultural and which have accepted planning within the democratic frame work as the means to achieve their economic salvation. In a country whose economic structure has its roots in the villages, co-operatives should necessarily have to be oriented to activities related to or concerned with agriculture such as agricultural production, minor irrigation dairying, processing and marketing of agricultural products, rural housing, etc. An ideal co-operative is one which stands on its own legs. However, in the formative years, particularly in under developed countries, the co-operative institutions require assistance from the Government to enable them to discharge their functions efficiently. In our country, the successive five year plans laid emphasis on creating and sustaining co-operative institutions in many fields. Since these institutions are ideally suited to tackle problems of the village and help the common man, it is safe to assure that the co-operatives in our State as well as in our country will be increasingly relied upon in the coming years as agencies to achieve the socio-economic objectives of planned development.

Progress of Co-operation in the Fifth Plan 1974-78:

11.1. A total outlay of Rs. 31.48 crores was provided in the Plan under the head 'Co-operation' for various programmes including share capital assistance to co-operative sugar mills, co-operative spinning mills and dairy co-operatives. The expenditure in the first four years amounting Rs. 37.22 crores exceeded the total provision for the five years. About three-fourths of this amount (Rs. 27.73 crores) was spent on schemes coming under credit co-operatives, warehousing and marketing, Consumer Co-operatives, Education Research and Training and special co-operatives. In the matter of providing credit, the achievements in the Fifth Plan exceeded the targets. The target set for the issue of short-term and medium-term loans was Rs. 105 crores and Rs. 34 crores respectively, but the total of these two reached Rs. 127 crores even in the fourth year of the Plan. Significant progress was made in the field of consumer co-operation by the opening of a large number of retail outlets in the rural areas. Another note-worthy development was the encouragement given to special types of co-operatives like Cycle Rickshaw Owners' Co-operative Society, Barbers' Co-operative Society and Washermen Co-operative Society.

Objectives of the Plan, 1978-83:

11.2. The major objective is that an increasing proportion of the credit requirements of the farmers would have to be met by co-operatives. Emphasis will be laid on catering to the credit needs of the weaker sections of the society, and in particular the scheduled castes. The share of weaker sections in the supply of short-term and medium-term loans will be raised to 60 per cent by the end of the Plan. The co-operatives will expand their activities substantially in the field of marketing of agricultural produce; distribution of pesticides and fertilisers and supply of essential commodities through fair price shops. Formation of a good number of Co-operatives with a view to promote self-employment among groups of people will be another line of new activity designed primarily to benefit the weaker sections.

Programmes for the Plan, 1978-83:

11.3. The various programmes proposed for implementation in the five year period, 1978-83, are summarised below under the following heads:—

- (1) Co-operative Credit.
- (2) Co-operative marketing, processing and storage.
- (3) Consumer Co-operatives.
- (4) Co-operative for weaker sections.
- (5) Agro service Co-operatives.
- (6) Co-operative education and training.

11.4. *Co-operative Credit* :—Keeping in view the objective of progressively increasing the supply of credit through institutional agencies, the co-operative sector will have as its target the meeting of 60 per cent of the short-term and medium term credit requirements of the farmers in the Plan period. The 4,700 agricultural credit societies at the village level provided in 1977-78 short-term and medium term loan to the extent of Rs. 127 crores. It is calculated that by 1982-83 the co-operatives will have to supply credit to the extent of Rs. 190 crores, if the target of 60 per cent of the credit requirement is to be reached.

(a) *Medium-term Credit*.—Medium-term loans are provided by the co-operatives for the purchase of agricultural implements, bullock-carts, milch

cattle, etc., In 1977-78, loans amounting to Rs. 6 crores were issued for these purposes. The implementation of special programmes such as SFDA, DPAP and other animal husbandry schemes has necessitated and widened the scope for the issue of medium-term on a large scale. It is proposed to set-up medium term loans gradually to reach the level of Rs. 16 crores by 1982-83. In this regard special efforts will be made to cover all the agricultural holdings and to ensure that 60 per cent of the credit goes to the weaker sections.

(b) *Long-term Credit*.—There are at present 223 Land Development banks functioning at the base level which extend long term loans to the farmers for productive purposes. In the four years 1974-78, they distributed a total of Rs. 66 crores which works out to an annual average of Rs. 16.5 crores. In the Sixth Plan period, it is proposed to diversify the lending activities of the Land Development banks by making them extend loans for purposes of sericulture, sheep rearing, dairying, cultivation of plantation crops like cocoa, coffee, tea and rubber as also for schemes proposed by market committees, and state owned corporations. The demand for loans for land reclamation, construction of farm houses, cattle sheds, etc., is also likely to increase. Keeping these factors in mind, the plan envisages to step up the annual lending gradually to Rs. 22 crores by 1982-83. A total of Rs. 93 crores is likely to be distributed during the five year period and special efforts will be made to ensure that at least 50 per cent of this type of loans goes to small farmers and other weaker sections of the society.

The position of the existing Co-operative agencies providing long term credit will be strengthened by the following measures :—

(i) *Contribution to the ordinary debentures programme*.—The State Government has been contributing to the ordinary debentures programme as per the norms fixed by Reserve Bank of India which takes into account the internal resources to be involved in the normal lending programme. In view of mounting overdues, the internal resources position has weakened. According to projections made for the purpose, the State Government may have to contribute a total of Rs. 2.18 crores during the plan for the floatation of ordinary debentures.

(ii) *Contribution to the special development debentures*:—The Central Government, the ARDC and the State Government contribute to the special debentures programme. On the basis of the existing arrangements, and in the light of the projections for lending, the State Government's contribution has been estimated at Rs. 4.76 crores for the entire five year period.

(iii) *Reorganisation of Primary Land Development Banks*:—In general, Primary Land Development banks having a business of Rs. 35 lakhs are considered as viable. According to this norm only 140 out of 223 banks in the State are viable. 13 banks have been identified as potentially viable. Steps will be taken to amalgamate the remaining 70 banks. It is proposed to assist the 13 potentially viable banks by providing subsidy to the extent of Rs. 10,000 for each society. The State Land Development Bank will meet 50 per cent of the subsidy while the remaining 50 per cent has to be provided by the State Government. An outlay of Rs. 65 lakhs is earmarked for this scheme.

(iv) *Assistance to primary Land Development Banks for notional reductions in the percentage of over dues*:—The State Government has been contributing to the share capital of Land Development Banks in order to reduce notionally the over dues which will help them to acquire higher lending eligibility. A provision of Rs. 1 crore is made for this scheme for the five year period.

(v) *Government contribution to the Agricultural Credit Stabilisation Fund of Tamil Nadu State and Development Bank*:—The recurrent natural calamities and the consequent rescheduling of loans by the Co-operative banks highlight the need for building up the Agricultural Credit Stabilisation Fund to a level of at least Rs. 6 crores by the end of the Plan. The Government may have to contribute a total of Rs. 2.40 crores during 1978-79 to 1982-83.

(vi) *New well subsidy*:—The small farmers getting loan assistance from the Land Development banks for putting up new wells have been granted a subsidy of 25 per cent of the total cost subject to a maximum of Rs. 500 per well. During 1974-78, assistance was given to the sinking of 5,539 wells involving a total subsidy of Rs. 27.57 lakhs. It is expected that on an

average subsidy may be required for about 1,000 wells a year during 1978-83. On this basis the total commitment for the 5 years would be Rs. 25 lakhs.

(vii) *Managerial subsidy*:—The Land Development Banks implementing ARDC schemes require additional staff to implement the scheme efficiently. It is proposed to give subsidy to the Land Development Banks to meet the additional expenditure. A provision of Rs. 17.01 lakhs is made for this scheme.

(viii) *Lift Irrigation Societies*:—Lift irrigation societies have been formed for providing common irrigation facilities mostly to small farmers. During the Plan, it is proposed to give managerial subsidy to 115 societies. The total subsidy required would amount to Rs. 1.73 lakhs. Of the societies selected for activation, 40 will implement the programme during 1978-83. The members of the societies being mostly small farmers assistance is required in the form of subsidy towards block cost to facilitate easy repayment of the long-term loan. For purposes of this subsidy, an allotment of Rs. 15 lakhs is made in the Plan.

(ix) *Statistical information*:—It is proposed to set up a full fledged statistical cell in the State Land Development Bank for collection, compilation and processing of statistical data, which will help the Bank to formulate its lending policies and future programmes in a realistic manner.

(c) *Reorganisation of Societies*:—As indicated earlier, the Co-operative institutions may be expected to play an important role in achieving the socio-economic objectives of the medium term plan of 1978-83. In accordance with this requirement steps will be taken to expand the credit facilities offered by the co-operative institutions. But equally important is the reorganisation of these societies which would involve increasing their resources, modernizing their structure and streamlining their functioning.

In 1965-66 when the scheme of reorganisation of co-operative societies on a viable basis was launched, there were 11,000 agricultural credit societies. An agricultural credit society, to be viable, should normally cover an extent of 2,000 acres of irrigated land or 3,000 acres of unirrigated but cultivable land which would have a business

of not less than Rs. 2 lakhs a year. There are now 4,742 Agricultural Credit Societies of which 4,170 societies are viable or potentially viable. The remaining 572 units are proposed to be reorganised into 213 viable societies. The reorganisation programme is expected to be completed by 1978-79 when the State will have a total of 4,383 viable societies.

Other measures aimed at strengthening the position of agricultural credit societies are :—

(a) *Increasing the own resources of village credit societies and Central Co-operative Banks:*—Government contributes to the share capital of credit co-operatives including Urban Banks and Land Development Banks with a view to improve their borrowing power. The share capital held by the Government in the credit co-operatives at the end of 1977-78 was distributed as follows :—

	RS. IN CRORES.
Primary Societies	6.78
Central Co-operative Banks ..	8.86
State Co-operative Banks	1.26

A token provision has been made for the five year period 1978-83 as contribution of the Government to the share capital of credit co-operatives.

(b) *Farmers Service Co-operative Societies:*—On the lines indicated by the National Commission on Agriculture, the state has already set up 26 Farmers Service Societies by reorganising agricultural banks.

During the Sixth Plan period, 125 agricultural banks in the State would be reorganised as Farmers Service Co-operative Societies. These societies would provide agricultural service of an integrated nature comprising credit facilities and supply of inputs and consumer articles all under a single roof. A provision of Rs. 33.90 lakhs is made in the Plan towards meeting the cost of technical staff in these societies.

(c) *Construction of office-cum-retail shop and Secretary's residence for agricultural credit societies:*—The village societies credit are

undertaking varied responsibilities, now, ranging from provision of credit and distribution of fertilisers to supply of essential consumer articles. Some societies have also taken up advancing of loans against the security of jewels pledged with them. There is an urgent need for putting up a building complex for housing the office and the jewel loan section, besides residential quarters for the Secretary of the society. The cost of a building complex is estimated at Rs. 70,000 and it is proposed to give 50 per cent of this amount as loan, and the remaining 50 per cent as subsidy. It is proposed to implement the scheme in 700 societies during 1978-83. The total outlay would be Rs. 4.90 crores (Rs. 2.45 crores loan + Rs. 2.45 crores subsidy).

(d) *Assistance to village co-operative societies for purchase of iron safe in connection with jewel loan operation:*—The number of village credit societies issuing jewel loans is proposed to be gradually increased to 1,500 from the existing 750. The societies would need iron safe costing about Rs. 6,500 each, for the safe keeping of the jewels. During the plan, it is proposed to give financial assistance by way of loans to 1,000 societies for the purchase of iron safes. A provision of Rs. 33.33 lakhs is made for this purpose.

(e) *Construction of office buildings and residential quarters for peons at the branches of Central Co-operative Banks:*—It is proposed to give assistance to 125 branches of co-operative banks during 1978-83 at the rate of Rs. 1 lakh per branch to enable them to construct office buildings and residential quarters for peons. 75 per cent of this amount will be in the form of loans and 25 per cent as subsidy. The amount required on this account will be Rs. 1.25 crores.

(f) *Modernisation of counters of Central Co-operative Banks:*—This would entail an outlay of Rs. 6.25 lakhs.

(g) *Contribution to the risk funds of primary agricultural credit societies and Central Co-operative Banks:*—Upto 1977-78 Government had contributed Rs. 46.72 lakhs to the risk fund of Central Co-operative Banks and Rs. 150.96 lakhs to the risk fund of primary societies. Considering the fact that a substantial proportion

of the loan will now go to the weaker sections, it is necessary to set up Government's contribution to the risk fund. A total of Rs. 165.18 lakhs Rs. 60.06 lakhs for Central Co-operative Banks and Rs. 105.12 lakhs for primary societies is proposed.

11.5. *Co-operative Marketing, Processing and Storage.*

(a) *Co-operative Marketing Societies.*—The Marketing societies procure agricultural produce from the farmers directly, and help them to realise a fair price for their produce. There are 116 Primary marketing societies at the taluk level. In 1977-78, these societies handled agricultural produce worth about Rs. 32.51 crores. Many of the societies concentrate on distribution and supply functions for their survival. During the Sixth Plan period steps will be taken to create conditions for the effective functioning of the marketing societies so that they handle atleast 10 per cent of the marketable surplus by the end of the plan. A number of new schemes are proposed to strengthen the marketing societies. Linking of village credit societies with marketing societies, extending advances to the farmers against the produce pledged by them, facilities for pooling and grading and provision of marketing yards for the societies are among the important schemes contemplated in the Plan.

(b) *Co-operative Agricultural Supplies.*—The village Co-operative Societies have been distributing fertilizers and pesticides. In 1977-78, 3.48 lakh tonnes of fertilizers worth about Rs. 56.34 crores was distributed. The plan visualises increasing the portion of the credit in kind to atleast 50 per cent and also raising the share of co-operatives in the distribution of fertilizers to 65 per cent.

(c) *Co-operative Processing.*—Of the 88 processing units at present owned by the marketing societies 24 are dormant. During 1978-83, measures will be initiated to make the dormant units function efficiently and to tune up all the units so that they will work to their full capacity. Tie up arrangements will be made with the consumer societies for the sale of processed goods. Five rice mills will be taken up for modernisation for which a provision of Rs. 2.73 lakhs has been made. A rice mill and a decorticator unit,

two cotton ginning units, a pressing unit and a pesticide formulation unit are also proposed. A provision of Rs. 33.67 lakhs has been made for these schemes.

(d) *Storage.*—It has become an imperative necessity to increase the storage capacity of the co-operatives concerned with the storing and marketing of agricultural produce and agricultural inputs. The National Co-operative Development Corporation is providing financial assistance for the construction of godowns and the State Government is providing the subsidy portion of 40 per cent as assistance. 2,549 co-operative societies have already been given assistance for the construction of godowns, but it is estimated that an additional 1,900 godowns may be made during the Sixth Plan period. Construction of 1,000 godowns is proposed at the rate of 200 godowns per year for the plan. Further 17 co-operative marketing societies do not have godowns and 30 godowns will have to be constructed to meet their requirement. Out of the total estimated cost of Rs. 4.60 crores, the Plan has to provide for the subsidy portion amounting to Rs. 1.84 crores.

Consumer Co-operatives.

11.6. The Consumer Co-operatives in the rural areas will be assigned an important role in the public distribution system. There are at present 1,748 primary stores and 28 co-operative wholesale stores in addition to 619 branch stores of which 20 are super markets. The total retail sales handled by the primary store in 1977-78 amounted to about Rs. 140 crores. It is the intention of the State Government to open fair price shops in all the revenue villages. To achieve this in full, 7,000 more fair price shops are to be opened, of which 5,000 will be co-operative shops.

State participation in the share capital of primary stores will be continued. Under the revitalisation schemes, assistance in the form of managerial subsidy will be given. Most of the stores are now housed in rented buildings. During the plan period, it is proposed to extend financial assistance to 100 stores on a loan-cum-subsidy basis for the construction of godown-cum-shops.

Two super markets will be opened at Ramana-thapuram and Dharmapuri districts which at present are the only districts which do not have a super market ; also mini super markets are proposed to be set up at Taluk headquarters. Other measures to strengthen and extend the scope of the Consumer co-operatives include creation of an Agricultural Commodities Inventory Losses Fund for consumer co-operatives, establishing a quality testing laboratory and a Technical and market intelligence cell attached to the consumer co-operative federation, and provision for the purchase of transport vehicles through the co-operatives.

The total outlay on all these schemes would amount to Rs. 3.65 crores in the five-year period.

co-operatives for weaker sections :

11.7. Special emphasis is laid on extending co-operative facilities to the weaker sections of the community. Nine large-sized-multi purpose co-operative societies (LAMPS) have been formed to provide credit and marketing services to the tribal people. During the plan period six more LAMPS societies will be organised to cover a larger number of tribals in different areas. Government will offer financial assistance in the form of subscription to share capital, subsidy and loan to these societies. A provision of Rs. 34 lakhs has been made for the setting up of new LAMPS in addition to an amount of Rs. 18.59 lakhs provided for expanding the activities of the existing LAMPS.

Further, provision is made for the continuance of financial assistance to labour contract societies, cycle rickshaw driver societies, washermen societies, barbers' societies ; salt co-operative societies and co-operative printing press. For these an allocation of Rs. 96.61 lakhs is made.

Agro Service Co-operatives :

11.8. The agro service co-operatives comprise the Tamil Nadu Agro Engineering and Service Co-operative Federation at the apex level, 12 agro service co-operatives at the district level, and 220 Agro Service Co-operatives at the block level. Schemes have been formulated to strengthen these societies and to improve their working. A total allotment of Rs. 79 lakhs has been made for this purpose.

Co-operative Education and Training :

11.9. An essential pre-requisite for the success of the co-operative programme is the availability of the right kind of personnel to man the co-operative institutions. Towards meeting this requirement the Member Education programme has been started on a pilot basis. The purpose of this programme is to educate the non-official members about their role and functions in the co-operatives. It is proposed to implement the member education programme in all the seven Co-operative training institutes. Refresher courses for co-operative sub-registrars and senior inspectors will be conducted in the Central Co-operative Institute at Thanjavur. Under this Scheme, a minimum of five sessions in a month, each lasting five days, will be arranged. An amount of Rs. 5.50 lakhs has been set apart for education and training programmes.

CENTRALLY SPONSORED SCHEMES.

Agricultural Credit Stabilisation Fund :

11.10. The Fund created for the purpose of meeting unforeseen exigencies like natural calamities, need to be further augmented. According to the Government of India's stipulation, the fund at the State Co-operative bank has to be built upto the level of Rs. 12.75 crores by the end of 1977-78. As against this, the present level is only Rs. 5.32 crores. Taking into account the further increases during the 1978-83 plan period, a total contribution of Rs. 12.92 crores is envisaged for five years.

Supply of Metal Storage Bins :

11.11. The Tamil Nadu Agro Engineering Services Co-operative Federation has been manufacturing and supplying metal storage bins to the farmers. The federation proposes to manufacture 5,000 bins during 1978-83. An outlay of Rs. 20.50 lakhs is envisaged as assistance to ENCOFED.

Schemes financed by the Autonomous Bodies :

11.12. *National Co-operatives Development Corporation.*—The National Co-operative Development Corporation has been assisting the Co-operative institutions engaged in the processing

and the marketing societies for the construction of godowns. Modernisation of rice mills, establishment of seed processing units, assistance to co-operative credit societies and marketing societies for construction of godowns are the important schemes envisaged for implementation during the plan period with the assistance of N.C.D.C. A

total outlay of Rs. 3.88 crores has been made. A technical promotional Cell has been created in ENCOFED under the auspices of National Co-operative Development Corporation which meets 90 per cent of the cost. For this scheme an outlay of Rs. 1.45 lakhs is proposed for the five-year period.

TABLE 11.I.

FINANCIAL OUTLAY ON CO-OPERATION, 1978-83.

<i>Serial number and Head of Development.</i>									<i>Expenditure</i>	<i>Outlay</i>
									<i>Fifth</i>	<i>Plan</i>
									<i>Plan</i>	<i>(1978-83)</i>
									<i>(1974-78).</i>	
(1)									(2)	(3)
State Plan Schemes :—									(RUPEES IN LAKHS)	
I.	Co-operative Credit	..	..	..	..	..	..	..	26,33.41	20,03.75
II.	Co-operative Marketing, Processing and storage	..	..	..	..	..	..	..	63.93	3,79.35
III.	Consumer Co-operatives	..	..	..	..	..	..	..	69.09	3,65.00
IV.	Co-operatives for Weaker Sections	..	..	..	..	..	..	..	..	1,49.12
V.	Agro-Service Co-operatives	..	..	..	..	..	..	..	38.94	78.79
VI.	Co-operative Education and Training	..	..	..	..	..	..	..	11.22	5.50
Total—State Plan Schemes									28,16.59	29,81.51
<i>Centrally Sponsored Scheme</i>									2,66.89	..
Co-operative Credit									..	15,42.01
<i>Central Sector Schemes</i>									28.94	..
Agro Service Co-operatives									..	20.50
<i>Schemes Financed by autonomous bodies—National Co-operative Development Corporation</i>									5,33.20	..
1.	Co-operative Marketing, Processing and storage	..	..	..	..	..	..	..	..	3,88.40
2.	Agro-Service Co-operatives	..	..	..	..	..	..	..	..	1.45
Total—Schemes Sponsored by N.C.D.C.									..	3,89.85
Grand Total									36,45.62	49,33.87

TABLE 11-II.

FIVE-YEAR PLAN 1978-83.

Schemewise break-up of Financial Outlays.

Serial number and name of scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83.	
		Total.	Capital.
(1)	(2)	(3)	(4)
CREDIT CO-OPERATIVES.			
State Plan Schemes —			
	(RUPEES IN LAKHS)		
1. Contribution to the share capital of credit co-operatives ..	150.00	0.01 (token)	..
2. Assistance to Farmers Service Societies towards cost of technical staff (151 societies— Government share will be on an ascending order of 25 per cent and 50 per cent during the second and third years in respect of societies in S.F. D.A. areas. The entire cost in respect of societies outside S.F.D.A. areas is met by Government)	2.82	33.90	..
3. Assistance to agricultural creditsocieties for construction of office-cum-retail shop and secretary's residence (700 societies at Rs. 70,000 each) .. .. .	..	490.00	..
4. Assistance to agricultural credit societies for purchase of iron safes with trays for issue of jewel loans (1,000 societies at Rs. 3,333 each) .. .. .	..	33.33	..
5. Assistance to Central Co-operative banks for construction of office buildings with residential quarters for peons (125 branches at Rs. 1 lakh each)	12.50	125.00	..
6. Assistance to central co-operative banks for modernisation of counters of branches (125 branches at Rs, 5,000 each)..	..	6.25	..
7. Contribution to the risk funds of primary agricultural credit societies and central co-operative banks	45.00	165.18	..
8. Contribution to the Agricultural Credit (Relief and Guarantee) Fund	10.00	51.00	..
9. Assistance to State Co-operative bank for setting up Research Development and Evaluation Cell .. ..	..	0.89	..
10. Contribution to the ordinary debentures of the Co-operative State Land Development Bank	60.00	218.00	218.00
11. Contribution to the Special Development Debentures of the Co-operative State Land Development Bank	50.00	476.25	476.25
12. Assistance to potentially viable primary land development banks for revitalisation (13 banks at Rs. 5,000 each) ..	..	0.65	..
13. Assistance to primary land development banks for notional reduction in the percentage of overdues	10.00	100.00	100.00

TABLE 11·II—cont.

Serial number and name of scheme.	Approved Outlay 1978-79.	Proposed outlay 1978-83.	
		Total.	Capital.
(1)	(2)	(3)	(4)
CREDIT CO-OPERATIVES—			
State Plan Schemes—			
	(RUPEES IN LAKHS).		
14. Contribution to the Agricultural Credit Stabilisation Funds of Tamil Nadu Co-operative State Land Development Banks	40·00	240·00	..
15. New Well Subsidy (5,000 wells at Rs. 500 each)	5·00	25·00	..
16. Managerial subsidy to land development banks for implementation of A.R.D.C. Schemes	3·10	17·01	..
17. Managerial subsidy to lift irrigation co-operative societies (115 societies at Rs. 1,500 each)	0·75	1·73	..
18. Assistance to lift irrigation co-operative societies by way of subsidy towards capital works (40 societies) .. .. .	..	15·00	..
19. Contribution to the Risk Fund for consumption loan on personal surety .. .. .	..	4·54	..
20. Contribution to Cadre Fund .. .. .	..	0·01 (token)	..
Total ..	2,003·75	794·25	..
Centrally Sponsored Schemes :—			
21. Contribution to Agricultural Credit Stabilisation Fund of the Tamil Nadu State Co-operative Bank	0·02 (token)	1,292·00	..
22. Strengthening of Agricultural Credit Stabilisation Fund of Tamil Nadu State Co-operative Bank (as per the recent norms-laid down by Reserve Bank of India).	..	0·01 (token)	..
23. Contributions to Agricultural Credit Stabilisation Fund of Tamil Nadu Co-operative State Land Development Bank.	..	250·00	..
Total ..	..	1,542·01	..

Note.—The outlay includes Rs. 750 lakhs to be met out of borrowings from the National Agricultural Credit (L.T.O.) Fund of the Reserve Bank of India.

TABLE : 11-III.

Five-Year Plan 1978—83.

Schemewise break-up of financial outlays.

Serial number and name of scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83.	
		Total.	Capital.
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
<i>Warehousing, Marketing and Processing Co-operatives —</i>			
State Plan Schemes —			
1 Contribution to price Guarantee Fund of Co-operative marketing societies.	..	7.50	..
2 Assistance to co-operative marketing societies for establishing marketing yards (25 societies at Rs. 5 lakhs each).	..	125.00	..
3 Assistance to co-operative marketing societies for grinding equipment (25 societies at Rs. 10,000 each).	0.05	2.50	..
4 Assistance to co-operative marketing societies for appointment of technical staff (25 societies at 10,000 each).	..	2.50	..
5 Subsidy to co-operative marketing societies towards pooling incentives.	..	1.50	..
6 Assistance to co-operative marketing societies for purchase of lorry (25 societies at Rs. 25,000 each).	..	6.25	..
7 Contribution to the share capital of co-operative societies.	2.25	20.00	20.00
8 Contribution to price Fluctuation Fund to Co-operative marketing societies.	2.00	10.00	..
9 Managerial subsidy to marketing societies	0.75	1.00	..
10 Subsidy to Tamil Nadu Co-operative Marketing Federation for strengthening Technical and Promotional Cell.	..	1.05	..
11 Assistance to co-operative marketing societies for modernisation of rice mills (share capital only) (26 per cent of Rs. 3 lakhs).	0.88	0.78	0.78
12 Assistance to co-operative marketing societies for establishment of processing plant (share capital only) (26 per cent of Rs. 37 lakhs).	0.45	9.62	9.62
13 Assistance to co-operative marketing societies for establishment of seed processing units (share capital only).	..	7.65	7.65
14 Assistance to credit societies and marketing societies for construction of godowns (subsidy)(1,000 rural godowns and 30 marketing godowns).	38.25	184.00	..
Total—Warehousing, Marketing and processing co-operatives—State Plan Schemes.	..	379.34	38.05

TABLE 11.III— cont.

Serial number and name of scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83	
		Total.	Capital.
(RUPEES IN LAKHS.)			
(1)	(2)	(3)	(4)
<i>Schemes Financed by Autonomous Bodies National Co-operative Development Corporation —</i>			
1 Assistance to Co-operative marketing societies for modernisation of rice mills (Loans) (65 per cent of Rs. 3 lakhs).	2.71	1.95	..
2 Assistance to Co-operative marketing societies for establishment of processing plants (loan) (65 per cent of Rs. 37 lakhs).	0.01	24.05	..
3 Assistance to Co-operative marketing societies for establishment of seed processing unit (loan).	21.04	86.20	..
4 Subsidy for feasibility report for pesticides unit .. ..	..	0.20	..
5 Assistance to co-operative credit societies and Marketing societies for construction of godowns(loan) (rural godowns and 30 marketing godowns).	63.75	276.00	..
Total—Warehousing, Marketing and processing—Schemes financed by Autonomous Bodies.	..	388.40	..

TABLE 11-IV.

Five Year Plan 1978-83.

Scheme-wise break up of financial outlays.

Serial number and name of Scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83.	
		Total.	Capital.
(RUPEES IN LAKHS.)			
(1)	(2)	(3)	(4)
<i>Consumer Co-operatives.—</i>			
<i>State Plan Schemes.—</i>			
1 State Participation in the share capital of primary stores ..	3.00	15.00	15.00
2 Assistance to primary stores for revitalisation (150 stores at Rs. 15,000 each less spill over subsidy to be paid after 1982-83).	3.15	22.05	9.00
3 Managerial subsidy to College Students Co-operative stores (75 stores at Rs. 1,000 each with first year subsidy and 66 stores at Rs. 1,000 each with second year subsidy).	0.21	1.41	..
4 Managerial subsidy to primary stores (130 stores at Rs. 900 each with first year subsidy, 90 stores at Rs. 700 each with second year subsidy and 55 stores at Rs. 400 each with third year subsidy).	..	2.02	..
5 Assistance to primary stores for construction of godown cum-shops (100 stores at Rs. 50,000 each).	..	182.50	..
6 Assistance to Co-operatives for opening of fair price shops (5,000 shops at Rs. 3,650 each).	..	182.50	..
7 Assistance to Co-operative wholesale stores for re-habilitation (7 stores at Rs. 1 lakh each).	3.00	7.00	..
8 Assistance to co-operative wholesale stores for construction of super-market complex (9 stores at Rs. 2 lakhs each).	..	18.00	..
9 Assistance to co-operative wholesale stores for establishment of super-markets (2 stores at Rs. 2.10 lakhs each).	0.10	4.20	3.00
10 Assistance to consumer co-operatives for establishment of mini super-markets (50 mini super-markets at Rs. 60,000 each).	6.00	30.00	20.00
11 Contribution to agricultural commodities Inventory Losses Fund of (2 percent of Rs. 289 lakhs).	..	5.78	..
12 Assistance to co-operative wholesale stores for establishment of quality testing laboratories (10 stores at Rs. 1.27 lakhs each minus spill over managerial subsidy to be paid after 1982-83).	0.75	12.28	..
13 Assistance to Tamil Nadu Consumers Co-operatives Federation towards cost of technical and market intelligence Cell.	..	4.76	..
14 Assistance to Co-operative whole-sale stores for purchase of transport vehicles (10 stores at Rs. 1 lakh each).	2.00	10.00	..
Total—Consumer Co-operatives ..	..	365.00	47.00

TABLE 11·V

Five Year Plan 1978-83.

Schemewise break up of financial outlays.

Serial number and name of Scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83	
		Total.	Capital.
(RUPEES IN LAKHS.)			
(1)	(2)	(3)	(4)
<i>Co-operatives for weaker sections.—</i>			
<i>State Plan Schemes.—</i>			
1 Assistance to LAMP Co-operative societies (Rs. 33·92 lakhs for 6 new societies and Rs. 18·59 lakhs for the 9 existing societies.)	10·00	52·51	2·60
2 Assistance to Labour Contract Co-operative Societies (15 societies at Rs. 55,000 each).	3·03	8·25	..
3 Assistance to Cycle rickshaw drivers co-operative societies (5 societies at Rs. 97,500 each).	0·10	4·88	..
4 Assistance to barbers co-operative societies (3 societies at Rs. 21,000 each).	0·42	0·63	..
5 Assistance to washermen co-operative societies (5 societies at Rs. 33,000 each).	0·66	1·65	..
6 Assistance to salt co-operative societies (5 societies at Rs. 1 lakh each).	..	5·00	..
7 Assistance to co-operative printing press (11 presses at Rs.10,000 each towards share capital assistance, 10 presses at Rs. 75,000 each for setting up note book manufacturing unit, 10 presses with Rs. 67·60 lakhs for modernisation of machineries.)	0·50	76·20	1·10
Total—Co-operatives for weaker sections ..	..	149·12	3·70

TABLE : 11-VI.

Five-Year Plan 1978—83.

Schemewise break up of financial outlays.

Serial number and name of Scheme.	Approved Outlay 1978-79.	Proposed Outlay 1978-83.	
		Total.	Capital.
(RUPEES IN LAKHS.)			
(1)	(2)	(3)	(4)
<i>Agro-Service Co-operatives—State Plan Schemes—</i>			
1 Interest subsidy to block level Agro centres (186 centres) ..	..	15.50	..
2 Managerial subsidy to block level agro centres (220 centres at Rs. 13,860 each).	..	30.51	..
3 Assistance to Tamil Nadu Agro Engineering and Service Co-operative Federation towards cost of training of Managing Directors of block level centres.	1.28	2.78	..
Total—Agro-Service Co-operatives—State Plan Schemes ..	..	48.79	..
<i>Central Sector Scheme—</i>			
4 Assistance to Tamil Nadu Agro Engineering and Service Co-operative Federation under the scheme for fabrication of metal storage bins.	..	20.50	..
<i>Schemes sponsored by Autonomous Bodies—National Co-operative Development Corporation—</i>			
5 Subsidy to Tamil Nadu Agro Engineering and Service Co-operative Federation towards the cost of technical and promotional Cell.	0.40	1.45	..
	..	21.95	..

TABLE : 11. VII.

Five-Year Plan 1978-83.

Schemewise break up of financial outlays.

<i>Serial number and name of Scheme.</i>	<i>Approved Outlay 1978-79.</i>	<i>Proposed Outlay 1978-83.</i>	
		<i>Total.</i>	<i>Capital.</i>
(RUPEES IN LAKHS.)			
(1)	(2)	(3)	(4)
<i>Education, Research and Training—Information and Publicity—</i>			
1 Schemes for conducting member education programme	3.00	..
2 Refresher Training Course to Co-operative Sub-Registrars and Senior Inspectors.	..	2.50	..
Total—Education, Research and Training	5.50	..

TABLE 11. IX.

Five-Year Plan 1978-83.

Co-operation : Achievements and Targets.

<i>Serial number and Item.</i>	<i>Unit.</i>	<i>Achievement 1977-78.</i>	<i>Target. 1982-83.</i>
(1)	(2)	(3)	(4)
1. Storage and Warehousing—			
(a) Owned Capacity of State Warehousing Corporations ..	Thousand tonnes.	20.90	194.40* (if loan assistance is available.)
..			
(b) Owned capacity of other State godowns	Do.	..	..
(c) Co-operative Godowns	Do.	422.24	587.00
..			
Total (a) to (c) ..		443.14	781.40
2. Short-term Agricultural Credit—			
(a) Advances during the year by co-operatives	Rupees in crores.	120.69	190.00
(b) Advances by commercial banks during the year	Do.	(Not available.)	
..			
Total (a) and (b) ..		120.69	190.00
3. Investment Agricultural Credit—			
(a) Medium term advances by co-operatives during the five years of Plan.	Rupees in crores.	17.54	60.00
(b) Medium/Long-term advances by commercial banks during five years of the Plan.	Do.	(Not available.)	
(c) Long-term advances by Land Development Banks during five years of Plan (Both ordinary and Special loans).	Do.	65.90	93.00
..			
Total (a) to (c) (Rs. in crores) ..		83.44	153.00

(*) 1,24.20 (000' tonnes)— (if no loan assistance is available).

Chapter 12

COMMUNITY DEVELOPMENT AND RURAL DEVELOPMENT

12.0. The Community Development Programme was launched in 1952. The objective of the programme was to initiate a process of transformation of the socio-economic life of the rural areas. By allowing for the full participation of the beneficiaries in the development programme a more equitable distribution of the benefits of development was considered feasible. With the introduction of the Panchayat Act of 1958, Community Development Programme in Tamil Nadu entered a new phase with the newly created Panchayat Unions becoming the implementing agency for the programmes.

12.1. During the same time, a procedural change was effected by introducing the schematic budget. With the introduction of schematic budget resources available for development were pooled together and made available to the Panchayat Unions for utilisation in developmental works. This helped in the expeditious execution of development programmes and the creation of public enthusiasm in rural areas. This resulted in increased public participation and increased public contributions to various welfare schemes.

12.2. There are at present 374 Panchayat Unions, 626 Town Panchayats, 12 Township Committees

and 12,591 Village Panchayats in the State. In the projects given below for current plan period, schemes oriented towards the uplift of socially backward and economically weaker sections of the community are given greater emphasis. There are many works carried out by the Panchayat Unions that are supplementary to the major schemes under sectors like Agriculture, Animal Husbandry, etc., and act as a fillip to the disjointed sectoral programmes at block level to create an integrated development programme. Only by such total and continuous programme do the marginal farmers and agricultural labourers stand to benefit.

12.3. The programmes at Panchayat Union level undertaken by the Unions are mainly :—

Agricultural Extension

12.4. Transmission of knowledge on the latest techniques of agriculture and allied fields is attempted under this scheme by the organisation of demonstration farms, of exhibitions, and through publicity materials and by village meetings. Improved methods of cultivation, of agricultural inputs, of animal husbandry, of poultry farming, etc., are covered under these projects.

Providing infrastructure facilities

12.5. Modern godowns and storage space for better upkeep of stored materials are very important components in the requirements for better agricultural production. These agricultural depots and sub-depots are required to store agricultural products as well as seeds, fertilisers and other agricultural inputs including pesticides and demonstration equipments at Panchayat Union levels and village levels.

Schemes benefiting the village community

12.6. Sharing of physical utilities is one approach to consolidate a group or community and develop a classless society. Community irrigation wells, soil conservation works, ground water recharging works, threshing floors, plantation, etc., are schemes initiated to benefit the village community as a whole.

Schemes for the creation of service facilities

12.7. The poor economic conditions restrict the purchase of better tools of operation in the case of small farmers and agricultural labourers. One way of breaking the vicious cycle is to make them available to the farmer on reasonable rent. It is the intention under this scheme to purchase equipments of power driven or manually operated types and hire them out to farmers. Tractors power sprayers, etc., come under this scheme.

Schemes benefiting the individual

12.8. Modern tools are required for better production. Economic or financial constraints restrict their purchase by farmers. Without these tools, new methods cannot be adopted in cultivation and consequently no benefits could be achieved in production. To break this cycle the approach suggested is to subsidise the purchase. One such scheme is the introduction of modern agricultural equipments into farming through marginal agricultural farmers. These equipments—agricultural equipments like bose ploughs, trammers, seed drills, etc. are sold to the farmers at subsidised rates. Sickles, beeders, etc., are also given to agricultural labourers at subsidised rates.

Animal Husbandry

12.9. One objective in this sphere is to improve the local stock by the distribution of high grade rams. Poultry rearing, duckery, etc., will also be encouraged by suitable schemes. These schemes are mainly intended to help those belonging to the weaker sections of the community.

12.10. It is also proposed to construct Veterinary Dispensaries, sub-centres and quarters for Assistant Surgeons during the plan period so as to make available preventive as well as essential medical care for the animals.

Fisheries

12.11 In blocks where fish culture is being practised or where there is scope for fish culture, it is proposed to renovate fish tanks and encourage inland fish culture. Supply and distribution of fingerlings at subsidised rates is also contemplated.

Link Roads

12.12. The roads that connect the village hamlets form the main arteries of rural communication and the basis of village development. Accessibility to a village dictates developmental activities including agricultural marketing. Existing mud and gravel roads are taken up for improvement under this scheme. Construction of culverts, bridges, minor or major causeways, foot bridges, etc., independently or as part of a link road are provided with the restricted grant of Rs. 15,000 for each work. A length of about 8,000 kms. connecting hamlets of population sizes varying from 500 to 1,500 persons is to be improved under this scheme.

12.13. It must be pointed out that on an average 30 per cent public contribution can be expected for link roads formation, and that maintenance of link roads is a labour-intensive work capable of generating a larger number of jobs for the lower income brackets. It is possible to cover the mileage of roads specified by covering part of it in this plan and the rest in the next.

Rural Water Supply

12.14. An immediate and a minimum needs programme is provision of safe drinking water on a permanent basis to all villages. In a recent survey made by the State by the Tamil Nadu

Water Supply and Drainage Board it was found that only 38,450 habitations out of a total of 55,000 have good source of drinking water. The cost of the proposal of the Tamil Nadu Water Supply and Drainage Board to supply water to all hamlets amounts to a total of Rs. 68.7 crores. Allowing the Board to execute all major schemes, amounting to approximately Rs. 60 crores, the balance of the schemes can be left to the Panchayat Unions. The Government may grant this amount of Rs. 7.5 crores for the estimated water supply works of the Panchayat Unions.

School Buildings

12.15 One of the major work programmes of Panchayat Unions has been the construction of school buildings. A comparatively well built and well located school is an essential necessity for better education. During the last plan period up to 1977-78, 1,874 elementary schools and 64 higher elementary schools were provided with new buildings. The remaining number of elementary schools that need buildings is 2,573 and of higher elementary schools 311. Part of this requirement will be covered during the present plan period of 1978-83.

12.16 It may be pointed out that construction of school buildings is another source of construction work that has a high potential for employment generation.

Medical and Public Health

12.17 At present panchayat unions are not able to give adequate medical facilities to all the population in the blocks. Irrespective of number of dispensaries provided by Unions, the Government grant is restricted to Rs. 5,400 per year. During the plan period 1978-83, it is proposed to construct mini-health centres. Mini-health centres will be located at the rate of 1 per 1,000 families or 5,000 persons. The estimated cost of one centre is Rs. 18,000 which must be shared equally by the Government and the voluntary agency running it. In the absence of a voluntary agency the panchayat union will act as one.

Minor Irrigations

12.18 As per Government Orders, all minor irrigation sources have been vested with the panchayat union for maintenance and a local

irrigation grant is also realised for the purpose. But the ex-zamin sources are not either standardised or handed over to the panchayat unions for maintenance. Therefore, it is necessary to invest a substantial amount by way of capital expenditure to give assured irrigation facilities to the ayacutdars who mostly belong to the weaker sections of the community.

Social Education

12.19 Social Education Programmes include construction of multi-purpose community halls-cum-panchayat offices, radio rooms, supply of community receivers, purchase of books for libraries and strengthening of panchayat radio maintenance organisation. Organisation of functional seminars at district and block levels and scheme for award of prizes for kitchen gardens, best panchayat and best club/association come under this programme under Social Education. Organising crop competitions, exhibitions, trade fairs, etc., and organisation of activities for the youth are part of Social Education. Social Education attempts to integrate education with reconstruction by permanent group and community action for development.

12.20 The financial outlays of the various programmes are given in Table 12.I appended to this chapter.

TABLE : 12.I
Community Development and Rural Development.

Serial number	Programme	(RS. IN LAKHS)	
		Outlay 1978-83 State Government	
(1)	(2)	(3)	
1	Agriculture and Fisheries Animal Husbandary.	}	400
2	Water Supply		750
3	Irrigation	250	
4	Link Roads	600	
5	School Buildings	600	
6	Medical and Public Health ..	450	
7	Social Education	700	
Total ..		3750	lakhs or 37.50 crores.

TABLE 12—II.

FIVE YEAR PLAN, 1978-1983

RURAL DEVELOPMENT

Achievements and selected Physical Targets and Programmes

<i>Total number of blocks covered under programmes.</i>	1977-78.		1982-83.	
	<i>Number of blocks.</i>	<i>Number of beneficiaries.</i>	<i>Number of blocks.</i>	<i>Number of beneficiaries.</i>
(1)	(2)	(3)	(4)	(5)
1 Small Farmers Development Agency.				Government of India have sanctioned the Small Farmers Development Agency Programmes for the Vth Plan period ending with 1978-79 only. Further continuance beyond 1978-79 is yet to be finalised.
(a) Central	167	1,65,754		
2 Proposed coverage of beneficiaries during 1978-83.				Government of India have sanctioned the S.F.D.A. Programmes for the Vth Plan period ending with 1978-79 only. Further continuance beyond 1978-79 is yet to be finalised.
(i) Small Farmers.				
(ii) Marginal Farmers.				
(iii) Agricultural Labourers.				
(iv) Artisans.				

TABLE 12—II.A
FIVE YEAR PLAN, 1978-1983
RURAL DEVELOPMENT

Achievements and selected Physical Targets and Programmes

<i>Total Number of blocks covered under Programmes.</i>	1977-78.		1982-83.	
	<i>Number of Blocks.</i>	<i>Number of beneficiaries.</i>	<i>Number of Blocks.</i>	<i>Number of beneficiaries.</i>
(1)	(2)	(3)	(4)	(5)
1 Drought Prone Area Programme.				Government of India have sanctioned the Drought Prone Area Programme for the Vth Plan period ending with 1978-79 only. Further continuance beyond 1978-79 is yet to be finalised.
(a) Central	48	Not readily available.		
2 Proposed coverage of beneficiaries during 1978-79.				Government of India have sanctioned the Drought Prone Area Programme for the Vth Plan period ending with 1978-79 only. Further continuance beyond 1978-79 is yet to be finalised.
(i) Small farmers.				
(ii) Marginal Farmers.				
(iii) Agricultural Labourers.				
(iv) Artisans.				

TABLE 12—II-B.
FIVE-YEAR PLAN, 1978-1983

RURAL DEVELOPMENT

Achievements and Selected Physical Targets and Programmes

Total number of Blocks covered under Special Programmes.	1977-78.		1982-83.	
	Number of blocks.	Number of beneficiaries.	Number of blocks.	Number of beneficiaries.
(1)	(2)	(3)	(4)	(5)
(a) Central Hill Area Development Programme.	4 Numbers.	Farmers of Nilgiris District; Number not readily available.		
(b) State				
Nilgiris Agricultural Development Project.				

Remarks.—The scheme originally called as Indo-German Nilgiris Development Project, was under implementation from 1967 in the Nilgiris District with the assistance of the Federal Republic of Germany, Assistance from the Federal Republic has been discontinued with effect from 31st March 1978. The scheme is being continued as the Nilgiris Agricultural Development Project under State Plan.

TABLE 12—II-C.

FIVE-YEAR PLAN, 1978-1983

RURAL DEVELOPMENT

Achievements and Selected Physical Targets and Programmes

Total number of Blocks covered under programmes.	1978-79		1982-83	
	Number of Blocks.	Number of beneficiaries.	Number of Blocks	Number of beneficiaries.
(1)	(2)	(3)	(4)	(5)
Integrated Dryland Agricultural Development Programme.	8 villages in Tirunelveli district. 13 villages in Pudukkottai district.	Not readily available.		Government of India have sanctioned the scheme upto 1978-79. It is not known as on date whether it is likely to continue or not in the above period.

Part II

SECTORAL PLANS

B. SECONDARY SECTOR

Part II—SECTORAL PLANS

B. SECONDARY SECTOR

Chapter 13

INDUSTRIES—LARGE SCALE AND MEDIUM

13.0. The Industrial policy of the Government of India envisaged for the five-year period, 1978-83 aims to achieve an adequate rate of growth of industrial production of 7 per cent. At the same time there is to be a large increase in investment in employment intensive schemes like agricultural and allied activities, irrigation and infrastructure like power, roads and works connected with the minimum needs programme. Investment of this order will stimulate the demand for a wide range of mass consumer and intermediate goods.

13.1. In order to bring about a greater dispersal of industry in the rural and semi-urban areas and also to ensure a better distribution of wealth and income, the emphasis currently is on promoting and supporting village and cottage industries in a big way so as to provide employment opportunities in large numbers in rural and backward areas. While the development of small and village sectors is of vital importance, the development of large scale industry cannot be neglected. The ideal development will be one in which the small industrial establishments may be linked up with the large sector, the former functioning as ancillary units to the latter.

Large scale industry will continue to manufacture iron and steel goods, chemicals and other industrial

products, machinery and capital goods involving use of sophisticated machinery, but small industries may concentrate on the production of consumption goods and other products requiring relatively small amount of capital.

13.2. In the context of planned developments large and medium scale industries are to be assigned their proper role in such a way so that they may function as a catalyst activating the growth forces in the State's economy and thereby bringing about overall development.

13.3. The Central Sector industrial investment in the State is less than 3 per cent of the total investment by the centre. Considered on the population basis, the central sector investment in the State should be around 8 per cent of total central investment. Further, considering the States' acute socio-economic problems such as unemployment and poverty, stepping up of investment through Central sector projects is necessary. There is scope for Central investment in many areas especially, chemical, electronic and engineering industries. The major task of the State Government in the industries sector is the promotion and development of major industries by the provision of finance and by building up the economic infrastructure. Keeping this in view, a number of State-owned promotional agencies have been set up.

13.4. The Tamil Nadu Industrial Investment Corporation was the first state level financial corporation set up in 1949 to assist the development of existing and new industries in Tamil Nadu and Pondicherry by providing long and medium term loans to the industrial units for the purpose of building up fixed assets.

13.5. The State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) offers financial assistance, develops infrastructure facilities and provides incentives for the starting

of industrial ventures in the private sector, while the Tamil Nadu Industrial Development Corporation Limited (TIDCO) manages the public sector projects and promotes the joint sector.

13.6. The total investment for the promotion of large and medium industries in the State during 1978-83, by the various corporations, works out to Rs. 227.65 crores. The share of expenditure from State Government in the form of share capital assistance and loans to these Corporations is Rs. 71.35 crores. The details are furnished in the table below.

TABLE 13.1

Industrial Corporations in Tamil Nadu—Investment and Employment Potential.

<i>Department/Corporation,</i>	<i>Outlay in the Vth Plan.</i>	<i>Total investment proposed during 1978-83.</i>	<i>Share of expenditure from State Government.</i>	<i>Employment envisaged.</i>
(1)	(2)	(3)	(4)	(5)
		(RUPEES IN CRORES.)		(IN NUMBERS)
1. TIDCO	20.13	54.73	38.00	33,675
2. SIPCOT	10.43	36.05	19.00	1,11,716
3. TIIC	2.75	124.00	10.00	1,09,000
4. Tamil Nadu Salt Corporation ..	0.70	1.15	0.20	1,100
5. Tamil Nadu Sugar Corporation ..	1.96	*	..	..
6. Directorate of Sugar	6.88	10.10	2.53	1,980
7. Tamil Nadu Ceramics Limited ..	0.58	1.62	1.62	860
Total ..	43.43	227.65	71.35	2,58,331

*The programme of setting up of sugar factories in the co-operative sector would be implemented by the Directorate of Sugar.

The projects proposed by the different Corporations for the five years 1978-83 are as follows :

Tamil Nadu Industrial Development Corporation Limited (TIDCO)

13.7. The Tamil Nadu Industrial Development Corporation Limited (TIDCO) set up in 1965 to implement the cement project at Alangulam and continuous steel casting plant at Arkonam has widened its scope of activities by concerning itself with the setting up of new industries in the public sector, and promoting joint ventures with private entrepreneurs.

13.8. During the five year period 1978-83 the TIDCO will concern itself with 34 projects. Out of this, 10 projects will be in public sector and 24 in the joint sector. Works on these projects will be started and excepting in a few cases will be completed before the end of 1982-83.

13.9. The total outlay of the Corporation during 1978-83 is Rs. 54.73 crores. Besides, equity contribution of Rs.38 crores from the State Government, the rest has to be financed by loans from the Government, open market borrowings, fixed deposits, etc.

13.10. The total employment potential of the 34 projects during the plan period is of the order of 33,675.

The projects proposed by the TIDCO are listed in Table : 13.I.

State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) :

13.11. The State Industries Promotion Corporation of Tamil Nadu (SIPCOT) was set up in 1971 with the objective of promoting and developing the medium and major industries in the private sector and to hasten the process of dispersal of industries in the less developed areas of the State.

13.12. SIPCOT provides the following types of financial assistance to major and medium industries :

(a) Term loans—under the Industrial Development Bank of India refinance arrangement the entire loan assistance in the backward areas and 80 per cent of the assistance to industries in developed areas are refinanced by the Industrial Development Bank of India (IDBI). In the next plan period refinancing to the extent of Rs. 1,705 lakhs will be available from the IDBI.

(b) IDBI Seed capital Scheme.

(c) Under-writing the capital issues.

(d) Guarantee loan from commercial banks.

13.13. In the five years 1978-83, SIPCOT proposes to take up schemes and provide assistance for Rs. 3,605 lakhs of which the share of expenditure from the State Government will be Rs. 1,900 lakhs in the form of share capital and loan.

13.14. One of the main functions with which SIPCOT is entrusted is the development of growth Centres in the backward areas of the State. SIPCOT has already developed two centres, one at Ranipet and another at Hosur. During the plan period, an additional six centres are to be set up at a cost of Rs. 700 lakhs. The requirement of the existing two centres will be Rs. 150 lakhs. Thus the total outlay envisaged under this head is Rs. 850 lakhs.

Interest free sales tax loan :

13.15. To encourage the setting up of new units and expansion of existing units in 9 backward districts of the State including Maramalai Nagar

near Madras and Kunnathur block in the Chengalpattu district, interest free loan is given equivalent to sales tax paid by the units during the year for six years in the case of existing units subject to a maximum of Rs. 15 lakhs per unit.

13.16. SIPCOT also implements the Central Investment Subsidy Scheme. At present 15 per cent of the fixed capital investment is subsidised in units located in backward areas. It requires Rs. 1,250 lakhs for the scheme during the five years 1978-83. The entire amount will be directly provided by the Government of India.

13.17. The total requirement of funds during the plan period will be Rs. 3,605 lakhs, as detailed below :—

	(RS. IN LAKHS.)
Existing growth centres and new industrial centres	850
Term Loan operation	2,005
Sales tax loan	750
Total	3,605

13.18. As a result of the implementation of the above scheme by the SIPCOT, the employment potential will increase from 33,284 persons at the end of 1977-78 to 1,45,000 persons at the end of the plan. The utilisation of investment from industries increases from Rs. 162 crores in 1977-78 to Rs. 727 crores at the end of the plan period. The profits of the Corporation will increase cumulatively by Rs. 225 lakhs during the plan period.

13.19. The requirement of funds is as detailed below :—

TABLE 13.2.

Year.	(RS. IN LAKHS.)		
	State Government Contribution.	Financial assistance from other sources IDBI.	
	Equity.	Loan.	
(1)	(2)	(3)	(4)
1978-79 ..	113.50	200.00	305.00
1979-80 ..	156.00	200.00	270.00
1980-81 ..	240.50	200.00	385.00
1981-82 ..	206.00	200.00	395.00
1982-83 ..	184.00	200.00	350.00
	900.00	1,000.00	1,705.00

Tamil Nadu Industrial Investment Corporation Limited (TIIC) :

13.20. The Tamil Nadu Industrial Investment Corporation Limited (TIIC) set up in 1949 assists in the establishment of new industries and the expansion and modernisation of existing units by providing medium term loans, guaranting deferred payments for acquisition of machinery and underwriting of equity and preference shares. The Corporation is also implementing special schemes viz., extending financial assistance to technocrats, rural medical practitioners, transport operators, hotels, etc. The cumulative amount of the various financial assistance granted by the Corporation as on 31st March 1978 is Rs. 121.28 crores. With the establishment of the District Industries Centres, it is expected that the financial assistance by the Corporation to small and medium scale units would increase substantially. The total outlay of the Corporation during 1978-83 will be Rs. 124 crores. Besides equity contribution and refinance from Industrial Development Bank of India, the equity contribution by the State Government is expected to be Rs. 10 crores at the rate of Rs. 2 crores per year. This total investment would generate employment for about 1.09 lakh persons during 1978-83.

Tamil Nadu Salt Corporation Limited.

13.21. The Tamil Nadu Salt Corporation Limited was set up on 22-7-74 to develop Mariyur-Valinokkam Salt Complex at a cost of Rs. 145 lakhs. As against the equity share capital of Rs. 50 lakhs from Government, a sum of Rs. 30 lakhs was ear-marked during 1974-78 and the balance Rs. 20 lakhs would be provided during 1978-83.

13.22. The project covers an area of 5,566 acres and when completed the project will have 500 crystalisers, with the supporting reservoir and condensor areas. It is anticipated that the total quantity of 2.40 lakh tonnes of salt will be produced when the project goes into full swing in 1984.

13.23. At present the project provides employment for more than 500 persons. When it is completed it will provide full time employment to 100 persons and seasonal employment to about 1,000 persons. The total cost of the project is

estimated at Rs. 145 lakhs which will be met from the following sources :

	(RS. IN LAKHS.)
(1) Equity share capital from Government	50
(2) Loan from TIIC	30
(3) Loan from Canara Bank	10
(4) Subsidy from SIPCOT	15
(5) Borrowings from other financial institutions	40
Total	145

Tamil Nadu Ceramics Limited. (TACEL)

13.24. The State Government formed the Tamil Nadu Ceramics Limited during December 1973 to provide unified control over the various ceramic units functioning in Tamil Nadu and also to place the activities fully on commercial lines.

13.25. In its endeavour to develop rural areas, TACEL is managing a small ceramic unit at Omalur in Salem district and also a functional industrial estate and common facility centre for ceramics at Virudhachalam. There are 35 factory sheds in this industrial estate intended for artisans and tiny entrepreneurs with modest resources.

13.26. The schemes envisaged in the years covered by the plan 1978-83 by TACEL are the following :

(i) *Common facility service centre and functional estates for the manufacturing of stoneware jars and containers.*—The Scheme is to set up a common facility service centre in the midst of a functional estate of village potters' community. Either potters are encouraged to do their work in their own sheds or the TACEL can render assistance to village potters for putting up cheap industrial work sheds on a rental basis. The functional estate and common facility centre can be located in regions where there are adequate number of potters. The total outlay is estimated at Rs. 50.36 lakhs.

(ii) *Functional estates and common facility centre for red clay roofing tiles.*—The red clay roofing tiles at present manufactured by small

scale units in Tirunelveli and Kanyakumari districts are of poor quality. In order to improve the quality, it is proposed to provide a common facility service centre in certain areas where a number of small tile units exists with all modern processing equipments. The total outlay for one such common facility service centre will be Rs. 20.18 lakhs. It will meet the needs of 8 small scale units and provide employment for about 100 persons in the service centre and for about 160 persons in the assisted tile manufacturing units.

(iii) *Functional estates and common facility centre at Omalur*:—At present TACEL is having a small work centre at Omalur with a production capacity of Rs. 50,000 per month. There is great scope for the development of the functional estates at Omalur since the setting up of the steel plant at Salem is in progress.

13.27. In all, the expansion schemes of TACEL would require Rs. 161.94 lakhs. The year-wise distribution of this amount is as follows :—

	(RUPEES IN LAKHS).
1978-79	5.00
1979-80	50.00
1980-81	80.00
1981-82	20.00
1982-83	6.94
	161.94

13.28. The schemes will provide employment to 860 persons.

The details are given in Table: 13-II.

Tamil Nadu Sugar Corporation and Directorate of Sugar.—

13.29. Sugar industry being an agro-based industry plays an important role in the economic development of rural areas. The growth of the sugar industry in Tamil Nadu has registered a steady progress as a result of the implementation of several developmental programmes under the five year plans.

13.30. The Tamil Nadu Sugar Corporation Limited was started in October 1974 to carry on the business of manufacturing of sugar and to trade in all the inputs and by-products of sugar industry. The sugar Mill at Thanjavur was established by the Corporation in February 1977.

13.31. The Directorate of Sugar has in view several new schemes to be implemented in the course of 1978-83. These are (a) the starting of two mini-sugar plants in the co-operative sector; (b) establishment of two mini paper plants using baggasse; (c) setting up 6 card board plants using baggasse; and (d) two wax extraction plants using filter mud.

13.32. The details of these schemes are given in Table: 13-III. The capital outlay involved is of the order of Rs. 1,590 lakhs of which the share of the State Government during 1978-83 would be Rs. 252.50 lakhs.

TABLE : 13-I.

Large scale and Medium Industries.—Projects proposed by TIDCO during 1978-83.

Serial number and name of the project.	Annual capacity.	Estimated cost.	Investment	Expected	Employment (Nos.)	
			by TIDCO during 1978-83.	date of completion.	Construc- tion stage.	Operation stage.
(1)	(2)	(RS. IN LAKHS).	(RS. IN LAKHS).	(5)	(6)	(7)
PUBLIC SECTOR :						
<i>A. Projects under implementation.—</i>						
1. Ariyalur Cement Project	Cement 5 lakh tonnes.	2,876	..	First kiln in November 1978.	1,100	1,100
<i>B. Projects to be taken up.—</i>						
1. Rayon grade wood pulp and stable fibre.	Rayon grade wood pulp 15,000 tonnes Viscose 12,000 tonnes.	4,000	580.93	1983-84	5,000	2,500
2. Magnesium Metal Project	Magnesium 600 tonnes.	350	43.21	1981-82	400	200
3. Tuticorin Alkali Chemicals Limited.	Soda ash: 7,000 tonnes Ammonium Chloride 70,000 tonnes.	3,400	614.89	1981-82	1,000	500
4. Asbestos Cement Sheet, Alangulam.	Asbestos Cement sheets 36,000 tonnes.	165.65	51.26	1980-81	300	300
5. Steel Rolling Mills, Arakonam.	Re-rolled materials 50,000 tonnes.	800.00	267.00	1983-84	100	300
6. Vedaranyam Salt	.. Salt and Marine chemicals one million tonnes.	1,100.00	363.30	1981-82	6,000	2,700
7. Synthetic Rutile	.. Synthetic rutile 30,000 tonnes.	1,500.00	218.00	1983-84	600	300
8. Tiruvannamalai Iron Ore	Iron ore beneficiation 2 million tonnes.	20,000.00	445.00	1985-86	12,000	6,000
9. Sponge Iron	.. .. Sponge Iron 5 lakhs tonnes.	6,000.00	110.00	1985-86	200	1,000
Sub-total (A+B)			..	2,693.59	26,700	14,900

TABLE : 13-I—cont.

Serial number and name of the project.	Location.	Annual capacity.	Estima- ted cost.	Invest- ment by TIDCO in 1978-83.	Expected date of comple- tion.	Employment (Nos.)		Re- marks.
						Construc- tion stage.	Opera- tion stage.	
(1)	(2)	(3)	(RUPEES IN LAKHS). (4)	(RUPEES IN LAKHS). (5)	(6)	(7)	(8)	(9)
JOINT SECTOR.—								
C. Under implementation—								
1. Acetylene and Industrial Gas Cylin- ders Limited.	Ambattur	Acetylene Cylinders 25,000 nos.	63.00	3.38	1979-80	20	50	..
2. Inter-Con- tinental Lea- thers Limited.	Ranipet	Finished leather-3.4 lakhs square meters.	120.00	5.37	January 1979.	120	300	..
3. Southern Hydrocar- bons Limited.	Kolatuhr TK (Pudu- kottai District).	Acetic Anly- dride- 1,000 t. Acetic Acie'. 1,000 tonnes.	205.00	7.61	June 1979.	1,000	550	..
4. Tamil Nadu Fluorine and Allied Che- micals Ltd.	Manalar Village (Ramana- thapuram district.)	Aluminium Fluoride 6,000 tonnes	650.00	50.96	March 1981.	600	300	..
5. Motor Casting Limited.	Arkonam	8,500 tonnes.	100.00 (first phase).	76.15	1981-82	300	1,000	..
6. Asian Bearings Limited.	Bagalur Village (Dharma- puri district).	Ball bea- rings 2.7 million nos.	1,200.00	79.19	April 1980.	300	1,000	..
7. Vanavil Dyes and Chemicals Limited.	Cuddalore	Dyes and naphthals 750 tonnes.	900.00	77.26	April 1980.	800	400	..
8. Asia Car- bons Limited.	Ranipet	Carbon blocks 6,700 tonnes.	653.00	31.49	June 1980	750	300	..
9. Gangappa Paper Mills Limited.	Vadakuttu village (South Arcot district).	Printing writing and Kraft paper 10,000 tonnes.	350.00	15.30	December 1979.	120	300	..
Sub-Total (C)			..	346.71		4,010	4,200	

TABLE 13-I—cont.

Serial number and Name of the Project.	Annual Capacity.	Establish- ment cost (RUPEES IN LAKHS).	Invest- ment by TIDCO in 1978-83 (RUPEES IN LAKHS.)	Expected date of comple- tion.	Employment (Nos.)		Remarks.
					Cons- truction. stage.	Opera- tion. stage.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Joint Sector.—</i>							
<i>D. Under consideration—</i>							
1. Refractories Project.	Deadburnt magnesite 50,000 tonnes						
..	Refractories 30,000 tonnes	1,400-00	103-07	1981-82	900	900	..
2. A. B. S. Resins Project.	2,000 tonnes	500-00	42-06	1981-82	300	130	..
3. Alloy Foundry Project, (Hosur)	Iron castings 25,000 tonnes	120-00	9-20	1980-81	300	320	..
4. Project for manufacture of shoes (for export)	6 lakh pairs	150-00	21-91	1980-81	60	150	..
5. Wrist Watches	1 million ..	780-00	80-76	1981-82	200	1,200	..
6. Geo Scientific Instruments	Value of about Rs. 480 lakhs.	350-00	29-77	1982-83	200	575	..
7. Optical Instru- ments.	Value of about Rs. 800 lakhs.	400-00	39-05	1982-83	30	250	..
8. Alcohol based complex.	Acetic Acid 900 tonnes Acetone 900 tonnes Cellulose/ Starch 3,000 tonnes.	1,000-00	99-93	1982-83	800	400	..
9. Goat Skin Project.	24 lakh Nos.	575-00	59-69	1981-82	150	600	..
10. Polyester stable Fibre.	12,000 tonnes	2,500-00	216-00	1983-84	800	500	..
11. Furfural Project.	3,000 tonnes	510-00	42-99	1979-80	300	150	..
12. News Print Mill.	75,000 tonnes	10,000-00	975-00	1983-84	2,000	4,000	..
13. Detergent Alkylate.	33,000 tonnes	3,500-00	312-00	1983-84	750	500	..
14. Chemical equipment Project.	glass lined reactors, pressure vessels	400-00	40-00	1981-82	200	500	..
Other New Schemes	..	5,650-00	370-74	..	4,400	4,400	..
	Sub-total (D)		2,433-17		11,390	14,575	
	Total (A+B+C+D)		5,473-47		42,100	33,675	

TABLE 13-II,

Schemes proposed by Tamil Nadu Ceramics Limited (TACEL) during 1978—1983.

Serial number and name of the scheme.	Purpose.	Outlay during 1978-83 (RUPEES IN LAKHS).	Employment (Nos.)
(1)	(2)	(3)	(4)
1. Common Facility Service Centre and Functional Estates for manufacture of stoneware jars, containers, etc.	To assist Village Potters' Community the Service Centre will provide firing facilities to 3 tonnes of body per day.	50.36	200
2. Functional Estate and Common Facility Service Centre for Red Clay Roofing Tiles.	To assist small-scale units with all modern processing equipments, supply of processed clay slabs, etc.	20.18 (per one unit.)	260
3. Ceramics Complex at Omalur		(RUPEES IN LAKHS).	
	Cost on Industrial Estate	28.40	
	Common Facility Service Centre ..	63.00	400
	Total—TACEL	161.94	860

TABLE 13 III

Projects proposed by Directorate of Sugar during 1978—1983.

Serial number and name of the Project.	Annual capacity.	Status of the project.	Expected date of completion.	Estimated cost.	Share of expenditure by Government during 1978-83. (RUPEES IN LAKHS.)	Employment (Nos.)	
						Construction stage.	Operation stage.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>A. Continuing Schemes</i>							
1. Ulundurpet Co-operative Sugar Mills.	Sugar 18,000 tonnes	Work started.	February 1980.	580.00	..	900 for 1½ years	700
<i>B. New Schemes</i>							
1. Two Mini Sugar Plants in Co-operative sector	Sugar 6,000 tonnes/Unit	No licence is necessary	I Unit : March 1981 II Unit March 1982	400.00	100.00	700 for 1½ years	400
2. Two Mini Paper Plant using bagasse.	4,500 tonnes per Unit	Licence to be obtained	I Unit : January 1979 II Unit : January 1980	400.00	100.00	600 for 1½ years	400
3. Six Card Board Plants using bagasse.	1,500 tonnes	Licence not necessary	2 Units in a year.	90.00	22.50	360 for 1 year.	360
4. Two wax extraction plants using filter mud.	450 tonnes of natural wax.	Licence not necessary	I Unit : December 1982 II Unit : December 1983.	120.00	30.00	180 for 1 year.	120
Total—Directorate of sugar				1,010.00	252.50		1,980

TABLE 13—IV.

Plan 1978-83 Tamil Nadu

Industrial Area Development Programmes

I & M : 3.

a. Industrial Areas Already Developed.

A. Location. B. District.	Area Develo- ped.	Total cost.	Number of Plots Develo- ped.	Utilisation of plots (Nos).				Remarks.
				Allot- ted.	Un- occupied.	Industrial units in produc- tion.	Em- ployment.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(RS. IN LAKHS)

State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

1. Establishment of
Growth Centres :

A. Ranipet ..	716.50 acres	115.54	85	85 (43)	..	24	} 17,500
B. North Arcot							
2.							
A. Hosur	} 1,028.15 acres.	102.73	151	58 (43)	93	4	
B. Dharmapuri							

(Note : Figures in brackets show industrial units.)

(b) Industrial areas proposed to be taken up during 1978—1983.

Programme for Five-Year Plan 1978—1983.

A. Location. B. District.	Land to be acquired.	Land to be Developed.	Number of plots.	Estimated cost.	Date of Start.	Expected date of comple- tion.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(ACRES)	(ACRES)		(RS. IN LAKHS)		

State Industries Promotion Corporation of Tamil Nadu (SIPCOT).

Establishment of Growth centres in backward areas :—

1 Tuticorin (Tiru- nelveli District).	1,050	830	NA	140.00	1978-79	1982-83
2 Pudukottai (Pudu- kottai District).	1,050	800	NA	190.00	1978-79	1982-83
3 Manamadurai (Madurai District),	1,050	800	NA	190.00	1978-79	1982-83

TABLE 13—V.

(I & M : 7)

Plan—1978-83 : Tamil Nadu—Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited.

Serial number and name of the Project.	Annual Capacity.	Status of Project.		Date of Start.
		(a) Letter of intent (b) F.I.B. Clearance (c) C.G. Clearance.	(3)	
(1)	(2)	(3)	(4)	
I. PUBLIC SECTOR PROJECTS.				
<i>A. Projects under implementation—</i>				
1 Ariyalur Cement Project ..	Portland Cement—5 lakh tonnes.	(a) Dated 23rd December (b) Nil. (c) obtained.	1974-75	
<i>B. Projects to be taken up—</i>				
1 Megnesium Metal Project.	Magnesium Metal— 600 tonnes.	(a) not obtained (b) not obtained (c) not obtained.	1978-79	
2 Rayon Grade Wood Pulp and Staple Fibre Project.	Rayon Grade Pulp 15,000 Tonnes Viscose Polynosic Fibre—12,000 tonnes.	(a) 27th October 1975 now not valid. (b) not obtained (c) not obtained.	1978-79	
3 Tuticorin Alkali Chemicals Limited.	Soda Ash—70,000 T. Ammonium Chloride 70,000 T.	(a) Dated 18th January 1971. (b) Applied. (c) Applied.	1978-79	
4 Asbestos Cement Sheet ..	Asbestos Cement Sheets 36,000 T.	(a) Dated 19th June 1976 (b) not applicable (c) not applicable.	1978-79	

Serial number and name of the project.	Expected date of completion.	Latest Estimate (Rs. in lakhs).		
		Total cost.	Equity.	Debt Etc.
(1)	(5)	(6)	(7)	(8)

I. PUBLIC SECTOR PROJECTS—cont.*A. Projects under implementation—cont.*

1 Ariyalur Cement Project —	First Kiln—October Second Kiln— 1979-80.	2,876.00	575.00	2,301.00
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B. Projects to be taken up.

1 Megnesium Metal Project —	1981-82	350.00	100.00	250.00
2 Rayon Grade Wood Pulp and Staple Fibre Project.	1983-84	4,000.00	1,143.00	2,857.00
3 Tuticorin Alkali Chemicals Limited.	1981-82	3,400.00	1,130.00	2,270.00
4 Asbestos Cement Sheet ..	1980-81	165.65	51.26	114.39

TABLE 13-V—cont.

<i>Serial number and name of the project.</i>	<i>If joint Project.</i>		
	<i>Name of the Private Sector participated.</i>	<i>Extent of participation.</i>	<i>Equity capital to be provided by Government| Corporation.</i>
(1)	(9)	(10)	(11)
I. PUBLIC SECTOR PROJECTS—cont.			
<i>A. Projects under implementation—cont.</i>			
1 Ariyalur Cement Project	--	--
<i>B. Projects to be taken up—cont.</i>			
1 Megnesium Metal Project	--	--
2 Rayon Grade Wood Pulp and staple Fibre Project.
3 Tuticorin Alkali Chemicals Limited.
4 Asbestos Cement Sheet	--

<i>Serial number and name of the Project.</i>	<i>Equity Capital contribution by Government| Corporation (Rs. in lakhs.)</i>			
	<i>Up to 1977-78.</i>	<i>1978-79 approved outlay.</i>	<i>1979-80</i>	<i>1980-81</i>
(1)	(12)	(13)	(14)	(15)
I. PUBLIC SECTOR PROJECTS—cont.				
<i>A. Projects under Implementation.—</i>				
1. Ariyalur Cement Project ..	575.00	..	..	..
<i>B. Projects to be taken up.—</i>				
1. Megnesium Metal Project ..	0.14	1.00	10.00	32.21
2. Rayan Grade Wood Pulp and staple Fibre Project.	2.07	50.00	150.93	200.00
3. Tuticorin Alkali Chemicals Limited.	10.11	40.00	264.89	310.00
4. Asbestos Cement Sheet ..	..	30.00	21.26	

TABLE 13-V—cont.

PLAN—1978-83 : Tamil Nadu—Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation, Limited.

Serial number and name of the Project.	Equity Capital contribution by Government Corporation (Rs. in lakhs.)			Employment numbers.	
	1981-82.	1982-83.	Total five year plan 1978-83.	During construction.	During operation.
(1)	(16)	(17)	(18)	(19)	(20)
I. PUBLIC SECTOR PROJECTS.					
<i>A. Projects under implementation.</i>					
1. Ariyalur Cement Project	1,100	1,100
<i>B. Projects to be taken up.—</i>					
1. Megnesium Metal Project	43.21	400	200
2. Rayon Grade Wood Pulp & Staple Fibre Project.	80.00	100.00	580.93	5,000	2,500
3. Tuticorin Alkali Chemical Limited.	614.89	1,000	500
4. Asbestos Cement Sheet	51.26	300	300

Serial number and name of the Project.	Annual Capacity.	Status of Project.		Date of Start.
		(a) Letter of intent.	(b) F.I.B. Clearance.	
(1)	(2)	(c) C. G. Clearance.	(3)	(4)
<i>B. Projects to be taken up.</i>				
5. Steel Rolling Mill Project ..	Re-rolled Materials 50,000 T.	(a) Not applied (b) Not applied (c) Not applied	.. ..	1978-79
<i>C. Projects under consideration.</i>				
1. Vedaranyam Salt Project ..	Salt & Other Marine Chemicals—1 Million T.	(a) Not applied (b) Not applied (c) Not applied	.. ..	1978-79
2. Synthetic Rutile Project ..	Synthetic Rutile—30,000 T.	(a) Not applied (b) Not applied (c) Not applied	.. ..	1978-79
3. Thiruvannamalai Iron Ore Project.	Iron Ore Beneficiations 2 Million tonnes.	(a) Not applied (b) Not applied (c) Not applied	.. ..	1980-81
4. Sponge Iron Project ..	Sponge Iron —5 lakhs T.	(a) Not applied (b) Not applied (c) Not applied	.. ..	1979-80

TABLE 13—V—cont.

Plan 1978-83 : Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited.

Serial number and name of the Project.	Expected date of completion.	Last estimate (Rs. in lakhs).		
		Total cost.	Equity.	Debt, etc.
(1)	(5)	(6)	(7)	(8)
<i>B. Projects to be taken up—</i>				
5. Steel Rolling Mill Project ..	1983-84	800-00	267-00	533-00
<i>C. Projects under consideration.—</i>				
1. Vedaranyam Salt Project ..	1981-82	1,100-00	366-00	734-00
2. Synthetic Rutile Project ..	1983-84	1,500-00	430-00	1,070-00
3. Thiruvannamalai Iron Ore Project.	1985-86	20,000-00	5,700-00	14,300-00
4. Sponge Iron Project ..	1985-86	6,000	1,715-00	4,285-00
Total ..		40,191-65	11,477-26	28,714-39

If joint Project.

Serial number and name of the Project.	If joint Project.		
	Name of the Private sector participated.	Extent of participation.	Equity capital to be provided by the Government/ Corporation.
(1)	(9)	(10)	(11)
<i>B. Projects to be taken up—</i>			
5. Steel Rolling Mill Project
<i>C. Projects under consideration.—</i>			
1. Vedaranyam Salt Project
2. Synthetic Rutile Project
3. Thiruvannamalai Iron Ore Project.
4. Sponge Iron Project
Total

TABLE 13- V—cont.

II. JOINT SECTOR PROJECTS—cont.

Serial number and name of the Project.	Equity Capital contribution by Government / Corporation (Rs. in lakhs.)			
	Upto 1977-78.	1978-79 approved outlay.	1979-80	1980-81
(1)	(12)	(13)	(14)	(15)
B. Projects to be taken up.—				
5. Steel Rolling Mill Projects ..	..	100.00	100.00	67.00
C. Projects under consideration.—				
1. Vedaranyam Salt Project ..	2.70	19.30	54.00	110.00
2. Synthetic Rutile Project ..	....	....	..	40.00
3. Thiruvannamalai Iron Ore Project.	....	20.00	50.00	75.00
4. Sponge Iron Project .. ..	....	5.00	15.00	15.00
Total ..	590.02	265.30	666.08	849.21

Serial number and name of the Projects.	Equity Capital contribution by Government Corporation (Rs. in lakhs.)			Employment (Numbers)	
	1981-82	1982-83	Total five year plan 1978-83.	During construction.	During operation.
(1)	(16)	(17)	(18)	(19)	(20)
B. Projects to be taken up—					
5. Steel Rolling Mill Project ..	..	..	267.00	100.00	300.00
C. Projects under implementation—					
1. Vedaranyam Salt Project ..	114.00	66.00	363.00	6,000	2,700
2. Synthetic Rutile Project ..	78.00	100.00	218.00	600	300
3. Thiruvannamalai Iron Ore Project.	100.00	200.00	445.00	12,000	6,000
4. Sponge Iron Project ..	25.00	50.00	110.00	200	1,000
Total ..	397.00	516.00	2,693.59	26,700	14,900

TABLE 13—V—cont.

Serial number and name of the project.	Annual capacity.	Status of project.		Date of start.
		(a) Letter of intent.	(b) F.I.B. Clearance	
(1)	(2)	(c) C.G. Clearance	(3)	(4)
II. JOINT SECTOR PROJECTS.—				
<i>A. Projects under implementation.</i>				
1 Acetylene and Industrial Gas Cylinders Limited.	Acetylene Cylinders— 25,000 Nos.	(a) Not required (b) DATED 13th February 1978. (c) F. C. agreement recorded, 30th August 1976.	Reg. with DGTD., dated 13th February 1978.	1977-78
2 Inter-continental Leathers Limited.	Finished Leathers— 3,38,980 Sq. Mts.	(a) Dated 31st August 1973 (b) 31st August 1974 (c) 30th July 1975	..	1977-78
3 Southern Limited.	Hydro-Carbon Acetic Anhydride—1,000 T. Acetic Acid—1,000 T.	(a) Dated 28th February 1977. (b) Not applicable (c) Not applicable		1977-78
4 Tamil Nadu Fluorine and Allied Chemicals Limited.	Aluminium Fluoride— 6,000 T.	(a) Dated 3rd February 1972. (b) obtained (c) being obtained		1977-78
5 Motor Castings Limited ..	Gray Iron Castings—8,500 T.	(a) Dated 22nd February 1974. (b) Dated 28th September 1976 (c) 31st March 1976		1977-78
6 Asian Bearings Limited ..	Ball Bearings—2.7 Million Nos.	(a) Dated 9th May 1972 (b) Dated 4th October 1976. (c) Obtained	..	1977-78
7 Vanavil Dyes and Chemicals Limited.	Naphthals—250 T. FC. Bases—250 T. Dyes—250 T.	(a) Dated 1st August 1973 (b) May not be necessary (c) to be obtained	..	1978-79
8 Asia Carbon Limited ..	Carbon Blocks Carbon/Graphite Refractories	6700 T (a) Registration not required with D.G.T.O. (b) Dated 31st December 1977. (c) 16th August 1977		1977-78
9 Gangappa Paper Mills Limited.	Printing, Writing and Kraft paper.	10,000T (a) obtained (b) does not arise (c) obtained	..	1977-78

TABLE 13—V—cont.

<i>Serial number and name of the project.</i>	<i>Expected date of completion.</i>	<i>Latest estimate (Rs. in lakhs).</i>		
		<i>Total cost.</i>	<i>Equity.</i>	<i>Debt, etc.</i>
(1)	(5)	(6)	(7)	(8)
II. JOINT SECTOR PROJECTS.—cont.				
A. Projects under implementation.—				
1. Acetylene & Industrial Gas Cylinders Limited.	1979-80	63.00	25.00	38.00
2 Inter-continental Leathers Limited.	January 1979	120.00	40.00	80.00
3 Southern Hydro-Carbon Limited.	June 1979	205.00	65.00	140.00
4 Tamil Nadu Fluorine and Allied Chemicals Limited.	March 1981	650.00	295.00	355.00
5 Motor Castings Limited ..	1981-82	1,100.00	292.00	808.00
6 Asian Bearings Limited ..	April 1980	1,200.00	320.00	880.00
7 Vanavil Dyes and Chemicals Limited.	April 1980	900.00	373.00	527.00
8 Asia Carbon Limited ..	June 1980	653.00	190.00	463.00
9 Gangappa Paper Mills Limited.	December 1979	350.00	113.00	237.00

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

In Joint Products

<i>Serial number and name of the Projects.</i>	<i>Name of the Private Sector.</i>	<i>Extent of participation.</i>	<i>Equity capital to be provided by Government Corporation.</i>
(1)	(9)	(10)	(11)
II. JOINT SECTOR PROJECTS—cont.			
A. Projects under implementation— cont.			
1 Acetylene & Industrial Gas Cylinders Limited.	Thiru S. Nallaperumal and Associates.	6.15	6.50
2 Inter-continental Leathers Limited.	Thiru S.R.M. Pl. Subramanian and Messrs Leather Central Romania.	10.00	10.40
3 Southern Hydro-Carbon Limited.	Thiru R. Venkatasami and Associates.	16.25	16.90
4 Tamil Nadu Fluorine and Allied Chemicals Limited.	Thiru L. Narayana Chettiar and Associates.	60.00	62.00
5 Motor Castings Limited ..	Messrs. Simpson and Co., Fabrika Ollivaka Belgrade Industrial Masina-1. Tractra, Yugoslavia.	75.00	78.00
6 Asian Bearing Limited ..	Thiru S.M. Palaniappa Chettiar and Associates.	80.00	83.20
7 Vanavil Dyes and Chemicals Limited.	Messrs. Atul Products Limited.	75.00	78.00
8 Asia Carbon Limited ..	Thiru A.M.P. Arunachalam and Associates.	40.00	41.60
9 Gangappa Paper Mills Limited.	Thiru T.G. Krishnamurthi and Associates.	33.00	19.80

*Equity Capital contribution Government Employment
(Numbers) Corporation (Rs. in lakhs.)*

<i>Serial number and name of the project.</i>	<i>Upto 1977-78.</i>	<i>1978-79. approved outlay.</i>	<i>1979-80.</i>	<i>1980-81.</i>
(1)	(12)	(13)	(14)	(15)
1 Acetylene & Industrial gas cylinders Limited.	3.12	3.38	..	..
2 Inter-continental Leathers Limited.	5.03	5.37	..	..
3 Southern Hydro-Carbon Limited.	9.29	7.61	..	..
4 Tamil Nadu Fluorine and Allied Chemicals Limited.	11.04	32.50	18.46	..
5 Motor Castings Limited ..	1.85	32.20	8.95	10.00
6 Asian Bearings Limited ..	6.61	50.00	29.19	..
7 Vanavil Dyes and Chemicals Limited.	0.74	20.50	16.76	15.00
8 Asia Carbon Limited ..	10.11	21.60	9.89	..
9 Gangappa Paper Mills Limited.	4.50	15.00	0.30	..

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation, Limited cont.

II JOINT SECTOR PROJECTS—cont.

A. Projects under implementation—cont.

Serial number and name of the Project	Equity Capital contribution by Government Corporation (Rs. in lakhs.)			Employment (Numbers)	
	1981-82	1982-83	Total Five year plan 1978-83.	During construction.	During operation.
(1)	(16)	(17)	(18)	(19)	(20)
1 Acetylene and Industrial gas cylinders Limited.	..	..	3.38	20	50
2 Inter-continental Leathers Limited.	..	..	5.37	120	300
3 Southern Hydro-Carbon Limited.	..	..	7.61	1,000	550
4 Tamil Nadu Fluorine and Allied Chemicals Limited.	..	..	50.96	600	300
5 Motor Castings Limited ..	10.00	15.00	76.15	300	1,000
6 Asian Bearings Limited ..	..	..	79.19	300	1,000
7 Vanavil Dyes and Chemicals Limited.	9.00	16.00	77.26	800	400
8 Asia Carbon Limited ..	..	..	31.49	750	300
9 Gangappa Paper Mills Limited.	..	..	15.30	120	300

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

Serial number and name of Project.	Annual Capacity.	Status of Project.		Date of Start
		(a) Letter of intent (b) F.I.B. Clearance (c) C.G. Clearance.	(3)	
(1)			(3)	(4)
II JOINT SECTOR PROJECT—cont.				
<i>B. Project to be taken for implementation.</i>				
1 Refractories Project	.. Dead Burnt Magnesite 50,000 T. Basic-Refractories—30,000 T.	(a) dated 28th October 1972. (b) applied for (c) to be applied.		1978-79
2 A.B.S. Resins Project	.. A.B.S. Resins—2,000 T.	(a) dated 16th October 1973. (b) not necessary (c) applied.		1978-79
3 Tamil Nadu Alloy Foundry Limited.	Malleable Iron/Spheroidal Graphite Iron/C.I. Castings (25,000) T.	(a) Dated 20th June 1977 (b) does not arise (c) does not arise.		1978-79
4 Shoes (for Export) Project	Shoes—6 lakhs pairs ..	(a) 3rd June 1977 (b) Not yet obtained (c) not yet obtained.	..	1978-79
5 Geo-Scientific Instrument Project.	Meteorological and Geophysical instruments costing Rs. 480 lakhs.	(a) not yet obtained (b) not yet obtained (c) not yet obtained.	..	1979-80
6 Wrist Watch Project	.. Wrist Watches-1 Million Nos.	(a) Not yet obtained (b) not yet obtained (c) not yet obtained.	..	1979-80
7 Optical Instrument Project	Optical instruments costing Rs. 800 lakhs.	(a) not yet obtained (b) not yet obtained (c) not yet obtained.	..	1979-80
8 Alcohol Based Complex	.. Chloro Acetic Acid—900 T Acetone—900 T. Hexanol 1,500 T. Carboxy Methyl—3,000 T.	(a) Dated 28th February 1977 (b) not yet obtained (c) not yet obtained		1979-80

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

Serial number and name of project.	Expected date of completion.	Latest Estimate (Rs. in lakhs.)		
		Total cost.	Equity.	Debt Etc.
II. JOINT SECTOR PROJECTS—cont.				
B. Project to be taken for implementation.—				
	(5)	(6)	(7)	(8)
1. Refractories Project ..	1981-82	1,400.00	400.00	1,000.00
2. A.B.S. Resins Project ..	1981-82	500.00	166.00	334.00
3. Tamil Nadu Alloy Foundry Limited.	1980-81	120.00	35.00	85.00
4. Shoes (for Export) Project..	1980-81	150.00	50.00	100.00
5. Geo-scientific Instrument Project.	1982-83	350.00	117.00	233.00
6. Wrist Watch Project ..	1981-82	780.00	312.00	468.00
7. Optical Instrument Project	1982-83	400.00	154.00	246.00
8. Alcohol Based Complex ..	1982-83	1,000.00	385.00	615.00

Serial number and name of the project.	If joint Project.		
	Name of the Private Sector participated.	Extent of participation.	Equity capital to be provided by Government Corporation.
	(9)	(10)	(11)
B. Project to be taken for implementation.— cont.			
1. Refractories Project ..	Messrs. Salem Magnesite Company (P) Limited.	100.00	104.00
2. A.B.S. Resins Project ..	Not yet finalised	41.35	43.00
3. Tamil Nadu Alloy Foundry Limited.	Thiru P. S. Chandrasekar and Associates.	8.80	9.20
4. Shoes (for Export) Project..	Not yet finalised	12.50	13.00
5. Geo-scientific Instrument Project.	Not yet finalised	29.25	30.30
6. Wrist Watch Project ..	Not yet finalised	77.88	81.00
7. Optical Instrument Project	Not yet finalised	38.46	40.00
8. Alcohol Based Complex ..	Not yet finalised	96.15	100.00

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

Serial number and name of the Project.	Equity Capital contribution by Government Corporation (Rs. in lakhs.)			
	Up to 1977-78.	1978-79 approved outlay.	1979-80.	1980-81.
(1)	(12)	(13)	(14)	(15)
<i>B. Project to be taken for implementation—cont.</i>				
1. Refractories Project ..	0.83	15.12	40.95	10.00
2. A.B.S. Resins Project ..	0.94	7.80	12.26	22.00
3. Tamil Nadu Alloy Foundry Limited.	..	9.20	..	..
4. Shoes (for Export) Project..	0.09	4.41	8.50	..
5. Geo-Scientific Instrument Project.	0.53	7.00	10.77	12.00
6. Wrist Watch Project ..	0.24	10.00	21.76	20.00
7. Optical Instrument Project	0.95	1.00	5.05	14.00
8. Alcohol Based Complex ..	0.07	5.00	14.93	30.00

Serial number and name of the Project.	Equity Capital contribution by Government Corporation (Rs. in lakhs.)			Employment number.	
	1981-82.	1982-83.	Total Five Year Plan, 1978-83.	During construction.	During operation.
(1)	(16)	(17)	(18)	(19)	(20)
<i>B. Project to be taken for implementation—cont.</i>					
1. Refractories Project ..	15.00	22.00	103.07	900	900
2. A.B.S. Resins Project ..	..	..	42.06	300	130
3. Tamil Nadu Alloy Foundry Limited.	..	..	9.20	300	320
4. Shoes (for Export) Project..	..	..	12.91	60	150
5. Geo-Scientific Instrument Project.	..	..	29.77	200	575
6. Wrist Watch Project ..	29.00	..	80.76	200	1,200
7. Optical Instrument Project.	19.00	..	39.05	30	250
8. Alcohol Based Complex ..	20.00	30.00	99.93	800	400

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

Serial number and name of Project.	Annual Capacity.	Status of Project.		
		(a) Letter of intent (b) F.I.B. Clearance (c) C.G. Clearance.	Date of start.	
(1)	(2)	(3)	(4)	
C. Projects under consideration—				
1. Goat Skin Finishing Project	Finished Goat Skin— 24 lakhs Nos.	(a) dated 3rd August 1978. (b) not yet obtained (c) not yet obtained	1979-80	
2. Polyester Staple Fibre Project.	Polyester Staple Fibre— 12,000 T.	(a) not yet obtained (b) not yet obtained (c) not yet obtained	1979-80	
3. Detergent Alkylate	Detergent Alkylate— 33,000 T.	(a) not yet obtained (b) not yet obtained (c) not yet obtained	1980-81	
4. Furfural Project	Furfural—3,000 T.	(a) obtained (b) finalised (c) obtained.	1978-79	
5. News Print Mill Project ..	News Print— 75,000 T.	(a) not yet obtained (b) not yet obtained (c) not yet obtained	1979-80	
6. Chemical Equipment Project.	Class lined reactors, pres- sure vessels, etc.	(a) not yet obtained (b) not yet obtained (c) not yet obtained	1979-80	
7. Other New Projects to be taken up.	....	....	..

Serial number and name of Project.	Expected date of completion.	Latest Estimate (Rs. in lakhs.)		
		Total cost.	Equity.	Debt etc.
	(5)	(6)	(7)	(8)
C. Projects under consideration—cont.				
1. Goat Skin Finishing Project	1981-82	5,75-00	2,30-00	3,45-00
2. Polyester Staple Fibre Project	1983-84	25,00-00	8,31-00	16,69-00
3. Detergent Alkylate	1983-84	35,00-00	12,00-00	23,00-00
4. Furfural Project	1979-80	5,10-00	1,65-00	3,45-00
5. News Print Mill Project ..	1983-84	1,00,00-00	37,50-00	62,50-00
6. Chemical Equipment Project	1981-82	4,00-00	1,54-00	2,46-00
7. Other New Projects to be taken up.		56,50-00	14,26-00	42,24-00
Total ..		7,32,67-65	2,25,65-26	5,07,02-39

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

<i>Serial number and name of the Project.</i>	<i>If joint Project.</i>		
	<i>Name of the Private Sector participated.</i>	<i>Extent of participation.</i>	<i>Equity capital to be provided by Government Corporation.</i>
	(9)	(10)	(11)
<i>C. Projects under consideration—cont.</i>			
1. Goat Skin Finishing Project	Not yet finalised	57.50	59.80
2. Polyester Staple Fibre Project	Not yet finalised	207.69	216.00
3. Detergent Alkylate ..	Not yet finalised	300.00	312.00
4. Furfural Project	Thiru A. C. Muthiah and Associates.	41.35	43.00
5. News Print Mill Project ..	Not yet finalised	937.50	975.00
6. Chemical Equipment Project	Not yet finalised	38.46	40.00
7. Other New Projects to be taken up.	Not yet finalised	356.48	370.74
	Total ..	<u>2,738.87</u>	<u>2,833.44</u>

TABLE 13-V—cont.

Plan 1978-83; Tamil Nadu Projects undertaken/to be undertaken by Tamil Nadu Industrial Development Corporation Limited—cont.

Serial number and name of the Project.	Equity Capital contribution by Government/Corporation (Rs. in lakhs.)			
	Up to 1977-78.	1978-79 approved outlay.	1979-80.	1980-81.
	(12)	(13)	(14)	(15)
<i>C. Projects under consideration—cont.</i>				
1. Goat Skin Finishing Project	0.11	4.90	14.79	40.00
2. Polyester Staple Fibre Project .. ..	..	..	25.00	50.00
3. Detergent Alkylate .. .. .	..	..	..	50.00
4. Furfural Project	0.01	42.99	..	..
5. News Print Mill Project .. ..	..	15.00	60.00	2,00.00
6. Chemical Equipment Project .. ..	..	1.00	19.00	20.00
7. Other New Projects to be taken up ..	2.66	14.11	43.63	82.00
Total ..	6,48.84	5,89.99	10,26.27	14,24.21

Serial number and name of the Project.	Equity Capital contribution by Government/Corporation (Rs. in lakhs.)			Employment number.	
	1981-82.	1982-83.	Total Five Year Plan, 1978-83.	During construction.	During operation.
	(16)	(17)	(18)	(19)	(20)
<i>C. Projects under consideration—cont.</i>					
1. Goat Skin Finishing Project.. ..	..	..	59.69	150	600
2. Polyester Staple Fibre Project ..	66.00	75.00	2,16.00	800	500
3. Detergent Alkylate	1,12.00	1,50.00	3,12.00	750	500
4. Furfural Project .. .. .	..	..	42.99	300	150
5. News Print Mill Project	3,00.00	4,00.00	9,75.00	2,000	4,000
6. Chemical Equipment Project .. ..	..	..	40.00	200	500
7. Other New Projects to be taken up ..	1,31.00	1,00.00	3,70.74	4,400	4,400
Total ..	11,08.00	13,25.00	54,73.47	42,100	33,675

TABLE 13-VI.

TAMIL NADU INDUSTRIAL DEVELOPMENT CORPORATION LIMITED

Statement showing the yearwise plan outlay during the period 1978-83 and the sources from which it is proposed to be met.

<i>Particulars.</i>	(RS. IN LAKHS.)					
	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Plan outlay :</i>						
Contribution to Public Sector Projects ..	265.30	660.68	849.21	397.00	516.00	2,693.59
Contribution to joint Sector Projects ..	324.69	360.19	575.00	711.00	809.00	2,779.88
TOTAL TIDCO's PLAN OUTLAY	589.99	1,026.27	1,424.21	1,108.00	1,325.00	5,473.47
<i>To be met from :</i>						
Equity from State Government	150.00	680.00	1,080.00	760.00	980.00	3,650.00
Loan from State Government	150.00	..	..	..	..	150.00
Debenture issue (guaranteed)	110.00	110.00	110.00	110.00	110.00	550.00
Total Government Outlay inclusive of market borrowing	410.00	790.00	1,190.00	870.00	1,090.00	4,350.00
Loan from Financial Institution	100.00	..	..	..	..	100.00
Unguaranteed Debentures and Fixed Deposits from Public.	75.00	175.00	175.00	175.00	175.00	775.00
Internal generation/Reduction in working capital	4.99	61.27	59.21	63.00	60.00	248.47
Total	589.99	1,026.27	1,424.21	1,108.00	1,325.00	5,473.47

TABLE 13-VII.

PROJECT UNDERTAKEN/TO BE UNDERTAKEN BY SUGAR CORPORATION.

<i>Serial number, name of the Corporation and name of the project.</i>	<i>Annual Capacity.</i>	<i>Status of the project.</i>
(1)	(2)	(3)
A. Continuing Schemes/Projects.—		
1. Ulundurpet Co-operative Sugar Mills	18,000 tonnes of sugar.	Licence has been obtained and work started.
B. New Starts.		
1. Two Mini Sugar Plant in Co-operative Sector	6,000 tonnes of sugar per mill per year.	As the cost of project is expected to be below Rs. 300 lakhs licence is not necessary.
2. Two Mini Paper Plant using Bagasse	4,500 tonnes per year each unit.	Licence necessary will be obtained.

<i>Date of start.</i>	<i>Expected date of completion.</i>	<i>Latest Cost estimate.</i>		
		<i>Total cost.</i>	<i>Equity.</i>	<i>Debt.</i>
(4)	(5)	(6)	(7)	(8)
		RS.	RS.	RS.
Orders for Plant placed already on 29th June 1978.	January/February 1980.	580 lakhs.	Rs. 203 lakhs (Cane Growers Rs. 58 lakhs State Government Rs. 145 lakhs.)	377 lakhs.
April 1979 for first, April 1980 for second.	March 1981/March 1982.	200 lakhs.	Rs. 70 lakhs in each. Rs. 20 lakhs for cane growers. Rs. 50 lakhs for State Government.	130×2 lakhs.
January 1979/January 1980.	January 1981/January 1982.	200 lakhs each.	Rs. 70 lakhs each.	130×2 lakhs each

	<i>If joint Sector.</i>		
	<i>Name of private sector participant.</i>	<i>Extent of participation.</i>	<i>Equity capital to be provided by Government/ Corporation.</i>
	(9)	(10)	(11)
A. Continuing Schemes/Projects.—			
1. Ulundurpet Co-operative Sugar Mills			Does not arise.
B. New Starts.—			
1. Two Mini Sugar Plant in Co-operative Sector			Does not arise.
2. Two Mini Paper Plant using Bagasse			Does not arise.

<i>Equity Capital Contribution by Government/Corporation.</i>							<i>Employment. (Nos)</i>	
<i>Upto 1977-78.</i>	<i>1978-79 approved outlay.</i>	<i>1979-80.</i>	<i>1980-81.</i>	<i>1981-82.</i>	<i>1982-83.</i>	<i>Total Five-year plan 1978-83.</i>	<i>During construction.</i>	<i>During operation.</i>
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
						
145	800 to 900 persons for 1½ years.	About 700.
..	..	50	50	..	..	100	250 to 350 for 1½ years in each.	About 200 in each.
..	50	50	..	100	About 300 for 1½ years in each.	About 150 to 200 persons.

TABLE 13—VII—cont.

<i>Serial number, name of the Corporation and name of the period.</i>	<i>Annual Capacity.</i>	<i>Status of the project.</i>
(1)	(2)	(3)
3. Six Card Board Plants using bagasse	1,500 tonnes per year.	Licence not necessary.
4. Two wax extraction plant using filter mud	450 tonnes of natural wax per year.	Licence not necessary.

<i>Date of start.</i>	<i>Expected date of completion</i>	<i>Latest cost estimate.</i>		
		<i>Total cost.</i>	<i>Equity.</i>	<i>Debt.</i>
(4)	(5)	(6)	(7)	(8)
		RS.	RS.	RS.
3. 1st April 1979 ..	March 1980 ..	Rs. 15 lakhs each	Rs. 5.25 lakhs each	Rs. 9.75×6 lakhs
1st April 1980	March 1981	plant.	plant.	for each.
2nd April 1981	March 1982,			
3rd April 1982.	March 1983.			
4. June 1980 ..	December 1982	Rs. 60 lakhs each.	Rs. 21 lakhs each.	Rs. 39 lakhs each.
June 1981.	December 1983.			

<i>If joint sector.</i>			<i>Equity Capital Contribution by Government/Corporation.</i>							<i>Employment. (Nos.)</i>	
<i>Name of private sector participant.</i>	<i>Extent of participation.</i>	<i>Equity capital to be provided by Government/Corporation.</i>	<i>Upto 1977-78.</i>	<i>1978-79 approved outlay.</i>	<i>1979-80.</i>	<i>1980-81.</i>	<i>1981-82.</i>	<i>1982-83.</i>	<i>Total Five-year plan 1978-83.</i>	<i>During construction.</i>	<i>During operation</i>
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Does not arise!				3.75	3.75	7.5	7.50	22.50	About 50 to 60 for one year in each.	About 60 perscns.
Does not arise.					15.00	15.00		30.00	About 80 to 90 persons.	About 60 perscns.

Chapter 14

SMALL-SCALE AND VILLAGE INDUSTRIES AND HANDLOOMS

A. SMALL-SCALE INDUSTRIES

14.0 In predominantly rural and labour surplus economy, the development of small scale industrial sector has a special significance on account of its low capital requirement, liberal labour absorption, short gestation and less sophisticated manufacturing techniques.

The main thrust of the Industrial Policy during the Plan period 1978-83 will therefore be widespread development of small industries including cottage, household and small scale industries to reduce unemployment and under-employment in the State.

14.1 The following strategy is proposed for the development of small scale units in the State:

(i) Programmes on select industries are to be based on in-depth studies and their present position and potential resources.

(ii) Provision of infrastructural facilities including development of growth centres.

(iii) Revival of sick industrial units by financial assistance by State Corporations and Commercial banks.

14.2 There were 16,002 working small-scale units in Tamil Nadu in 1972 with a total investment of Rs. 176.36 crores and with a production of Rs. 321.78 crores employing 2.15 lakhs persons. The present average growth rate of small scale industries is 6.2 per cent and it is expected to increase to 15 per cent at the end of the plan period.

14.3 The various industrial finance institutions in the State Government and small Industries Services Institute of Government of India are the agencies working hard for the development of the sector in the State. Besides, arranging for credit facilities at concessional rate from Financial Institutions, the State Government, through its agencies SIDCO and SIPCOT is engaged in construction and development of industrial estates (functional and convention) to help these units by providing them locational advantages, specialisation, etc. The Directorate of Industries and Commerce of the State Government is in charge of planning and implementing programmes for the promotion of industries in general and small scale industries in particular. The investment on the programmes proposed for the development of small scale units during 1978-83 is of the order of Rs. 40.37 crores. Of this the

share of the State Government would be about 25.83 crores as follows:—

(1)	Outlay proposed during 1978-83. (2)	Share of State Govern- ment during 1978-83. (3)
	(RS. IN CRORES)	(RS. IN CRORES)
A. Directorate of Industries and Commerce.	16.62	16.62
B. TANSI	5.06	1.86
C. SIDCO	17.85	6.51
D. Tamil Nadu Handi-craft Development Corporation.	0.84	0.84
Total ..	40.37	25.83

14.4 It may be stated that the expenditure by these departments during 1974-78 has been Rs. 6.21 crores and budget provision for 1978-79 is Rs. 2.01 crores.

14.5 The major programmes proposed by the above institutions are explained in brief in the following paragraphs and details of the programmes are furnished in the Tables 14.II to 14.V.

Directorate of Industries and Commerce :

14.6 Under the Plan, 1978-83 various schemes relating to :—

- (a) Chemical Wing ;
- (b) Electrical and Electronics;
- (c) Industrial Co-operatives ;
- (d) District Industries Centres; and
- (e) Sericulture are proposed by this Directorate.

(a) *Chemical Wing*:—The chemical wing extends necessary assistance to the small scale industries in procuring raw material such as paraffin wax, match wax, etc., and also offers technical guidance to entrepreneurs for starting new chemical industries, apart from testing samples at subsidised rates in their Regional Testing

Laboratories. An outlay of Rs. 127.39 lakhs is proposed during the Sixth Plan period for its development programme. The details of schemes are furnished in the statement enclosed.

(b) *Electrical and Electronics Branch*.—There are 450 Electrical and Electronic Industries in the small-scale sector, manufacturing a variety of items, ranging from switchgear components to radio receivers. The present turnover in this sector in the State is around Rs. 850 lakhs per annum, employing about 4,000 persons. An outlay of Rs. 333.15 lakhs is proposed during the plan period to create additional infrastructure facilities like functional industrial estate with specially designed factory units, testing and development facilities which the small scale units cannot afford to put up. The list of schemes are furnished in the statement enclosed.

(c) *Industrial Co-operatives*.—The Directorate has organised a number of industrial co-operative societies for the benefits of workers and artisans engaged in the various small scale and cottage industries.

The following new schemes have been proposed during the plan period.

(i) Starting of 139 match workers Industrial Cooperative, which will create employment to about 3,320 persons.

(ii) Starting of industrial co-operatives in leather finishing, Brick, Polythene, Synthetic gem cutting, etc., to benefit about 1,400 persons.

(iii) To raise plantations in another 1,000 acres in rural hill area creating employment to 5,000 persons.

(iv) Starting of curled coir unit in Thanjavur and Nagarcoil to benefit 3,000 persons in the industry.

The outlay proposed during the plan period is Rs. 106.54 lakhs.

(d) *District Industries Centres*.—As part of new industrial policy, there will be one agency in each district called the District Industries Centre mainly to provide and arrange a package of assistance and facilities for credit guidance, raw materials, training and arrange marketing etc. for the entrepreneurs. Towards this end,

a provision of Rs. 501 lakhs has been made.

(e) **Sericulture.**—15,000 acres in Tamil Nadu are under mulberry cultivation. 1,500 metric tonnes of cocoons are produced annually in the State. The estimated production of silk is about 50,000 kg. and even if the entire cocoons produced are converted into silk, it will be about 1.5 lakh kgs. only against the requirement of 7 lakh kgs. per annum.

Sericulture being a highly labour intensive rural industry, there is scope for high employment potential with comparatively low capital investment. During the Sixth Plan period it is proposed to bring in an additional area of 25,000 acres under mulberry cultivation, with the prospect of employment to 1 lakh people in rural areas.

The capital outlay for this development programme during the Sixth Plan is Rs. 541.93 lakhs under the following categories :

- (i) expansion of mulberry acreage
- (ii) provision of rearing accommodation to the sericulturists and rearing equipments
- (iii) provision of irrigation facilities to sericulturists and establishment of grainages
- (iv) Establishment of 27 cocoon markets
- (v) Starting of 3 modern reeling units of Japanese type
- (vi) Opening of training schools and conducting Training programmes for farmers' children in sericulture.

The details of the individual schemes are furnished in the table 14-II appended.

Tamil Nadu Small Industries Corporation Ltd. (TANSI) 14.7. As a part of the programme for development of small scale industries in the State, during the first three five year plans, the Government of Tamil Nadu established a number of departmental small scale industries. In the year 1965, the Tamil Nadu Small Industries Corporation Limited was formed and these units were transferred with a view to run them on commercial lines. There are at present 57 production units in the Corporation which can be grouped as—

- (i) Structural workshops
- (ii) Tool rooms
- (iii) Foundries
- (iv) Fabrication units
- (v) Engineering units
- (vi) Carpentry units
- (vii) Leather works
- (viii) Glassware

The schemes proposed to be undertaken by TANSI during the Sixth Plan will be of the order of Rs. 506.23 lakhs of which the states contribution is Rs. 185.79 lakhs.

The programmes in the plan period envisages expansion in the existing units of tannery, furniture, structural workshops, foundry, etc., and new projects like garment leather, plastic moulds, camel back, watch casing, granite polishing units.

These schemes are expected to generate employment to 1,276 persons. The list of schemes proposed in the plan is furnished in the table 14. III appended.

Tamil Nadu Small Industries Development Corporation (SIDCO) :

14.8. Tamil Nadu Small Industries Development Corporation was formed in the year 1971 to aid, counsel, assist, finance, project, and promote 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 required by Small scale industry.
- (iii) Procurement and distribution of essential raw material.
- (iv) Offer of internal marketing to Small scale industrial units.
- (v) Assistance to Small Scale Industrial Units for export promotion.
- (vi) Sanction of loans to Small Scale Industria units under new loan scheme and in association with Repatriates Co-operative Finance and Development Bank.

(vii) Disbursement of Central Investment subsidy to Small Scale Industrial units in backward areas.

During the Sixth Plan period, the outlay is Rs. 1,785 lakhs of which the States' contribution would be Rs. 651 lakhs.

With a view to create necessary infrastructural facilities, essential for the proper growth of small scale and tiny sector, construction of a number of factory sheds at various places is proposed during the plan period.

Further to strengthen the essential raw material bank, SIDCO proposes to open five raw material depots at various places.

For the development of small scale industries it is proposed to extend the schemes 'Interest Free Sales Tax Loan' and 'Power subsidy' now applicable to large and medium units in backward areas to small scale and tiny sector units also during 1978-83. The small scale units would be granted interest free sales tax loan for 3 years and the cost on this scheme would be Rs. 216 lakhs. In respect of power subsidy, it is proposed to subsidise 25 per cent of the current consumption charge (excluding penalty) of the newly started industries and an additional 15 per cent to units set up in 33 backward taluks. The estimated cost on power subsidy during 1978-83 would be Rs. 185 lakhs.

The list of schemes envisaged by SIDCO during the plan period is furnished in the table 14. IV appended.

Tamil Nadu Handicrafts Development Corporation :

14.9. With a view to help, promote and develop handicrafts in the State, Tamil Nadu Handicrafts Development Corporation was formed in August 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.

In order to develop new designs in the various articles produced in the handicrafts field, a pro-

gramme of training to craftsmen to improve their methods and acquire new knowledge, is proposed in the Plan.

The outlay on the development of Handicrafts in the plan period is Rs. 84.38 lakhs.

The details of the schemes are furnished in the table 14. V appended.

Research and Development :

14.10. The funds provided by several Corporations which are in charge of Small Scale Industries, handicrafts, etc. are substantial enough to cover Research and Development efforts. However, conscious efforts to allocate about one per cent of annual plan outlay to Research and Development are essential. This is no less necessary in Small Scale industries, than it is now realised to be indispensable in Large Scale industries. Competition, obsolescence, collaboration with large scale industries, market research, and supply of shortterm and long term efforts of subsidies and control are among the important items for research. Funds under several heads could be appropriated.

B. KHADI AND VILLAGE INDUSTRIES.

14.11. The programmes of Khadi and Village Industries aim at stabilising the existing rural industries and at also promoting new industries in rural areas for reduction of rural unemployment and under-employment. The Khadi and Village Industries Board is developing at present 15 industries and State Government have recently added the following industries under the purview of the Board :

1. agarbathi
2. soap-nut powder.
3. tooth-powder.
4. eucalyptus oil.

Till 1973-74, the Khadi and Village industries were run mainly through the Board's own unit and also forming Village Industries Co-operatives. From 1974-75, greater emphasis is laid on the promotion of individual artisans.

Progress in the previous Plan :

14.12. During 1974-78, the expenditure Khadi and Village Industries sector was Rs. 20.63 lakhs and the budget provision for 1978-79 is Rs. 40.70

lakhs. Nearly 81 per cent of this total expenditure of Rs. 61.33 lakhs is for rebate on sales of Khadi cloth during 1977-78 and 1978-79.

Strategy for Development:

14.13. At present it is estimated that about 6.70 lakhs artisans are engaged in household industries as main occupation and an equal number in subsidiary activity. It is proposed to stabilise the existing rural industries so that 13.40 lakhs artisans would be made to rise above the poverty line. New employment to about 2 lakhs of persons is proposed to be provided in the new industries to be started utilising locally available raw materials and the local skills.

14.14. For the promotion of Khadi and Village Industries development of marketing facilities—assured and adequate supply of raw materials, finance at concessional rates of interest, adequate facilities for training, research and development, etc., are necessary. Besides allowing rebate on sales of Khadi and other products during festive occasions, it is proposed that considerable share of government purchases is to be met from village industries. Further, to avoid competition from small scale, medium and large scale units reservation of about 50 items exclusively for village industries is also contemplated. At present assistance is provided for stocking of oil required for soap manufacture and oilseeds required for crushing oil. Similarly for supply of raw materials to match industry a depot at Sattur has been opened. Similar facilities have to be provided in respect of other industries.

Khadi Development:

14.15. Since the yarn produced with 6 spindle charkas in the Rural Textile Centres is preferred by weavers it is proposed to introduce 1,300 Rural Textile Centres during 1978-83. As muslin units are also becoming popular, 200 units are proposed to be set up during this plan periods. These schemes will result in the increase in Khadi production from Rs. 11.77 crores in 1977-78 to Rs. 30.96 crores by 1982-83 providing additional employment to 65,300 persons.

Development of Palm gur:

14.16. Palm gur industry provides employment to about 2.34 lakh persons at present and the value of production is around Rs. 10 crores

per year. There is vast scope for development and the production is expected to reach Rs. 25 crores per year by 1982-83 providing additional employment to about 66,600 persons. As the, keeping quality of jaggery is very poor and also in view of its low price, conversion into sugar for storage is contemplated. As the palm cola produced out of palmsugar is very popular it is proposed to start palm cola units in all important cities.

Handmade Paper Industry:

14.17. Handmade paper industry producing paper mostly out of rags, paper cuttings and agricultural wastes has scope for further development and could provide employment to the unemployed in rural and urban areas with little training. As the units are not working to the full capacity the cost of production is slightly high. It is proposed to tackle the problem of marketing of handmade paper through production of select varieties such as kraft paper, drawing paper, bond paper, etc. and also to meet the Government purchases. It is proposed to set up 30 units by the Board and 9 units by the Institutions during 1978-83. The production of handmade paper would increase from Rs. 14 lakhs to Rs. 106 lakhs providing additional employment to about 3,500 persons.

Other Programmes:

14.18. A list of other programmes viz. oil ghani, handpounding of rice, village pottery, beekeeping, leather, soap, etc proposed by the Khadi and Village Industries Board during 1978-83 is shown in table 14-VI appended.

Size of Plan provision :

14.19. The total cost on all schemes works out to Rs. 78.50 crores providing additional employment to about 2.26 lakhs persons during 1978-83. The total production is expected to increase from Rs. 33 crores in 1977-78 to Rs. 140 crores in 1982-83. The share of expenditure from State Government would be Rs. 3 crores mainly for the scheme of rebate on sales of Khadi Cloth during this plan period.

C. THE HANDLOOM INDUSTRY.

Present position:

14.20. Next to agriculture, handloom industry provides large scale employment in rural areas. There are 5.56 lakhs handlooms in the State, of which 62 per cent of looms are under master weavers, 29 per cent in Co-operative sector and the remaining operated by independent weavers. This industry produces 600 million metres of cloth valuing Rs. 150 crores per year and provides employment to about 20 lakhs of people.

Problems of the Handloom Industry:

14.21. The economic conditions of weavers in the unorganised sector who are working under master-weavers are deplorable. Further production of handloom goods by the weavers follows certain set pattern from generation to generation without considering the fast changing fashion trends and consumer preferences and with this result, heavy stocks accumulate every year. For disposing of such accumulated stocks Government is forced to assist the weavers through schemes like "Rebate on sales of handloom cloth" and the cost on this scheme alone is around Rs. 2.5—3.0 crores per year. The expenditure incurred under handloom sector (State Plan) during 1974-78 was Rs. 13.17 crores and the budget provision for 1978-79 is Rs. 3.11 crores. Of this, nearly 80 per cent of the total outlay represents the expenditure on "Rebate". The expenditure on research and improvements in design and better techniques is negligible. With the discontinuance of the supply of controlled cloth by the mills because of the new Industrial Policy, the production of Janata cloth to meet the needs of weaker sections has to be stepped up in the handloom sector.

Strategy for development:

14.22. The following strategy is therefore proposed for the development of handloom industry during 1978—83 :—

(i) Provision of full-time employment and assured higher earnings for a substantially large number of handloom weavers by bringing them under the co-operative fold.

(ii) Diversification of the pattern of production of handlooms by introduction of new designs and new kinds of fabrics so as to improve the market acceptability of the handloom cloth to avoid stock stagnation.

(iii) Stepping up of production and export of handloom goods to foreign countries with the ultimate objective of finding a steady export market for the goods produced by the weavers Co-operatives.

(iv) Stepping up the production of Janata cloth in order to make available cheap cloth to the poorer sections of the population.

(v) Statutory protection to the handloom weavers in general in respect of minimum wages, service conditions and other facilities by implementing the recommendations of the Raja Subramaniam Committee.

Increased Co-operative coverage :

14.23. During 1978-83 it is proposed to increase the co-operative coverage of handlooms from 29 per cent at present to 60 per cent by enrolling additionally 1.25 lakh weavers and by forming 400 new Primary Weavers Co-operative Societies and revitalising 200 existing societies. For 40,000 Loomless Weavers, 200 Industrial Weavers Co-operative Societies would be formed. As against the total cost of Rs. 1,605 lakhs, the States' share of expenditure would be Rs. 802.50 lakhs.

Supply of raw materials—Cotton yarn:

14.24. Consequent on the increased coverage of looms under Co-operative, arrangement for adequate supply of raw-materials, dyeing and processing facilities and marketing outlets have to be provided. In respect of cotton yarn, the requirement of the Weaver Co-operative Societies would increase from 4,000 bales per month to 8,500 bales per month during 1982-83. Since the existing 12 Co-operative Spinning Mills with a spindlage of 2 lakhs produce only 5,000 bales per month, it is proposed to expand the existing mills and also to set up a new unit in each of Salem and North Arcot districts with an additional one lakh spindles at a cost of Rs. 1,725 lakhs. The share of expenditure from Government would be Rs. 378.36 lakhs.

Raw Silk:

14.25. As against the requirement of 7 lakh kgs. of raw silk per annum, the total production in the State is less than 50,000 kgs. Through Intensive Development Programmes of Sericulture the Industries Department proposes to set up the production of raw silk to about 4.32 lakh kgs. during 1978—83.

Zari:

14.26. For production of silk sarees, about 15,000 marcs of Zari per month valuing Rs. 65 lakhs are required by the handloom industry in the State. The Tamil Nadu Zari Unit at Kancheepuram produces about 1,500 marcs as against the installed capacity of 4,000 marcs per annum due to certain defectives in the flatter machines installed and they are being activated. It is programmed to utilise the full capacity of the plant during this year by providing Rs. 4 lakhs as share capital contribution and loans to the Tamil Nadu Zari Unit. Since the total requirement of Zari would be still high, it is proposed to double the existing capacity during 1981—82 at a cost of Rs. 25 lakhs.

Dyes and Chemicals:

14.27. The requirement of dyes and chemicals by the handlooms in this State is about 300 tonnes of dyes and 370 tonnes of chemicals per year and TIDCO is setting up the project "Vanavil Dyes and Chemicals" in the joint sector. It is proposed that Co-optex would take shares in this project for Rs. 10 lakhs with assistance from Government of India.

Setting up of Modern Dye Houses:

14.28. The capacity of dye houses in the Co-operative sector at present is only 60 bales per day as against the requirement of 260 bales per day. It is proposed to set up 20 modern big dye houses with a total capacity of 200 bales/day at a total cost of Rs. 240 lakhs. The States' share of expenditure would be Rs. 63.30 lakhs.

Processing facilities:

14.29. Regarding the processing facilities it is proposed to increase the capacity of the Tamil Nadu Co-operative Textile Processing Mills

Limited at Erode from 5 lakh metres per month to 10 lakh metres per month at a cost of Rs. 58.50 lakhs and also to set up a mini-processing unit at Madurai at a cost of Rs. 20 lakhs. Of the total outlay of Rs. 78.50 lakhs, the States' share would be Rs. 23 lakhs.

Marketing arrangements—Opening of show-rooms and modernisation by Co-optex:

14.30. At present the production of handloom goods in the Co-operative sector is Rs. 43 crores per year. About 50 per cent of this production is now procured by Co-optex and the remaining 50 per cent is marketed by the societies themselves. With the increased coverage under Co-operatives this production is likely to increase to Rs. 80 crores. The Co-optex is running at present 228 selling Units in Tamil Nadu and 136 show-rooms in other States. The Co-optex proposes to open 250 show-rooms and to modernise 150 show-rooms during 1978—83 at a cost of Rs. 300 lakhs. The States' share of expenditure could be Rs. 96 lakhs.

Opening of show rooms by Primaries:

14.31. Since the Co-optex would be purchasing only 50 per cent of the total production, the bigger Primary Weavers Co-operative Society would be encouraged to open show-rooms for retail and bulk sales. 290 show-rooms are proposed to be opened during 1978—83 at a cost of Rs. 58 lakhs obtaining financial assistance from National Co-operative Development Corporation. The Share of expenditure from Government could be Rs. 20.30 lakhs.

Government Rebate:

14.32. To promote sale of handloom goods during festival seasons Rebate on sales is allowed at present and the cost on the scheme is of the order of Rs. 2.5—3 crores per year. It is proposed to reduce the quantum of rebate gradually during 1978—83 by restricting the varieties eligible for rebate and also by increasing the production of controlled cloth from 10 million metres to 45 million metres per year to meet the needs of the weaker sections. The estimated cost on rebate during 1978—83 is Rs. 981 lakhs and the share of State Government would be Rs. 881 lakhs.

Modernisation of Handlooms :

14.33. Nearly 87 per cent of the looms in the State are traditional pit looms. To improve the productivity and also to undertake weaving of modern jacquard varieties, it has been programmed to convert 8,000 pit looms into framer-looms and modernise 10,000 looms at a cost of Rs. 240 lakhs. The State's share of expenditure would be Rs. 119 lakhs.

Design-cum-Service Centres :

14.34 For evolving new designs, five Design-cum Service Centres would be set up at a cost of Rs. 17.50 lakhs.

Weavers Training :

14.35. It is proposed to depute competent trainers to the weaver's societies to train members in their own places in weaving new designs, adopting modern techniques, etc. This scheme would cover 24,600 weavers for training at a cost of Rs. 20.00 lakhs.

Development and Export Projects :

14.36. Two export production projects at Karur and Kurinjipadi and four intensive development projects at Kancheepuram, Erode, Salem, Madurai have covered 4,250 handloom weavers in private sector producing about Rs. 19 lakhs worth of handloom goods per month. It is programmed to increase the coverage of these projects to 22,000 by 1980-81 at a total cost of Rs. 242.75 lakhs, of which the State share would be Rs. 114.37 lakhs. The co-optex is also setting up 3 readymade garment units at Trichy, Madurai and Madras considering the demand for readymade garments both in the country and in the export market on pilot basis. By watching the performance of these readymade garment units the co-optex will go in for additional units if necessary during 1978-83.

Assistance to weavers in private sector :

14.37. The Tamil Nadu Handloom Finance and Trading Corporation is issuing working capital loans to weavers in private sector and it is also

running five handloom development projects. It is programmed to expand its lending and marketing activities to more than Rs. 1,000 lakhs from the present level of Rs. 350 lakhs and financial assistance of Rs. 120 lakhs towards its equity is proposed.

Setting up of a cotton and yarn testing in Tamil Nadu Textile Corporation :

14.38 The Tamil Nadu Textile Corporation is in charge of the management of two sick mills taken over and also for purchase and supply of cotton valuing Rs. 25 crores per annum for all the co-operative spinning mills. It is proposed to set up a cotton and yarn testing laboratory at a cost of Rs. 8.25 lakhs during 1978-83.

Powerloom Complex :

14.39. There are 28,043 authorised powerlooms in Tamil Nadu out of which 2,077 looms are in co-operative sector and Handloom Finance and Trading Corporation. Out of above 2,077 powerlooms, licence for 1,041 looms were not utilised so far. Tamil Nadu Textile Corporation propose to set up 10 powerloom complexes in backward areas of the districts with a capital outlay of Rs. 175 lakhs which will be met from the resources of Tamil Nadu Textile Corporation. They will produce varieties of cloth valuing Rs. 20 crores and progressively compete with mill sector.

WELFARE MEASURES FOR WEAVERS.**Savings and Security Scheme.**

14.40. Under this scheme about 57,000 weavers are covered at present. It is proposed to make the scheme more attractive by providing for enhanced cover of Rs. 3,000 and 1.5 lakh weavers would be benefited by the scheme. The total Government assistance for the scheme would be Rs. 330 lakhs.

Housing Scheme :

14.41. Under the old weavers co-operative housing scheme, 2,683 houses were constructed at a total cost of Rs. 128 lakhs up to 1972.

It is proposed to introduce a new housing scheme for 10,000 weavers with a capital outlay of Rs. 500 lakhs with financial assistance from HUDCO and

Government of India. The interest on loans would be borne by the State which works out to Rs. 54 lakhs during 1978-83.

Medical Facilities :

14.42. To undertake medical examination of the handloom weavers on a mass scale to detect incidence at tuberculosis and arrange for follow up treatment, 7 mobile medical units are proposed to set up during the plan period at a cost of Rs. 67.58 lakhs.

14.43 The total outlay on various development schemes for handloom sector during 1978-83 (*vide* Table 14. VII) works out to Rs. 68.38 crores. Of this, the share of expenditure from State Government would be Rs. 30.38 crores (*vide* Table 14. VIII). With the implementation of these schemes it is expected that new employment opportunities for about 8,420 persons would be created besides providing fuller employment and

increased wages to weavers brought under co-operative fold.

RESEARCH, TRAINING AND DEVELOPMENT.

Setting up of Market Research Wing :

14.44. It is proposed to set up a market research wing in co-optex to give suitable guidance to the Primary Weavers Co-operative Societies about the varieties and designs that are in great demand. This would avoid unwanted stocks piling up. The cost of this scheme would be Rs. 36.80 lakhs and the State's share is Rs. 18.40 lakhs. Besides, research with reference to effects of control and subsidies international or internal competition alternative sources of raw material supply, training of handloom weavers in new modes of using dyes, chemicals, designs are essential. Research as to where results is relevant seems to be of high priority in this sector.

TABLE. 14.I.

Small-Scale and Village Industries and Handloom—Draft Plan—1978-83.

Summary Statement of Outlays/Expenditure.

Serial number and Industry.	Fifth Plan.		Five-Year Plan 1978-83 (Proposed.)						
	Outlay as finalised in October 1976.	1974-78 (actual expenditure).	1978-83 Total.	1978-79 Approved.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
1 Handloom Industry		1,316.61	3,038.56	522.11	495.41	598.22	649.25	773.57	
2 Powerlooms		0.02	..	..	..	..	..	..
3 Kahdi and Rural Industries		17.63	300.00	40.00	50.00	60.00	70.00	80.00	
4 Small Scale Industries		363.44	1,374.67	365.91	309.01	286.02	216.33	197.40	
5 Industrial Estates		122.22	553.00	105.20	130.45	103.45	105.45	108.45	
6 Handicrafts		33.34	84.38	33.06	13.01	13.01	12.66	12.64	
7 Sericulture		26.98	541.93	88.92	133.88	142.68	87.80	88.65	
8 Coir Industry		1.73	29.50	17.50	9.00	2.00	1.00	..	
Total		2,337.00	1,881.97	5,922.04	1,172.70	1,140.76	1,205.38	1,142.49	1,260.71

(RUPEES IN LAKHS)

TABLE : 14.II.

Schemes of the Department of Industries and Commerce.

Serial number and name of the Scheme.	Expenditure 1974-78.	Outlay for 1978-83.	Provision for.				
			1978-79.	1979-80	1980-81.	1981-82.	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Chemical Wing.—							
(RUPEES IN LAKHS.)							
A. Continuing Scheme—							
1 Regional Testing Laboratory, Madurai.	4.05	0.90	0.90	..	..	..	..
2 Regional Testing Laboratory, Coimbatore ..	16.70	2.00	0.50	1.00	0.50	..	..
3 Modernisation of Chemical Testing and Analytical Laboratory, Guindy	4.46	2.14	2.14	..	..	..	..
Total—A	25.21	5.04	3.54	1.00	0.50	..	..

TABLE 14. II—cont.

Schemes of the Department of Industries and Commerce—cont.

Serial number and name of the Scheme.	Expen- diture 1974-78.	Outlay for 1978-83.	Provision for.				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
<i>B. New Schemes.—</i>							
1 Regional Scientific and Industrial Laboratory, Tiruchirappalli	30 45	2·00	7·20	10·00	5·25	6·00
2 Provision of Pump testing facilities for Regional Testing Laboratory, Coimbatore	1·00	1·00	..	..	..	..
3 Scheme for collaboration of Central Salt and Marine Chemicals Research Institute, Bhavanagar with State Research Stations, Tuticorin	17·20	2·90	4·60	3·90	2·90	2·90
4 Scheme for consultancy Service for chemical Industries	8·25	2·25	2·25	1·25	1·25	1·25
5 Training Programme for Technical staff of Chemical Wing	1·00	0 50	0·50	..	..	..
6 Industrial Technology Exhibition Centre	55·00	3·00	17·00	13·00	11·00	11·00
7 Expansion of Sago Research Laboratory, Salem	9·45	3·00	4·00	1·25	0·60	0·60
Total—B.	122·35	14·65	35·55	29·40	21·00	21·75
Total—Chemical Wing (A+B)	25·21	127·39	18·19	36·55	29·90	21·00	21·75

II. ELECTRICAL AND ELECTRONICS.—

A. Continuing Schemes—

1 Electronic Test and Development Centre, Adyar.	43·01	24·63	4·46	4·68	4·91	5·16	5·42
2 Electronic Testing Laboratory, Madurai.	7·49	2·00	2·00	..	..	..	..
3 Ancillary Electronic Estate, Madras.	6·37	4·91	4·91	..	..	..	..

TABLE 14. II—cont.

Schemes of the Department of Industries and Commerce—cont.								
Serial number and name of the Scheme.	Expenditure 1974-78	Outlay for 1978-83.	Provision for.					
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)
(RUPEES IN LAKHS.)								
II. ELECTRICAL AND ELECTRONICS—cont.								
<i>A. Continuing Schemes—cont.</i>								
4 Electrical and Electronics Estate, Hozur.	13.00	9.96	9.96	..	..	..	..	..
5 Electrical and Electronics Industrial Estate, Adyar.	6.27	4.48	4.48	..	..	..	..	..
6 Electrical and Electronics Industrial Estate, Salem.	..	12.60	1.00	10.00	1.60	..	..	..
7 Electrical and Electronics Industrial Estate, Coimbatore.	0.52	20.00	1.50	10.00	8.50	..	..	..
8 Electrical and Electronics Industrial Estate, Madurai.	5.89	20.00	1.50	10.00	8.50	..	..	..
9 Electro Medical Equipment Cell, Coimbatore.	6.38	1.00	1.00	..	..	..	..	..
10 Expansion of sub centre for repair and servicing of Electro Medical Equipment, Thanjavur.	3.81	3.00	1.50	1.50	..	..	..	..
11 Developed Plots Industrial Estate, Madras.	1.86	38.00	9.28	10.00	16.86	0.90	0.96	0.96
12 Share Capital participation in the Tamil Nadu Electronics Corporation Limited.	..	75.00	65.00	5.00	5.00	..	..	..
Total—A ..	94.60	215.58	106.59	51.18	45.37	6.06	6.33	6.33
<i>B. New Schemes—</i>								
1 Centre for inspection testing and maintenance of Medical Electronics Equipments.	..	21.84	7.19	7.24	2.35	2.47	2.59	2.59
2 Expansion of Electronic Test and Development Centre, Adyar.	..	25.50	2.00	20.50	1.00	1.00	1.00	1.00
3 Consultancy and Documentation facilities for Electronics at Adyar (Data Bank).	..	9.12	2.00	7.00	0.04	0.04	0.04	0.04

TABLE 14—II—cont.

Serial number and name of the Scheme.	Expenditure 1974-78.	Outlay for 1978-83.	Provision for				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
<i>B. New Schemes—cont.</i>							
4 Establishment of Electro Medical Equipment Cell at Tirunelveli.	..	17.99	5.50	4.45	2.64	2.68	2.72
5 Special Electronic Industrial Estate for providing employment to women, Madurai and Tiruchy.	..	5.12	2.50	2.50	0.04	0.04	0.04
6 Expansion of Central Electrical Testing Laboratory, Kakka-lur.	..	38.00	4.00	16.00	12.00	4.00	2.00
Total—B.	..	117.57	23.19	57.69	18.07	10.23	8.39
Total—Electrical and Electronics Wing (A+B)	94.60	333.15	129.78	108.87	63.44	16.29	14.77

III. INDUSTRIAL CO-OPERATIVES—

B. New Schemes—

1 Starting of Match workers Industrial Co-operative Society (130 Societies).	..	15.08	6.14	2.01	2.16	2.31	2.46
2 Starting of Match Service Industrial Co-operative Societies.	..	2.35	0.68	0.52	0.27	0.27	0.61
3 Starting of splint and Venear Factory by Match Federation.	..	2.00	1.00	0.50	0.50	..	..
4 Raising of Tea Plan-tation in 1000 acres and to establish 5 Industrial Co-operative Tea Factories for Hill Tribes.	..	38.31	6.00	6.21	6.42	6.63	13.05
5 Organisation of a Leather Finishing Service Industrial Co-operative Society.	..	14.60	2.60	3.00	3.00	3.00	3.00
6 Organisation of a Brick workers Industrial Co-operative Society.	..	1.50	1.10	0.10	0.10	0.10	0.10

TABLE 14.II— cont.

Schemes of the Department of Industries and Commerce

Serial number and name of the Scheme.	Expenditure. 1974-78.	Outlay for 1978-83.	Provision for				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
III. INDUSTRIAL CO-OPERATIVES—cont.							
B. New Schemes—cont.							
7 The Dharmapuri District Silk Yarn twisting service Industrial Co-operative Society Ltd., Dharmapuri.	..	1.00	1.00	..	..	..	..
8 Starting of one coir marketing Co-operative Federation at Bangalore.	..	2.00	2.00	..	..	..	..
9 Starting of curled coir section and Rubberised coir section in the Tanjore Central Coir Marketing Society, Thanjavur.	..	10.50	5.50	5.50	..	..	..
10 Kanyakumari District Central Coir Marketing Industrial Cooperative Society, Nagarcoil.	..	10.00	5.00	2.00	2.00	1.00	..
11 Registration of four selected Primary coir workers Industrial Co-operative Societies in the State.	..	7.00	5.00	2.00	..	..	..
12 Starting of two polythene Industrial Co-operative Societies at Tirunelveli and Madras.	..	1.10	..	0.62	..	..	..
13 Starting of one synthetic Gem cutters Industrial Co-operative Society, Madurai district.	..	0.55	0.31	0.06	0.06	0.06	0.06
14 Starting of one Coal and Coke Service Industrial Co-operative Society at Coimbatore.	..	0.55	0.31	0.06	0.06	0.06	0.06
Total—Industrial Co-operatives.	..	106.54	36.64	22.08	14.73	13.59	19.50

TABLE 14 II—cont.

Schemes of the Department of Industries and Commerce.

Serial number and name of the Scheme.	Expenditure for 1974-78.	Outlay for 1978-83.	Provision for					(RUPEES IN LAKHS)
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
IV. DISTRICT INDUSTRIAL CENTRES—								
<i>B. New Schemes—</i>								
1 District Industrial centres.	..	426.00	80.00	105.00	78.00	80.00	83.00	
2 Margin/Seed money loan to be sanctioned by District Industrial centres.	..	75.00	15.00	15.00	15.00	15.00	15.00	
Total ..	..	501.00	95.00	120.00	93.00	95.00	98.00
V. OTHER SCHEMES—								
<i>A. Continuing Scheme—</i>								
1 Technical Information Sections in Industrial Estate.	7.41	2.00	0.20	0.45	0.45	0.45	0.45	
<i>B. New Schemes—</i>								
1 Industrial Finance sanction of loan under special laws State Aid to industries.	..	50.00	10.00	10.00	10.00	10.00	10.00	
Total ..	7.41	52.00	10.20	10.45	10.45	10.45	10.45	

TABLE 14.II—cont.

Schemes of the Department of Industries and Commerce.

(RUPEES IN LAKHS.)

Serial number and name of the Scheme.	Expenditure 1974-78.	Outlay for 1978-83.	Provision for				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VI. SERICULTURE—							
<i>New Schemes—</i>							
1 Expansion of mulberry acreage.	..	169.18	17.93	32.06	40.71	34.88	43.60
2 Provision of rearing accommodation to sericulturists.	..	15.65	3.13	3.13	3.13	3.13	3.13
3 Provision of equipments to sericulturists.	..	37.50	7.50	7.50	7.50	7.50	7.50
4 Training of farmers children.	..	26.60	5.32	5.32	5.32	5.32	5.32
5 Provision of irrigation facilities to sericulturists.	..	106.85	28.85	35.13	35.37	3.75	3.75
6 Establishment of Grain-ages.	..	6.95	..	1.10	0.90	2.00	2.95
7 Establishment of Markets.	..	33.47	9.03	9.57	10.62	2.25	2.00
8 Establishment of modern Reeling Unit of Japanese type.	..	50.40	..	11.60	14.20	16.80	7.80
9 Establishment of cottage Basin reeling units.	..	24.65	1.59	8.90	8.90	2.63	2.63
10 Training programme and opening of Training School.	..	4.95	1.95	0.75	0.75	0.75	0.75
11 Creation of Seri complex at Hozur.	..	15.00	4.00	6.00	5.00	..	..
12 Strengthening of Administrative and Technical staff in Seriwing.	..	25.57	4.65	8.35	5.42	3.55	3.60
13 Scheme for popularisation of new varieties of mulberry and provision of irrigation facilities to Government farms.	..	6.23	0.63	1.40	1.40	1.40	1.40
14 Establishment of Co-operative Cottage basin reeling unit.	..	11.40	1.56	1.92	2.28	2.64	3.00

TABLE 14. II—cont.

Schemes of the Department of Industries and Commerce—cont.

(RUPEES IN LAKHS.)

Serial number and name of the Scheme.	Expen- diture 1974-78.	Outlay for 1978-83.	Provision for				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VI. SERICULTURE—cont.							
<i>New Schemes—cont.</i>							
15 Formation of Industrial Co-operative Silk reelers' marketing federation.	..	7.53	2.78	1.15	1.18	1.20	1.22
Total—Sericulture:	..	541.93	88.92	133.88	142.68	87.80	88.65

TABLE 14.III.

Schemes of the Tamil Nadu Small Industries Corporation Limited (TANSI).

(RUPEES IN LAKHS).

<i>Serial number and name of the Scheme.</i>	<i>Cost of the Scheme.</i>	<i>State Govern-ment Share.</i>	<i>Expansion 1977-78.</i>	<i>Outlay for 1978-83.</i>
(1)	(2)	(3)	(4)	(5)
1.0. <i>Spill-over Schemes—</i>				
1.1. Machine tool projects	72.00	22.00	15.00	7.00
1.2. Watch Assembly Unit	26.68	15.44	12.16	3.28
1.3. Polish Unit, Ambattur	11.26	11.26	2.00	9.26
1.4. Sub-Total	109.94	48.70	29.16	19.54
2.0. <i>Expansion Schemes—</i>				
2.1. Tannery Unit, Vinnamangalam ..	17.00	7.00	..	7.00
2.2. Furniture Works, Guindy ..	2.70	..	..	..
2.3. Structural works, Truchirappalli ..	3.50	..	..	..
2.4. Tool Room, Guindy	32.40	13.80	..	13.80
2.5. Foundry Units	45.00	15.00	..	15.00
2.6. Granite Mining Unit	23.00	11.50	..	11.50
2.7. Enamelled Wires, Guindy	10.00	3.50	..	3.50
2.8. Structural Unit, Ambattur ..	60.00	20.10	..	20.10
2.9. Sub-Total	193.60	70.90	..	70.90
3.0. New Projects— .. ..	..	..	..	..
3.1. Garment Leather Project	22.12	7.37	..	7.37
3.2. Plastic Moulds Project	103.30	44.97	..	41.23
3.3. Camel back Project	15.00	5.00	..	5.00
3.4. Watch Casing Project	90.00	30.00	..	25.50
3.5. Granite Polishing Unit	49.65	16.20	..	16.20
3.6. Sub-Total	280.07	103.54	..	95.35
4.0. Total—TANSI	583.61	223.14	29.16	185.79

TABLE 14. III—cont.

(RUPEES IN LAKHS).

Serial number and name of the scheme.	Provision for.				
	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)—cont.	(6)	(7)	(8)	(9)	(10)
1.0. <i>Spill Over Schemes—</i>					
1.1. Machine tool projects	7.00	..	..	..	..
1.2. Watch Assembly Unit	3.28	..	..	..	..
1.3. Polish Unit, Ambattur	3.74	3.82	1.70	..	..
1.4. Sub-Totals	14.02	3.82	1.70	..	..
2.0. <i>Expansion Schemes—</i>					
2.1. Tannary Unit, Vinnamangalam ..	7.00	..	..	..	..
2.2. Furniture Works, Guindy .. ..	..	..	..	..	..
2.3. Structural Works, Trichy .. ..	..	..	..	..	..
2.4. Tool Room, Guindy	6.90	6.90	..	..	..
2.5. Foundry Units .. ..	..	10.00	5.00	..	..
2.6. Granite Mining Unit	4.50	5.00	1.00	1.00	..
2.7. Enamelled Wires, Guindy	2.26	1.24	..	..	..
2.8. Structural Unit, Ambattur .. ..	..	..	6.60	13.50	..
2.9. Sub-Total	20.66	23.14	12.60	14.50	..
3.0. <i>New Projects—</i> .. ..	..	..	..	..	..
3.1. Garment Leather Project	5.82	1.55	..	..	..
3.2. Plastic Moulds Project .. ..	..	0.50	11.77	28.79	2.22
3.3. Camel back Project .. ..	..	5.00	..	..	..
3.4. Watch Casing Project .. ..	..	0.50	5.00	10.00	10.00
3.5. Granite Polishing Unit .. ..	..	7.00	6.88	2.32	..
3.6. Sub-Total	5.82	14.55	23.65	39.11	12.22
4.0. Total—TANSI	40.50	41.51	37.95	53.61	12.22

TABLE 14. IV.

Schemes of the Tamil Nadu Small Industries Development Corporation (SIDCO).

(RUPEES IN LAKHS.)

Serial number and schemes.	Cost of the scheme.	Outlay for 1978-83.	Provision for				
			1978-79	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1 Share capital Assistance.	1,367.00	232.00	120.00	31.00	29.00	28.00	24.00
2 Interest Free Sales Tax Loan	216.00	216.00	24.00	48.00	72.00	48.00	24.00
3 Power subsidy	185.00	185.00	12.00	25.00	37.00	49.00	62.00
4 Marketing Assistance ..	11.50	3.30	1.30	1.50	0.50	..	..
5 Consultancy cell ..	15.00	15.00	1.00	3.50	3.50	3.50	3.50
Total ..	1,794.50	651.30	158.30	109.00	142.00	128.50	113.50

TABLE. 14. V.

Outlay on Handicrafts Schemes during 1978—83.

Serial number and name of the scheme.	RUPEES IN LAKHS.					
	Outlay for 1978-83.	Provision for				
		1978-79	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Continuing Schemes—						
1. Training centre for weaving of field cumblies.	3.79	0.93	0.72	0.72	0.71	0.71
2. Training Centre for weaving of woollen blankets.	3.79	0.93	0.72	0.72	0.71	0.71
3 Training centre for weaving of woollen carpets (2 units).	8.63	2.05	1.65	1.65	1.64	1.64
Total (A) ..	16.21	3.91	3.09	3.09	3.06	3.06
B. New Schemes—						
1 Procurement of articles from Craftsmen.	20.00	20.00	..	..	..	..
2 Training for Officers and craftsmen in Development of New Designs and in the improved methods of production.	0.64	..	0.32	0.32	..	..
3 Organising Exhibitions to popularise Handicrafts products.	7.50	1.50	1.50	1.50	1.50	1.50
4 Expansion of Design Centre, Madras (inclusive of additional provisions of Rs. 45,000 p.a. for strengthening the centre from 2nd year onwards)	8.78	1.40	1.85	1.85	1.85	1.83
5 Renovation of showrooms ..	10.00	2.00	2.00	2.00	2.00	2.00
6 Rebate on Handicrafts products sold during seasonal period.	10.00	2.00	2.00	2.00	2.00	2.00
7 Subsidy for sale of Handicrafts.	11.25	2.25	2.25	2.25	2.25	2.25
Total (B) ..	68.17	29.15	9.92	9.92	9.60	9.58
Total Handicrafts (A) plus (B)	84.38	33.06	13.01	13.01	12.66	12.64

TABLE 14.VI.

Khadi and Village Industries.*List of schemes proposed during 1978-83.*

Serial number and Schemes.	Cost during 1978-83.			Additional employment. (Nos.)	Total employment. (Nos.)
	Grant.	Loan.	Total.		
(1)	(2)	(3)	(4)	(5)	(6)
	(RS. IN LAKHS.)			NOS.	NOS.
1 Khadi	68.55	3,570.47	3,639.02	65,300	1,86,740
2 Oil	35.37	1,134.32	1,169.69	14,000	15,370
3 Handmade paper	0.19	158.98	159.17	3,440	3,808
4 Handpounding of paddy.. ..	4.23	93.85	98.08	3,796	4,465
5 Palmgur	111.10	969.44	1,080.54	66,600	3,00,600
6 Village pottery	31.05	75.15	106.20	4,500	8,800
7 Bee-keeping	17.32	23.00	40.32	2,000	41,989
8 Leather	15.11	106.70	121.81	4,900	5,858
9 Soap	8.62	193.07	201.69	9,800	10,300
10 Carpentry and Blacksmithy ..	46.55	141.80	188.35	12,600	14,800
11 Lime	3.00	46.93	49.93	4,270	4,870
12 Fibre	5.27	32.82	38.09	5,750	7,800
13 Cane and Bamboo	0.97	19.32	20.29	3,000	3,500
14 Gur and Khandasari	4.49	4.48	8.97	1,120	1,520
15 Fruit Processing .. .. .	..	..	..	136	208
Total	351.82	6,570.33	6,922.15	2,01,212	6,10,628
Add—Match Industry (run by Industries Department but financial assistance channalised through K. & V. I. B.)	30.22	897.43	927.65	24,420	..
Total including match industry	382.04	7,467.76	7,849.80	2,25,632	..

TABLE 14. VII.

HANDLOOMS.

Sources of securing finance for 1978-83 Plan Schemes.

(RS. IN LAKHS.)

Serial number and details of scheme.	Total.	Likely sources of Financial Assistance.				
		Government of India.	N.C.D.C.	HUD CO	Institutional Finance.	State Government.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Expansion of Co-operative coverage to 60 per cent of handloom weavers	1,605.00	802.50	..	..	..	802.50
2 Co-operative Spinning Mills	1,725.00	..	378.39	..	968.25	378.36
3 Tamil Nadu Zari Limited	29.00	4.00	..	..	..	25.00
4 Dyes and Chemicals	10.00	10.00	..	..	..	..
5 Modern Dye Houses	240.00	36.00	122.40	..	18.30	63.30
6 Processing Facilities	78.50	33.00	22.50	..	..	23.00
7 New Show Rooms and Modernisation by Co-optex	300.00	102.00	102.00	..	..	96.00
8 Opening Show Rooms by Primaries	58.00	..	37.70	..	..	20.30
9 Government Rebate	981.00	100.00	..	..	..	881.00
10 Market Research and Product Development	36.80	18.40	..	..	..	18.40
11 Modernisation of handlooms	240.00	..	..	..	121.00	119.00
12 Design-cum-Service Centre	17.50	..	..	..	..	17.50
13 Weaver's Training	20.00	..	..	..	..	20.00
14 Scheme of setting up of handloom development and export projects.	242.75	128.38	..	..	..	114.37
15 Tamil Nadu Handloom Finance and Trading Corporation	120.00	120.00	..	..	..	..
16 Tamil Nadu Textile Corporation.	8.25	..	..	..	..	8.25
17 Powerloom Complexes	175.00	..	..	..	175.00	..
18 Savings and Security Scheme	330.00	..	..	..	..	330.00
19 Weavers Housing	554.00	150.00	..	350.00	..	54.00
20 Medical facilities	67.58	..	..	..	..	67.58
GRAND TOTAL	6,888.38	1,504.28	662.99	350.00	1,282.25	3,038.56

TABLE : 14. VIII

THE HANDLOOM INDUSTRY DRAFT PLAN, 1978-83
GOVERNMENT COMMITMENT ON SCHEMES-DETAILS OF OUTLAY/EXPENDITURE

Serial Number and Industry.	(RUPEES IN LAKHS)						
	<i>Fifth plan 1974-78 actual</i>	<i>Sixth Five Year Plan Total(*)</i>	1978-79	1979-80	1980-81	1981-82	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>I. A. Continuing Scheme.—</i>							
1 Expansion of co-operative coverage to 60 per cent of Handloom Weavers.	105.37	802.50	122.00	123.00	143.50	196.50	217.50
2 Scheme of setting up of Handloom Development and Export Project.	208.53	114.37	41.00	36.00	37.37	..	..
3 Design-cum-Service Centre.	..	17.50	3.50	3.50	3.50	3.50	3.50
4 Weavers Training ..	19.13	20.00	4.00	4.00	4.00	4.00	4.00
5 Processing Facilities ..	..	23.00	..	20.00	3.00	..	..
(*) Foreign exchange component is nil.							
<i>6. Marketing—</i>							
(a) Opening of new showroom and modernisation by Co-optex.	528.53	96.00	12.00	16.00	20.00	22.00	26.00
(b) Government Rebate	1078.33	881.00	225.00	157.00	165.00	165.00	169.00
<i>7. Welfare Scheme.—</i>							
(a) Savings and Security schemes.	56.36	330.00	42.00	54.00	66.00	78.00	90.00
<i>8. Units of Handlooms and Textiles Department.—</i>							
(a) Tamil Nadu Zari Limited.	5.00	25.00	..	..	12.50	12.50	..
(b) Co-operative Spinning Mills.	563.60	378.36	..	34.13	84.37	84.37	175.49
(c) Tamil Nadu Textile Corporation.	30.00	8.25	8.25	..	..	..	..
Total (A) ..	2646.19	2695.98	457.75	447.63	539.24	565.87	685.49

<i>Serial number and Industry.</i>	<i>Fifth plan 1974-78 actual.</i>	<i>Sixth Five Year Plan Total (*)</i>	1978-79	1979-80	1980-81	1981-82	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
B. New Schemes.—							
1 Modernisation of Handlooms.	..	119.00	13.00	15.00	23.00	30.00	38.00
2 Market Reasearch and Product Design.	..	18.40	3.68	3.68	3.68	3.68	3.68
3 Modern Dye Houses	..	63.30	15.60	0.90	7.80	19.50	19.50
4 Opening of Show room of Primary Weavers Co-operative Societies.	..	20.30	3.50	4.20	3.50	4.20	4.90
5 Weavers Housing	54.00	..	5.00	11.00	16.00	22.00
6 Medical facilities	67.58	28.58	19.00	10.00	10.00	..
Total (B)	342.58	64.36	47.78	58.98	83.38	88.08
Total Handlooms (A)+(B)	2646.19	3038.56	522.11	495.41	598.22	649.25	773.57

(* Foreign exchange component is 'nil'.)

Chapter 15

MINING AND METALLURGICAL INDUSTRIES

Scope for Development:

15.0 There is considerable scope for setting up of several mineral based industries in the State. The Geology Branch of the Industries department under the U. N. D. P. Scheme have made important discoveries of mineral deposits. The State Department should be further strengthened to explore and to undertake indepth studies.

15.1 Some of the ores which await mining and industrialisation are ;

(a) Magnesite iron ores located at Tiruvannamalai area in the North Arcot district and in Nainarmalai in the Namakkal taluk of the Salem district, each with reserve of about 100 million tonnes. These reserves are similar to those now being mined in Kanjamalai for use in the Salem Steel Plant.

(b) About 100 million tonnes of limestone have been identified near Ariyalur, part of cement grade and part of high grade.

(c) Graphite deposits have been examined in detail in Ramanathapuram and Madurai districts and the reserves are over 250,000 tonnes of graphite.

(d) Deposits of silica sands suitable for glass and foundry industries have been located.

(e) Large deposits of black granite available in Tamil Nadu are of good quality and are in demand in world markets.

Review of the Past Plan:

15.2 A sum of Rs. 83 lakhs was provided for Mining and Metallurgical Industries during fifth Five - Year Plan. The expenditure incurred during 1974-78 was Rs. 49.49 lakhs and the budget provision for 1978-79 is Rs. 42.99 lakhs.

PROPOSALS FOR PLAN, 1978-83.

Black Granite Industry:

15.3 During 1978 Government have set up the "Tamil Nadu Minerals Limited" for mining and development of minerals in the State. As the export demand for black granites is steadily increasing, Government have decided to get the black granite industry progressively under the state control and it is proposed that during 1978-83 TAMIN should produce 8,000-10,000 cu. mts. of black granite per year. Two polishing centres are also proposed to be opened. The total cost of this scheme is Rs. 50 lakhs and it would provide employment to 3,000 persons.

Project for manufacture of Industrial Lime :

15.4. Utilising the limestone deposits near Ariyalur in Tiruchirapalli district, a large cement plant is being set up at Ariyalur. As there are pockets of limestone containing more than 90 per cent of calcium carbonate it is proposed to establish two lime kilns for producing high-grade lime or industrial lime at a total cost of Rs. 60 lakhs. This scheme would provide employment to 150 persons. The production capacity of the two kilns would be about 50 tonnes of lime per day as against the requirement of about 200 tonnes per day by various industries.

Opening a magnesite mine :

15.5 The Corporation proposes to mine magnesite available at Chettichavadi village near Salem. The mine will be able to produce 80,000 to 1,00,000 tonnes of magnesite per annum. The cost of the project would be Rs. 50 lakhs and would provide employment to 400 persons.

Project for manufacturing Particle board, Pouring mass and other products from vermiculite :

15.6 A scheme for making Particle Boards, Pouring Mass, and other products from Vermiculite is proposed with the vermiculite discovered at Sevathur in Tirupathur taluk of North Arcot district, at a cost of Rs. 25 lakhs. The production capacity would be 4 to 5 tonnes per day and it would provide employment to about 100 persons.

Project for manufacture of Graphite Crucibles :

15.7 The graphite deposits in Sivaganga in Ramanathapuram district is found to be of high quality and could be used as a substitute for imported graphite. It is proposed to produce high-grade graphite concentrates and also industrial products like carban-bonded crucibles, special grade crucibles for foundries etc. at a cost of Rs. 80 lakhs. This project will consist of the following 3 units :—

(a) a mine to produce about 50 tonnes of ore per day ;

(b) a beneficiation plant to produce 10 tonnes of graphite concentrates per day

and (c) a unit to produce 1,500 tonnes of crucibles and other products per year. This scheme would provide employment to 600 persons.

15.8 A scheme to produce one million tonne of pellets per year utilising the iron ores of Tiruvannamalai in North Arcot district at a cost of Rs. 30 crores is also contemplated. TIDCO has proposed to take up the preparatory project work during the period 1978-83.

15.9. The total cost on various projects to be implemented by TAMIN during 1978-83 works out to Rs. 265 lakhs. Of this, the share of expenditure from State Government would be Rs. 150 lakhs in the form of share capital assistance and loans to TAMIN.

Research and Development :

15.10 The work relating to investigation on mineral deposits and research activity would continue to be done by the geology branch of the Department of Industries and Commerce. This wing would be strengthened by providing field survey equipments, ore dressing equipments, field vehicles for mobile laboratories, audio-visual system for laboratories, electronic spares for geophysical and micro analytical equipments etc. It is also proposed to restructure the geology branch into a Directorate of Geology and Mining with offices in districts. The total cost on these schemes works out to Rs. 133.05 lakhs during 1978-83 consisting of Rs. 58.05 lakhs for continuing schemes and Rs. 75.00 lakhs for new schemes.

Total cost and lists of Projects :

15.11 The total cost on various schemes under mineral based industries including mineral exploration and research during 1978-83 would be Rs. 283.05 lakhs. The list of projects proposed is shown in Statement 15-I relating to the projects under the Geology Wing and Statements 15-II-A and II-B pertaining to TAMIN, appended to the chapter.

Statement 15-I.

Details of Projects under Geology Branch of the Department of Industries and Commerce during 1978-83.

(RUPEES IN LAKHS.)

Serial number and name of the Projects.	Provision for						(1) Purpose.
	1978- 83.	1978- 79.	1979- 80.	1980- 81.	1981- 82.	1982- 83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Research and Development							
Existing Schemes							
1 Expansion of State Geological Department,	10.50	2.00	2.50	2.00	2.00	2.00	Purchase of field survey equipments, field vehicles for mobile laboratories, setting up of geological museums in districts.
2 Tamil Nadu Mineral Development Project.	15.50	2.90	2.90	2.90	3.40	3.40	Extension of modern method of geological survey in the entire State.
3 Mineral Treatment Laboratory, Salem.	32.05	11.30	8.00	6.25	4.25	2.25	Extension of the present Mineral Treatment Centre building at Salem and purchase of ore dressing equipments.
New Schemes—							
4 Restructuring of the Geology Branch and formation of Directorate of Geology and Mining.	75.00		10.00	25.00	20.00	20.00	Additional staff for the Directorate of Geology and Mining and for offices in the districts. Provision is also made for airborne geophysical survey by National Agencies on contract basis.
Total ..	133.05	16.20	23.40	36.15	29.65	27.65	

STATEMENT 15-II-A.

Projects proposed by Tamil Nadu Minerals Limited during 1978—83 (Tamin).

<i>Serial number and name of the project.</i>	<i>Location of deposit.</i>	<i>Location of plant/ mine.</i>	<i>Annual capacity.</i>
(1)	(2)	(3)	(4)
1. Scheme for Black Granite ..	Dharmapuri, Salem and Chengalpattu.	Dharmapuri and Chengalpattu.	8,000—10,000 cu. mts.
2. Project for manufacture of industrial lime.	Ariyalur (Trichy district).	Ariyalur	15,000 tonnes.
3. Opening a magnesite mine ..	Chettichavadi village (Salem district).	Salem district ..	80,000 tonnes.
4. Particle board, pouring mass and other products from vermiculite project.	Sevathur, Tirupathur taluk (North Arcot district).	Sevathur	1,500 tonnes.
5. Graphite crucibles	Meenakshipuram Sivaganga (Ramanathapuram district).	Sivaganga	3,000 tonnes.
Total—Tamil Nadu Minerals Limited..			1,250

	<i>Number of persons to be employed.</i>	<i>Estimated cost (Rs. in lakhs).</i>	<i>Share of Government during 1978—83 (Rs. in lakhs).</i>	<i>Remarks.</i>
	(5)	(6)	(7)	(8)
1. Scheme for Black Granite ..	3,000	50·00	..	2 Polishing units would also be set up.
2. Project for manufacture of industrial lime.	150	60·00	..	....
3. Opening a magnesite mine ..	400	50·00	..	....
4. Particle board, pouring mass and other products from vermiculite project.	100	25·00	..	....
5. Graphite crucibles	600	80·00	..	Consists 3 Units :— (i) a mine produce about 50 tonnes ore/day. (ii) a beneficiation plan to produce 10 tonnes of concentrates/day. (iii) a plant produce 1,500 tonnes of crucibles and other products.
		4,250	265·00	150·00*

Share Capital assistance and loans to Tamin) .

STATEMENT 15-II.-B.

Industry and Mining Projects of Tamin—Outlays and Expenditure.

STATEMENT No. IM3.

Serial number and name of project/ scheme.	Status regarding approval, etc.	Date of start of project.	Date of completion.	Cost of the project.	
				Original.	Revised cost (latest Rs. in lakhs).
(1)	(2)	(3)	(4)	(5)	(6)
<i>Mineral Development.</i>					
1. Scheme for Black Granite ..		Probable date of Start	1980	50.00	50.00
2. Project for manufacture of Industrial Lime.	Awaits Govt's likely clearance	during 1979—80	1979 end	60.00	60.000
3. Opening a Magnesite Mine ..	to be taken up in the next financial year.		1979 end	50.00	50.0
4. Scheme for making Vermiculite Products.			1979 end	25.00	25.00
5. Scheme for manufacture of graphite based products.			1980	80.00	80.00

	Foreign exchange compo- nent.	Expenditure upto 1973—74.	Fifth plan expendi- ture 1974-78.	Proposed outlay 1978—83	
				Total.	Foreign exchange.
	(7)	(8)	(9)	(10)	(11)

<i>Mineral Development.</i>					
1. Scheme for Black Granite ..	Nil.	..	..	50.00	Nil.
2. Project for manufacture of Indus- trial Lime.	Nil.	..	..	60.00	Nil.
3. Opening a Magnesite Mine ..	Nil.	..	..	50.00	Nil.
4. Scheme for making Vermiculite Products.	Nil.	..	..	25.00	Nil.
5. Scheme for manufacture of graphite based products.	Rs. 15 lakhs likely.	..	..	80.00	Rs.15 lakh s likely.

Yearwise phasing outlay.

	1978-79 (approved outlay).	1979-80	1980-81	1981-82	1982-83
	(12)	(13)	(14)	(15)	(16)
<i>(RS. IN LAKHS.)</i>					
<i>Mineral Development.</i>					
1. Scheme for Black Granite	10	20	10	10
2. Project for manufacture of Industrial Lime.	..	20	30	10	..
3. Opening a Magnesite Mine	5	30	10	5
4. Scheme for making Vermiculite Products.	..	5	15	5	..
5. Scheme for manufacture of graphite based products.	..	10	40	20	10

	<i>Value of output.</i>	<i>Employment (in Nos.).</i>	
		<i>During construction.</i>	<i>During operation.</i>
	(17)	(18)	(19)
<i>Mineral Development.</i>			
1. Scheme for Black Granite ..	100	1,000	3,000
2. Project for manufacture of Industrial Lime.	30	50	150
3. Opening a Magnesite Mine ..	30	200	400
4. Scheme for making Vermiculite Products.	10	50	100
5. Scheme for manufacture of graphite based products.	30	100	600

Volume 2

Part II

ECONOMIC OVERHEADS

Chapter 16

IRRIGATION AND FLOOD CONTROL

Importance of irrigation in the State :

16.0. There is an urgent need for conservation of water which is a scarce factor and its judicious and economic use in the State. The possibility of bringing any new area under cultivation in Tamil Nadu is very limited and the increased requirements of agricultural products have to be met by resorting to multiple cropping and intensive cultivation. This will be possible only under irrigated conditions. The cropping intensity is 1.3 in irrigated areas as against 1.1 in unirrigated areas. Further, the spatial and temporal variations in the availability of water resources create regional imbalance in development, and this distortion can be rectified only by efficient management of the water resources through better distribution arrangement.

Irrigation potential and the extent to which it has been utilised :

16.1. The availability of surface water flow is estimated at about 1,200 TMC of which nearly 500 TMC is intercepted by the tanks and the balance of about 700 TMC is available as flows in streams and rivers. The State has practically harnessed 95 per cent of the surface flows leaving a balance of just 5 per cent which is accounted for by small streams and rivulets. The per capita

availability of surface flows in Tamil Nadu at 0.025 m.c., ft. is far below the national average of 0.14 m.c. ft. The irrigation efficiency is also fairly high in the State which generally works out to five to six acres (wet).

16.2. The ground water potential of Tamil Nadu has been estimated at 14.96 million acre feet of which the present extraction is of the order of 15.89 million acre feet. "Potential" is estimated exclusively on the annual recharge basis without taking into account the ground water storage. According to this calculation (if ground water storage is included) there is a balance potential of about 4.96 million acre feet in Tamil Nadu.

16.3. Extraction of ground water at present in certain areas is very high and there appears to be no further scope for major irrigation projects in the State. The small flows available in the distributaries of the various rivers and the flash flows in jungle streams can be harnessed through medium projects. Some of them may even come under the special minor irrigation programme. However, a ground water survey is in progress to identify the areas where there is scope for further development, where the present extraction is more or less equal to the annual recharge and where caution is required for promoting further development.

16.4. Since surface flows have been exploited fully and extraction of ground water sources has reached well nigh its limits, the emphasis will have to be shifted from now on to economy in the use of water through modernisation of the old irrigation system and efficiency in water management.

Achievements in the past few years :

16.5. The following figures give a bird's eye-view of the progress made in the irrigation in the last 25 years. It may be noted that the addition to the potential made in the recent years is only of a marginal nature.

TABLE 16.1.

Plan.	Financial outlay (Rs. in crores).	Potential created in thousand hectares (New).	Gross area irriga- gated (000 hec- tares at the end of each plan period).	Net area irri- gated.
(1)	(2)	(3)	(4)	(5)
Pre-Plan .. (1951-52).	..	1,100.91	2,472	1,998
I Plan End (1955-56).	20.15	74.86	2,957	2,147
II Plan End (1960-61).	14.45	70.63	3,235	2,461
III Plan End (1965-66).	31.52	27.23	3,178	2,399
Annual Plan (1968-69).	12.48	30.95	3,092	2,417
IV Plan End (1973-74).	28.29	30.82	3,674	2,816
V Plan—				
1974-75 ..	7.62	31.57	3,033	2,438
1975-76 ..	11.53	1.73	3,337	2,565
1976-77 ..	17.56	1.93	..	..

Progress in the Fifth Plan :

16.6. A provision of Rs. 89 crores has been made in the Fifth Five-Year Plan for irrigation and flood control. In the four years 1974-78, the expenditure incurred under this head is likely to amount to Rs. 62 crores. Irrigation potential (New) to the extent of 35,000 hectares has been created in the first 3 years of the Plan. Satisfactory progress was made in the execution of the Parambikulam-Aliyar Project, the Lower Ninar Dam and another major irrigation project, Chittar Pattanamkal. An important scheme taken up in this period is the modernisation of Periyar-Vaigai system at an estimated cost of Rs. 41 crores. This project is expected to benefit 30,000 acres of

new ayacut and 17,000 acres of existing ayacut. In addition, 15 medium projects with a total irrigation potential of 30,460 hectares (15,680 new and 14,780 stabilised) were taken up in the Fifth Plan period. The unprecedented rains in 1977 and the cyclonic storm which hit the State in November 1977 affected a number of irrigation systems in the State. However, the timely action taken by the State Government on a massive scale helped restoration of the irrigation channels making them ready for use in the next season.

Objectives for the 1978-83 Plan :

16.7. The major objective of irrigation development in the next 5 years is to expand the irrigation facilities to the maximum extent and develop the full irrigation potential within a decade. The strategy to achieve the objective would be—

- (i) Early completion of the on-going schemes.
- (ii) Efficient use of available water through modernisation of the irrigation system.
- (iii) Adoption of efficient water management techniques.
- (iv) Balanced development of major, medium and minor irrigation sources.

Programmes for the 1978-83 Plan :

16.8. (a) *On-going Schemes.*—The Parambikulam-Aliyar Project and the modernisation of Periyar-Vaigai irrigation system will spill over into 1978-83 plan. The Parambikulam-Aliyar project, other than the extension part of it, is expected to be completed by 1980-81 for which an outlay of Rs. 10.06 crores has been provided for in the Plan. A major portion of the modernisation of the Periyar-Vaigai system has to be implemented during this Plan period for which provision for an outlay of Rs. 38.25 crores has been made.

(b) *Modernisation of the old irrigation system.*—As many as 23 irrigation systems were developed prior to 1950-51 which irrigate a total area of 1.1 million hectares. Most of the channels under these irrigation systems do not have enough control structures. There is considerable wastage of water which often causes problem of water logging. The drainage congestion canal system of Cauvery delta and Periyar-Vaigai call for drastic remodelling in order to make them function efficiently. Field to field irrigation in rice areas results not only in the wastage of water but also

in over irrigation of fields near the outlets and under irrigation at the lower reaches. To overcome these problems Government have started a modernisation programme in Cauvery delta and Periyar-Vaigai system. This programme would include, apart from remodelling of canal capacities, realignment of the canals, lining of channels for minimising seepage loss and provision of control structures. The delta drains which are having a sluggish flow will be improved and new drains will be excavated to dispose of the monsoon floods quickly. The State's modernisation programme is in conformity with the recommendations of the Irrigation Commission (1972). On-farm development works are also proposed to be taken up by the Department of Agriculture along with modernisation of irrigation systems.

(i) Under the modernisation programme, the old Cauvery Delta catering to about 9.07 lakh acres (with an irrigation intensity of 135 per cent) will be provided with control structures in addition to standardising and strengthening of the sections wherever required. By excavation of new drains 25 per cent of the delta area will get submersion relief. Strengthening of the existing old control structures and renewal of gates and providing improved hoisting arrangements are contemplated for the Grand Anicut and Lower Coleroon Anicut. The modernisation of the old delta system would cost about Rs. 114 crores. This excludes the requirements for on-farm development estimated at Rs. 50 crores which will be provided in the agricultural plan. The scheme will be implemented over the next 15 years and a provision of Rs. 36.00 crores has been made in the 1978-83 plan. Lining of other channels in the Cauvery basin like Salem-Trichy channels, Grand Anicut Canal system and Lower Coleroon Anicut system is estimated to cost Rs. 110 crores and a provision of Rs. 11 crores has been made in the 1978-83 plan. It is also proposed to take up modernisation of Lower Bhavani Canal System mainly by lining the main canal and distributaries. A provision of Rs. 10 crores has been made in the plan against the estimated cost of Rs. 70 crores.

(ii) *Vaigai Channels*.—Modernisation of Vaigai Channels intended to regulate the supply of water to 476 tanks from the Vaigai river is nearing completion. A comprehensive scheme for the improvement of Periyar-Vaigai system at a cost of Rs. 41 crores contemplates lining of

the main canal and the distributaries, providing control structures up to 25 acre limit, improvement to communication, etc. The main canal which now takes off at Peranai regulator will be linked to a pick up weir to be constructed below Vaigai Dam by a lined canal. The World Bank has provided loan assistance for this project. The project will conserve sufficient water to benefit 11.92 thousand hectares of new ayacut and also stabilise the irrigation for 6.84 thousand hectares. The project is expected to be completed by the end of 1980-81.

(iii) *Tank Modernisation*.—There are about 37,000 tanks in Tamil Nadu providing irrigation facilities to nearly 27 lakh acres, accounting for about one-third of the irrigated area in the State. The holding capacity of a number of tanks has declined considerably over the years owing to siltation, poor maintenance and encroachment. The State Government has prepared a project report for modernising 500 tanks each having an ayacut of more than 500 acres at an estimated cost of Rs. 111 crores. The World Bank is expected to consider this project favourably. The tank modernisation work is proposed to be taken up in the current plan period for which a provision of Rs. 20 crores has been made.

(c) *New Schemes*: (i) *Major irrigation schemes*.—Four new schemes including a scheme for diversion of west flowing rivers are envisaged in the plan. The total estimated cost of these projects is put at Rs. 236.50 crores. A provision of Rs. 18 crores has been made in the Plan.

Schemes.	Total cost (tentative).	Outlay proposed in 1978-83 Plan.
(1)	(2)	(3)
(RS. IN CRORES.)		
1 Parambikulam - Aliyar Project Extension.	10.00	8.00
2 Anamalaiyar ..	14.50	8.00
3 Diversion of West flowing rivers.	200.00	Token.
4 Noyyal Reservoir ..	12.00	2.00
Total ..	236.50	18.00

(ii) *Medium Schemes*.—The following 9 medium schemes which have been approved in principle are proposed to be taken up in the

1978-83 plan for which a total of Rs. 20.00 crores has been provided. The schemes are :—

- (1) Shenbagathope Reservoir.
- (2) Madurantagam Rt. Side Channel.
- (3) Sidhamalli Reservoir.
- (4) Poigai Reservoir.
- (5) Kuthirayar Reservoir.
- (6) Thumbalahalli.
- (7) Variar Reservoir.
- (8) Kullur Sandai Reservoir.
- (9) Vembakhottai Reservoir.

(iii) *Minor Irrigation*.—Since the start of Planning, the State has been attaching considerable importance to the Minor Irrigation Programme an important component of which is desilting-cum-reclamation of tanks. A provision of Rs. 20 crores has been made for 600 works under SMIP for the 1978-83 Plan period. Fifty works involving an outlay of Rs. 0.5 crores will be taken up under DCR. These schemes are expected to benefit about 30,000 hectares.

16.9. *Special Programmes*—(a) *Drought-Prone Area Programme*.—The Pambar scheme, a medium one, is being implemented under the Drought-Prone-Area Programme. An outlay of Rs. 1.73 crores has been made for this scheme in the Plan.

(b) *Flood control*.—The severe damages caused by the unprecedented floods in a number of rivers in 1977, brought to the fore the need for contingency plans to tackle the flood problem. Coupled with cyclonic storms and cloud bursts (as it happened in 1955, 1966, 1972, 1976 and 1977), the North-east monsoon brings about a precipitation of very high intensity in short duration which swells up the streams causing severe damages. The 1977 floods which affected almost the entire State resulted in damages to Government and private property worth about Rs. 300 crores. To prevent the recurrence of such huge losses, it is proposed to initiate measures to tackle the flood problem. An outlay of Rs. 10.00 crores is provided in the plan for Flood Control Schemes.

(c) *Conjunctive use of surface flows and ground water*.—Systematic and scientific ground water investigation has been taken up in all the regions of the State and the detailed ground water survey is in progress.

As per the above study, the annual ground water potential (on recharge basis), present utilisation and balance ground water potential has been estimated at 14.96 m.ac.ft. (61.60 TMC), 15.89 m.ac.ft. (692 TMC) and 4.96 m.ac.ft. (216.4 TMC) respectively.

Assuming that 70 per cent of the balance available potential of 4.96 m.ac.ft. can be utilised for expanding irrigation facilities, i.e., 3.47 m.ac.ft. about 1,70,000 wells can be sunk and energised for utilising this potential for agricultural expansion in the coming years. Out of these, wells constructed in the tank ayacut and canal command area can be used for conjunctive use of ground water and surface water.

16.10. *Benefits*.—(a) *Increase in production* : There will be an increase of 75,000 hectares in the area under irrigation as a result of the investment on irrigation projects envisaged in the plan. Food production is expected to go up by five lakh tonnes representing an increase of 7 per cent over the present food production of seven million tonnes.

(b) *Employment potential*.—The irrigation schemes and in particular, the Minor Irrigation Schemes are highly employment intensive. It is estimated that an irrigation project costing Rs. 1 crore will provide employment for about 5,000 persons during the construction stage. The indirect employment opportunity as a result of completion of the irrigation project is also significant. It has been estimated that it would be possible to provide irrigation facilities for 2,000 acres from the projects involving an outlay of Rs. 1 crore. This would provide employment opportunities to agricultural labourers to the extent of one lakh mandays annually.

Recent Developments :

16.11. *Monitoring Cell*.—A monitoring Cell has already been created at the Chief Engineer's (Irrigation) Office. This cell would have a close watch on the progress of schemes, identify the bottlenecks and other problems and suggest remedial measures for expeditious completion of the scheme. The cell will be strengthened during the plan period to cope up with the increased work load.

Inter-State Projects :

16.12. Any further expansion of irrigation facilities on a large scale in Tamil Nadu is possible

only with the co-operation of the neighbouring State, Kerala, by diverting the substantial quantity of surplus water of west flowing rivers which is going waste. Two major irrigation projects—Periyar in Madurai district and Parambikulam-Aliyar in Coimbatore district are standing examples of Inter-State Co-operation which has brought prosperity to both the States. Tamil Nadu has already exploited fully the surface flows, but a little over half the cultivated area still does not get any irrigation facilities. The dry tracts in Coimbatore, Madurai and Ramanathapuram districts which also come under the rain shadow area of western ghats will be greatly benefited, if Kerala agrees for the diversion of the waters of west flowing rivers to Tamil Nadu. The Irrigation Commission 1972, has also pointed out that it would be possible to divert eastward a limited quantity of water from these rivers.

16-13. "There is no doubt that a large proportion of the water of west flowing rivers in Kerala is going to waste. Tamil Nadu contribute 4,134 m.cu.m. of water to the west flowing rivers from catchments which are in the territory of Tamil Nadu. The State Government wants, in addition to Tamil Nadu's contribution, 2,175 m.cu.m. of water from the west flowing rivers. We suggested that Tamil Nadu Government may take up this matter with the Government of Kerala and we trust that the Kerala Government would respond generously."¹

16-14. Some preparatory work for reaching an agreement with the Kerala Government for diverting the waters of west flowing rivers has been done. The technical committee constituted by the Union Government is also examining this matter. It is hoped that a mutually beneficial agreement would be reached soon between the Tamil Nadu and Kerala Governments for the utilization of west flowing rivers. A token provision has been made for this scheme in the plan.

16-15. Apart from diversion of west flowing rivers which will benefit the State to a great extent in the near future, this State is looking forward to diversion of water from northern basins like Godavari and Krishna to meet its requirement of water for irrigation. The basin

states of Krishna have already agreed to spare 15TMC. of Krishna water for Madras city water-supply. From the long term point of view, we should have in mind the development of a National Water Grid. The Godavari-Krishna-Cauvery link which will be an integral part of the Ganga-Cauvery link can be expedited in this plan period.

¹ Report of the Irrigation Commission, 1972, Vol. II-p. 384.

TABLE 16-1.

Irrigation and flood control—Proposed outlay for 1978-83.

Serial number and name of the Project.	Estimated total Cost.	Balance as on 1st April 1978.	Proposed outlay for 1978-79 to 1982-83 (proposed by the Dept).	Outlay suggested by S.P.C. for 1978-83 Plan.	Potential created up to 1977-78.	Potential expected to be created during 1978-83.	Potential expected to be created during 1978-83 revised.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(RUPEES IN CRORES.)					I. Pre-1978-79 Schemes (in progress)—	
(i) Major Schemes :							
1. Parambikulam-Aliyar Project	67.34 (Irrigation portion.)	10.06	10.06	10.06	88.22	6.52	..
2. C.P. Scheme	7.67	0.09	0.05	0.05	14.93	..	..
3. Modernising Vaigai Channel	8.23	0.05	0.22	0.22	4.05 (Stabilisation of existing Ayacut.)	..	..
4. Modernising Cauvery Delta—							
(a) Modernising Thanjavur	92.00	76.00	36.00	36.00	..	..	..
(b) Drainage Scheme in Cauvery Delta	22.00	20.00	8.76	8.76	..	35.00 (Drainage improvement.)	..
(c) On-farm works costing Rs. 46.00 crores to be executed by Agriculture Department.	..	..	..	..	..	..	..
(d) Flood Control schemes costing Rs. 5.00 crores completed.	..	..	..	..	..	..	..
5. Modernising Periyar Vaigai System	41.04	38.25	38.25	38.25	..	11.92	..
5. Servalar Project	1.87 (Irrigation portion.)	1.87	1.87	1.87	..	..	..
Total (i) ..	245.15	146.32	95.21	95.21	107.20	18.44	..

(ii) *Medium Schemes :*

1 Gatana Reservoir	2.14	..	0.03	0.03	0.40	..	..
2 Chinnar Reservoir	2.04	..	0.03	0.03	0.76	..	..
3 Palar Porandalar	5.65	0.76	0.40	0.40	4.04	..	..
4 Pilavukkal Scheme	2.22	0.12	0.01	0.01	1.07	..	..
5 Marudhanadhi	3.20	..	(—) 0.25	(—) 0.25	1.20	0.33	..
6 Vattamalaikarai Odai Reservoir	2.00	0.45	0.11	0.11	1.20	..	..
7 Varattupallam Reservoir	1.92	0.22	0.03	0.03	1.21	..	..
8 Varadhamanadhi Reservoir	2.07	0.32	0.07	0.07	..	0.19	..
9 Gunderipallam	1.55	0.15	0.06	0.06	0.92	..	..
10 S.R.B.C. Scheme	4.01	2.14	2.14	2.14	..	3.65	..
11 Gundar Reservoir	0.62	0.42	0.42	0.42	..	0.04	..
12 P.T. Rajan Channel	0.72	..	0.01	0.01	0.63	..	..
13 Kodumudiar Reservoir	2.23	2.07	2.07	2.07	..	0.23	..
14 Kelavarapalli Reservoir	6.07	5.77	5.77	5.77	..	3.24	..
15 Improvements to Veeranam Tank Channel (pilot study)	0.10	0.05	0.05	0.05	..	..	..
Total (ii) ..	36.54	12.47	10.95	10.95	11.43	7.68	..
Total-I ..	281.69	158.79	106.16	106.16	118.63	26.12	..

II- Schemes to be taken in the Medium Term Plan 1978-79 to 1982-83—

(i) *Major Schemes :*

1 PAP Extension	7.99	7.99	7.99	8.00	..	46.54	..
2 Anamalayar Scheme (PAP)	4.50	14.50	8.00	8.00	Covered by Parambikulam-Aliyar Project.		
3 Diversion of West Flowing Rivers	200.00 (Apprx.)	200.00 (Apprx.)	3.00	Token	..	..	..
4 Noyyal Reservoir	12.00	12.00	2.00	2.00	..	..	..
Total (i) ..	234.49	234.49	20.99	18.00	..	46.54	..

TABLE 16-I—cont.
Irrigation and flood control—Proposed outlay for 1978-83—cont.

Serial number and name of the Project.	Estimated total Cost.	Balance as on 1st April 1978.	Proposed outlay for 1978-79 to 1982-83 (proposed by the dept.).	Outlay suggested by S.P.C. for 1978-83 Plan.	Potential created up to 1977-78.	Potential expected to be created during 1978-83.	Potential expected to be created during 1978-83. revised.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(RUPEES IN CRORES.)				('000 HECTARES.)		
II. Schemes to be taken Medium Term Plan 1978-79 to 1982-83—cont.							
(ii) Modernising Schemes :							
1 Lower Bhavani Project Canal Lining	70.00	70.00	12.00	10.00	..	..	..
2 Modernising Salem-Tiruchirappalli Channels	10.00	10.00	3.00	..	(Stabilisation of existing ayacut).		
3 Grand Anicut Canal Lining	80.00	80.00	12.00	7.00	..	..	..
4 Modernisation of LCA System (Including Veeranam Tank).	20.00	20.00	6.00	4.00	(Stabilisation)		
5 Modernisation of Tank Irrigation	111.00 (Tentative)	111.00	25.00	20.00	..	18.00	..
Total (ii) ..	291.00	291.00	58.00	41.00	..	18.00	..
(iii) Medium Schemes ; (Approved in Principle and to be taken up):							
1 Shenbagathope Reservoir	3.55	3.55	3.55	} 20.00	..	0.69	..
2 Maduranthagam Rt. Side Channel	0.80	0.80	0.80		..	0.18	..
3 Sidhamalli Reservoir	2.34	2.34	2.34		..	1.70	..
4 Poigai Reservoir	0.28	0.28	0.28		..	0.21	..
5 Kuthirayar Reservoir	3.12	3.12	3.12		..	0.50	..
6 Thumbalahalli Reservoir	1.20	1.20	1.20		..	0.91	..
7 Variar Reservoir	6.21	6.21	6.21		..	2.97	..
8 Kullur Sandai Reservoir	1.41	1.41	1.41		..	1.03	..
9 Vembakottai Reservoir	3.66	3.66	3.66		..	3.28	..
Total (iii) ..	22.57	22.57	22.57	20.00	..	11.47	..

TABLE : 16-I—cont.
IRRIGATION AND FLOOD CONTROL—PROPOSED OUTLAY FOR 1978-83—cont.

Serial number and name of the Project.	Estimated total Cost.	Balance as on 1st April 1978.	Proposed outlay for 1978-79 to 1982-83 (proposed by the dept.).	Outlay suggested by S.P.C. for 1978-83 Plan.	Potential created up to 1977-78.	Potential expected to be created during 1978-83.	Potential expected to be created during 1978-83. revised.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(RUPEES IN LAKHS.)					('000 HECTARES.)	
II. Schemes to be taken Medium Term Plan 1978-79 to 1982-83—cont.							
<i>(iv) Medium Schemes :</i>							
<i>(Under investigation)—</i>							
36 Nos. Total	64.00	64.00	64.00	5.00	..	21.51	..
Total—II ..	612.06	612.06	165.56	84.00	..	97.52	..
Total—I and II ..	893.75	770.85	271.72	190.16	118.63	123.64	..
III. D. P. A. P. Pamban Reservoir Project	2.48	1.73	1.73	(will come under Minor Irri. Plan.)			
IV. S. M. I. P. and D. C. R. .. .. .	..	1.10	20.50	..	30.00	30.00	..
Total (Irrigation)	896.23	773.68	293.95	190.16	627.49	155.26	..
V. Flood Control	16.05	16.05	13.20	10.00	..	..	..
Total (Irrigation and Flood Control) ..	912.28	789.73	307.15	200.16	627.49	155.26	..

TABLE : 16.-II.

ABSTRACT.

PLAN, 1978-83.

Major and Medium Irrigation Projects, Flood Control and Drainage Projects—Phasing of outlays.

Serial number and name of project.	Total outlay proposed for 1978-83.	Phasing of outlays.				
		1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN LAKHS.)					
I. Financial :—						
1. Major and Medium Irrigation Projects	18,140.11	1,894.86	3,420.30	4,141.11	4,363.08	4,320.76
2. Flood Control, Drainage, Anti-sea Erosion and Water Logging Projects ..	1,876.00	84.35	229.70	348.89	496.92	716.14
Total ..	20,016.11	1,979.21	3,650.00	4,490.00	4,860.00	5,036.90
II. Physical :—						
Additional potential during	76.78	2.61	5.19	6.56	15.95	46.47
		(1000 ha.)				

TABLE : 16-III.

(Statement I. F. 2/Tamil Nadu).

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project. (1)	Approved estimate cost (year). (2)	Latest estimate cost (year). (3)	Expenditure up to end of 73-74. (4)	Expenditure during 74-77. (5)	1977-78.		Remarks. (14)
					Approved outlay. (6)	Actual expenditure. (7)	
(RS. IN LAKHS.)							
A. Pre-Fifth Plan Schemes :							
I. Multi-purpose Projects :							
1. Parambikulam Aliyar Project	3,773.00 (1962)	6,671.50 (1976)	4,766.19	729.12	440.00	227.73	
Total—I ..	..	..	4,766.19	729.12	440.00	227.73	
II. Irrigation Projects :							
<i>(a) Major Projects:</i>							
1. Chittar Pattanamkal Scheme	667.00 (1964)	758.67 (1977)	659.32	83.33	17.56	3.02	
2. Modernising Vaigai Channels	394.00	823.00	271.48	433.60	113.00	70.70	
Total—(a)	..	..	930.80	516.93	130.56	73.72	
(RS. IN LAKHS.)							
A. Pre-Fifth Plan Schemes :							
I. Multi-purpose Projects							
1. Parambikulam-Aliyar Project	5,723.04	303.25	645.21	645.21	..	..	Details for Col. 10 will be available only after the R.E. for 1978-79 is finalised.
Total—I ..	5,723.04	303.25	645.21	645.21	..	..
II. Irrigation Projects:							
<i>(a) Major Projects:</i>							
1. Chittar Pattanamkal Scheme	745.67	5.00	..	..	..	..
2. Modernising Vaigai Channels	775.78	22.00	10.00	10.00	..	..
Total—(a)	1,521.45	27.00	10.00	10.00	..	..

TABLE : 16-III—cont.
 PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project. (1)	Approved estimate cost. (year). (2)	Latest estimate cost (year). (3) (RS. IN LAKHS.)	Expenditure up to end of 1973-74. (4)	Expenditure during 1974-77. (5)	1977-78.	
					Approved outlay. (6)	Actual expenditure. (7)
A. PRE-FIFTH PLAN SCHEMES—cont.						
II. Irrigation Projects—cont.						
<i>(b) Medium Schemes :</i>						
1 Gatananadhi	158.00	212.00	195.78	17.89	..	1.93
2 Parappalar	35.57	90.14	74.16	22.85	2.81	3.55
3 Chinnar	107.50	203.70	85.97	126.93	2.56	6.08
4 Thandarai Anicut	47.10	87.86	54.62	30.13	1.51	0.69
5 Karuppanadhi	140.00	273.50	122.53	158.40	(—) 8.95	(—) 1.70
6 Marudhanadhi	99.00	320.00	17.29	238.71	64.77	72.99
7 Pilavukkal	75.60	222.43	122.02	85.13	7.88	4.11
8 Palar-Porandalar	256.00 (1970)	565.00 (1976)	255.07	194.30	51.50	47.13
Total (b) .. .. .	..	..	927.44	874.34	122.08	134.78
Total II (a+b) .. .. .	..	..	1,858.24	1,391.27	252.64	208.50
TOTAL A(I+II) .. .. .	..	..	6,624.43	2,120.39	692.64	436.23
B. NEW SCHEMES OF FIFTH PLAN :						
I. Multi-purpose Project :						
NIL.						
II. Irrigation Projects :						
<i>(a) Major/Modernisation Projects :</i>						
1 Modernising Cauvery Delta .. .. .	..	9,200.00 (Appx.)	133.10	305.66	300.00	260.11
2 Modernisation of Periyar-Vaigai System	1,475.00 (1975)	4,104.00 (1977)	..	79.71	316.00	199.10
Total (a) .. .. .	..	..	133.10	385.37	616.00	459.21

TABLE : 16-III—cont.
PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Total expenditure to end of 1977-78.	1978-79.		1979-83.			Remarks.
		Approved outlay.	Anticipated expenditure.	Total.	Capital.	Foreign exchange (Dollars in lakhs.)	
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				(RS. IN LAKSA.)			
B. NEW SCHEMES OF FIFTH PLAN—cont.							
II. Irrigation Projects—cont.							
<i>(b) Medium Schemes:</i>							
1 Gatananadhi	215.60	3.00	..	..	..	..	..
2 Parappalar	100.56	0.15	..	..	..	..	..
3 Chinnar	218.98	2.75	..	..	..	..	..
4 Thandarai Anicut	85.44	0.50	..	..	..	..	..
5 Karuppanadhi	279.23	(—) 1.00	..	..	..	..	..
6 Marudhanadhi	328.99	(—) 25.00	..	..	..	..	..
7 Pilavukkal	211.26	1.00	..	..	..	..	..
8 Palar-Porandalar	496.50	20.00	..	10.00	10.00	..	..
Total (b)	1,936.56	1.40	..	10.00	10.00	..	..
Total II (a+b)	3,458.01	28.40	..	20.00	20.00	..	..
TOTAL-A (I+II)	9,181.05	331.65	..	665.21	665.21	..	..

B. NEW SCHEMES OF FIFTH PLAN:

I. Multi-purpose Project:

Nil.

II Irrigation Projects:

(a) Major/Modernisation Projects:

1 Modernising Cauvery Delta	698.87	..	..	3,600.00	3,600.00	..	..
2 Modernisation of Periyar-Vaigai System	278.81	1,094.00	..	2,731.19	2,688.89	4.70	..
Total (a)	977.68	1,094.00	..	6,331.19	6,288.89	4.70	..

TABLE : 16-III—cont.

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTDAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Approved estimate cost (year.)	Latest estimate cost (year.)	Expenditure upto end of 1973-74.	Expenditure during 1974-77.	1977-78.	
					Approved outlay.	Actual expenditure.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		(RS. IN LAKHS.)				
B. NEW SCHEMES OF FIFTH PLAN—cont.						
II. Irrigation Projects—cont.						
<i>(b) Medium Schemes :</i>						
1 Kodaganar	2,12.00	4,99.00	5.90	3,61.72	95.00	45.25
2 Vattamalaikarai Odai	74.00 (1974)	1,90.00 (1977)	..	1,13.73	40.87	37.96
3 Varattupallam	60.00	1,98.00	..	1,29.85	65.00	21.00
4 Varadhamanadhi	1,03.50 (1974)	1,88.00 (1978)	..	1,35.65	45.47	35.21
5 Right side channel from Sathanur Pickup anicut	2,02.00	3,97.61	..	1,22.34	75.00	61.27
6 Gunderipallam	46.00	1,53.57	..	74.92	65.00	50.19
7 Gundar	37.00	95.00	0.85	13.70	40.00	0.54
8 P. T. Rajan Channel	59.30	72.27	..	19.37	39.00	41.56
9 Kodumudiar	2,23.00	2,23.00	..	6.17	80.00	9.91
10 Kelavarapalli	4,69.00	6,06.65	..	..	1,00.00	54.17
11 Improvements to Veeranam Tank Channels (Pilot Study)	10.00	10.00	..	..	10.00	1.52
12 Servalar Project (Irrigation Portion)	1,87.20	5,11.00	..	..	..	0.09
Total (b)—						
Total II (a+b) .. .. .	..	..	6.75	9,77.45	6,55.34	3,58.67
Total B (I+II) .. .. .	..	..	1,39.85	13,62.82	12,71.34	8,17.88

TABLE : 16-III—cont.
 PLAN. 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Total expenditure to end of 1977-78.	1978-79.		1979-83.			Remarks.
		Approved outlay.	Anticipated expenditure.	Total.	Capital.	Foreign exchange (Dollars in lakhs).	
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				(RS. IN LAKHS.)			
C. NEW SCHEMES OF FIFTH PLAN—cont.							
II. Irrigation Projects—cont.							
<i>(b) Medium Schemes:</i>							
1 Kodaganar	4,12.87	16.00	..	Reconstruction after breach under consideration.			
2 Vattamalaikarai Odai	1,51.69	11.39	..	10.92	10.92	..	..
3 Varattupallam	1,50.85	3.00	..	5.50	5.50	..	..
4 Varadhamanadhi	1,70.86	6.82	..	5.00	5.00	..	..
5 Right side channel from Sathanur Pickup Anicut	1,83.61	65.00	..	149.00	149.00	..	..
6 Gunderipallam	1,25.11	6.00	..	10.46	10.46	..	..
7 Gundar	15.09	5.00	..	74.91	74.91	..	..
8 P. T. Rajan Channel	60.93	1.00	..	10.34	10.34	..	..
9 Kodumudiar	16.08	30.00	..	176.92	176.92	..	..
10 Kelavarapalli	54.17	100.00	..	452.48	452.48	..	..
11 Improvements to Veeranam Tank Channels (Pilot Study)	1.52	5.00	..	3.48	3.48	..	..
12 Servalar Project (Irrigation Portion)	0.09	75.00	..	435.91	435.91	..	..
Total (b)—							
Total II (a+b)	13,42.87	3,24.21	..	13,34.92	13,34.92	..	..
Total B (I+II)	23,20.55	14,18.21	..	76,66.11	76,23.81	4.70 lakhs Dollars.	..

TABLE : 16-III—cont.
 PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Approved estimate cost. (year).	Latest estimate cost (year).	Expenditure up to end of 1973-74.	Expenditure during 1974-77.	1977-78.	
					Approved outlay.	Actual expenditure.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
C. NEW SCHEMES OF 1978-83:						
I. Multi-purpose Projects :						
<i>Nil.</i>						
II. Irrigation Projects:						
<i>(a) Major Projects:</i>						
1. Parambikulam-Aliyar Project Extension	1,000-00	..	..	..	..
2. Diversion of west flowing rivers and others	20,000-00	..	..	..	..
New Schemes	21,000-00	..	..	..	..
Total (a)

(RS. IN LAKHS.)

(b) Medium Schemes:

1. Poigai Anicut
 2. Kuthiraiyar
 3. Siddhamalli
 4. Right side channel from Madurantakam tank
 5. Shenbagathope
 6. L.S. for new schemes
- Total (b)**

Serial number and name of Project.

Serial number and name of Project.	Total expenditure to end of 1977-78.	1978-79.		1979-83.			Remarks.
		Approved outlay.	Anticipated expenditure.	Total.	Capital.	Foreign exchange (Dollars in lakhs).	
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(RS. IN LAKHS.)							

C. NEW SCHEMES OF 1978-83:

I. Multi-purpose Projects:

Nil.

II. Irrigation Projects :

(a) Major Projects:

- | | | | | | | | |
|--|----|----|----|----------|----------|----|---|
| 1. Parambikulam-Aliyar Project Extension | .. | .. | .. | 800-00 | 800-00 | .. | Under Investigation.
Approximate assessment. |
| 2. Diversion of west flowing rivers and others | .. | .. | .. | 1,000-00 | 1,000-00 | .. | |
| New Schemes | .. | .. | .. | .. | .. | .. | |
| Total (a) | .. | .. | .. | 1,800-00 | 1,800-00 | .. | .. |

TABLE : 16-III—cont.
 PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Total expenditure to end of 1977-78.	1978-79		1979-83			Remarks.
		Approved outlay.	Anticipated expenditure.	Total.	Capital.	Foreign exchange (Dollars in lakhs).	
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
C. NEW SCHEMES OF 1978-83—cont.							
II. Irrigation Projects—cont.							
<i>(b) Medium Schemes:</i>							
1. Poigai Anicut	}	These schemes are yet to be sanctioned. They are clubbed with item 6 below for purpose of budget outlay.					
2. Kuthiraiyar.							
3. Siddhamalli.							
4. Right side channel from Madurantakam tank.							
5. Shenbagathope.							
6. L.S. for New Schemes .. .. .	..	145-00	..	2,013-93	2,013-93	..	..
Total (b) .. .. .	..	145-00	..	2,013-93	2,013-93	..	..
Serial number and name of Project.	Approved estimate cost (year).	Latest estimate cost (year).	Expenditure up to end of 1973-74.	Expenditure during 1974-77.	1977-78		
(1)	(2)	(3)	(4)	(5)	Approved outlay.	Actual expenditure.	
<i>(c) Modernisation:</i>							
1. L.B.P. Canal Lining .. .. .	..	7,000-00	..	..	..	..	..
2. G.A.C. Lining .. .. .	..	8,000-00	..	..	..	..	..
3. Modernising L.C.A. System .. .. .	..	2,000-00	..	..	..	..	..
4. Modernising Tank Irrigation .. .. .	..	19,268-00 (1977)	..	..	..	..	..
Total (c) .. .. .	..	36,268-00	..	..	..	..	..
<i>d. Schemes for Conjunctive Use:</i>							
Nil.	Total II (a+b+c+d)	..	..	..	..	..	..
<i>D. Water Development Services:</i>							
Nil.	TOTAL (A+B+C+D)	..	57,268-00	6,764-28	3,483-21	1,963-98	1,254-11

TABLE : 16. III—cont.

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—OUTLAYS AND EXPENDITURE—cont.

Serial number and name of Project.	Total expenditure to end of 1977-78.	1978-79.		1979-83.			Remarks.
		Approved outlay.	Anticipated expenditure.	Total.	Capital.	Foreign Exchange (Dollars in lakhs).	
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
C. NEW SCHEMES OF 1978-83—cont.							
II. Irrigation Projects—cont.							
(RUPBES IN LAKHS.)							
c. Modernisation :							
1. L.B.P. Canal Lining	1,000-00	1,000-00	..	Under Investi- gation.
2. G.A.C. Lining	700-00	700-00	..	Approximate assessment.
3. Modernising L.C.A. System	400-00	400-00	..	..
4. Modernising Tank Irrigation	2,000-00	2,000-00	..	..
Total (c)	4,100-00	4,100-00	..	..
d. Schemes for Conjunctive use—							
Nil.							
Total II (a+b+c+d) } Total C (I + II)	..	145-00	..	7,913-93	7,913-93	..	..
D. Water Development Services:							
Nil.							
TOTAL (A+B+C+D) ..	11,501-60	1,894-86	..	16,245-25	16,202-95	4.70	..

TABLE 16. IV.

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF OUTLAYS.

Serial number and name of Project.	Total outlay proposed for 1978-83.	Phasing of Outlays.				
		1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
		(RUPEES IN LAKHS.)				
A, Pre-Fifth-Plan Schemes—						
<i>I. Multi-purpose Projects—</i>						
1. Parambikulam-Aliyar Project	948.46	303.25	209.52	186.91	164.94	83.84
<i>II. Irrigation Projects—</i>						
<i>(a) Major Projects—</i>						
1. Chittar-Pattanamkal Scheme	5.00	5.00	..	..	..	..
2. Modernising Vaigai Channels	32.00	22.00	10.00	..	..	..
Total II (a)	37.00	27.00	10.00	—	..	..
<i>(b) Medium Schemes—</i>						
1. Gatananadhi	3.00	3.00	..	..	..	..
2. Parappalar	0.15	0.15	..	..	..	..
3. Chinnar	2.75	2.75	..	..	..	..
4. Thandarai Anicut	0.50	0.50	..	..	..	..
5. Karuppanadhi	(—) 1.00	(—) 1.00	..	..	..	..
6. Marudhanadhi	(—) 25.00	(—) 25.00	..	..	..	..
7. Pilavukkal	1.00	1.00	..	..	..	..
8. Palar-Porandalar	30.00	20.00	10.00	..	..	..
Total II (b)	11.40	1.40	10.00	..	..	..
Total II (a)+(b)	48.40	28.40	20.00	..	..	..
Total A (I+II)	996.86	331.65	229.52	186.91	164.94	83.84

B. New Schemes of Fifth Plan :

I. Multi-purpose Projects—

Nil.

II. Irrigation Projects—

(a) Major/Modernisation Projects—

1. Modernising Cauvery Delta	3,600·00	..	900·00	900·00	900·00	900·00
2. Modernisation of Periyar-Vaigai System	3,825·19	1,094·00	1,191·15	1,060·00	479·84	..
Total II (a) ..	7,425·19	1,094·00	2,091·15	1,960·00	1,379·84	900·00

(b) Medium Schemes—

1. Kodaganar	16·00	16·00	(Reconstruction after breach under consideration)			
2. Vattamalaikarai Odai	22·31	11·39	10·92	..	..	..
3. Varattupallam	8·50	3·00	5·50	..	..	..
4. Varadhamanadhi	11·82	6·82	5·00	..	..	..
5. Rightside channel from Sathanur Pickup Anicut	214·00	65·00	80·00	69·00	..	..
6. Gunderipallam	16·46	6·00	10·46	..	..	..
7. Gundar	79·91	5·00	30·00	40·00	4·91	..
8. P.T. Rajan Channel	11·34	1·00	10·34	..	..	..
9. Kodumudiar	206·92	30·00	30·00	60·00	60·00	26·92
10. Kelavarapalli	552·48	100·00	100·00	125·00	127·48	100·00
11. Improvements to Veeranam Tank Channels (Pilot Study)	8·48	5·00	3·48	..	..	..
12. Servalar Project (Irrigation Portion)	510·91	75·00	100·00	100·00	125·91	110·00
Total II(b) ..	1,659·13	324·21	385·70	394·00	318·30	236·92
Total II (a+b) as well as Total B ..	9,084·32	1,418·21	2,476·85	2,354·20	1,698·14	1,136·92

TABLE 16. IV—cont.

Statement I. F. 2 (b)/Tamil Nadu)

Plan, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF OUTLAYS—cont.

Serial number and name of Project.	Total outlay proposed for 1978-83.	Phasing of Outlays.				
		1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
C. New Schemes of 1978-83—						
I. Multi-purpose Projects—						
Nil.						
II, Irrigation Projects—						
(a) Major Projects—						
1. Parambikulam—Aliyar Project Extension	800.00	Covered by PAP	200.00	200.00	200.00	200.00
2. Diversion of West flowing Rivers and other new schemes	1,000.00	..	100.00	200.00	300.00	400.00
Total II (a)	1,800.00		300.00	400.00	500.00	600.00
(b) Medium Schemes :						
1. Poigai Anicut	} These schemes are yet to be sanctioned and they are clubbed with item 6 below for purposes of budget outlay.					
2. Kuthiraiyar						
3. Siddhamalli						
4. Rightside channel from Madurantagam Tank						
5. Shenbagathope						
6. L. S. for new Schemes	2,158.93	145.00	213.93	400.00	700.00	700.00
Total II (b)	2,158.93	145.00	213.93	400.00	700.00	700.00

(c) *Modernisation—*

1. Lower Bhavani Project Canal Lining	1,000.00	..	..	200.00	300.00	500.00
2. Grand Anicut Canal Lining	700.00	..	..	100.00	300.00	300.00
3. Modernisation of Lower Coleroon Anicut System	400.00	..	..	100.00	100.00	200.00
4. Modernising Tank Irrigation	2,000.00	..	200.00	400.00	600.00	800.00

Total II (c) ..	4,100.00	..	200.00	800.00	1,300.00	1,800.00
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(d) *Schemes for conjenctive use Nil—*

Total II (a+b+c+d) and Total ' C '	8,058.93	145.00	713.93	1,600.00	2,500.00	3,100.00
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D. Water Development Services—

Grand Total (A+B+C+D) ..	18,140.11	1,894.86	3,420.30	4,141.11	4,363.08	4,320.76
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TABLE 16-V.

(Statement I.F.3/Tamil Nadu)

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT / TARGETS AND ACHIEVEMENTS.

('000' ha.)

Serial number and name of scheme.	District(s) to be benefited.	C.C.A.	Ultimate Irrigation Potential.	Cumulative benefits to end of						
				Fourth Plan (Actual).		1974-75 (Actual).		1975-76 (Actual).		
				Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
A. Completed Schemes—										
<i>I. Major Schemes—</i>										
(RUPEES IN LAKHS.)										
1. Chittar-Pattanamkal	Kanyakumari and Tirunelveli	19.10	14.93	14.93	6.37	14.93	6.58	14.93	6.58	
Total—I		19.10	14.93	14.93	6.37	14.93	6.58	14.93	6.58	
<i>II. Medium Schemes—</i>										
1. Ramanadhi	Tirunelveli	0.82	0.21	0.21	..	0.21	..	0.21	..	
2. Manimukthanadhi	South Arcot	1.72	1.62	1.62	1.04	1.62	1.04	1.62	1.04	
3. Ponnaniar	Tiruchirappalli	0.85	0.74	0.74	..	0.74	0.14	0.74	0.34	
4. Gatananadhi	Tirunelveli	3.28	0.40	0.40	..	0.40	..	0.40	..	
5. Parappalar	Madurai and Tiruchirappalli	0.95	0.41	..	..	0.41	..	0.41	..
6. Chinnar	Dharmapuri	1.82	0.76	..	..	..	..	..	..
7. Thandarai Anicut	North Arcot	3.05	0.57	..	..	..	..	0.57	..
8. Restoration of Nandan channel	North Arcot	2.12	0.11	..	..	..	..	0.11	..
9. Karuppanadhi	Tirunelveli	4.67	1.17	..	..	..	..	..	..
10. Pilavukkal	Ramanathapuram	4.26	1.07	..	..	..	..	1.07	..
Total—II		23.54	7.06	2.97	1.04	3.38	1.18	5.13	1.38	
Total—A (I+II)		42.64	21.99	17.90	7.41	18.31	7.76	20.06	7.96	

TABLE 16-V—cont.

(' 000 ' ha.)

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT / TARGETS AND ACHIEVEMENTS.—cont.

Serial number and name of scheme.	District(s) to be benefited.	Cumulative benefits to end of									
		1976-77 (Actual).		1977-78 (Actual).		1978-79 (Target).		1982-83 (Target).			
		Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	Pot.	Ult.		
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)		
A Completed Schemes—cont.											
<i>I. Major Schemes—cont.</i>											
1. Chittar—Pattanamkal	.. .. Kanyakumari and Tirunelveli	..	..	14.93	6.58	14.93	6.58	14.93	6.58	14.93	14.93
	Total I	..	..	14.93	6.58	14.93	6.58	14.93	6.58	14.93	14.93
<i>II. Medium Schemes—</i>											
1. Ramanadhi	.. .. Tirunelveli	..	..	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
2. Manimukathanadhi	.. .. South Arcot	..	..	1.62	1.21	1.62	1.62	1.62	1.62	1.62	1.62
3. Ponnaniar	.. .. Tiruchirappalli	..	..	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
4. Gatananadhi	.. .. Tirunelveli	..	..	0.40	..	0.40	0.40	0.40	0.40	0.40	0.40
5. Parappalar	.. .. Madurai and Tiruchirappalli	..	..	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
6. Chinnar	.. .. Dharmapuri	..	..	0.76	..	0.76	0.76	0.76	0.76	0.76	0.76
7. Thandarai Anicut	.. .. North Arcot	..	..	0.57	0.57	0.57	0.57	0.57	0.57	0.57	0.57
8. Restoration of Nandan Channel	.. North Arcot	..	..	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
9. Karuppanadhi	.. .. Tirunelveli	..	..	1.17	..	1.17	1.17	1.17	1.17	1.17	1.17
10. Pilavukkal	.. .. Ramanathapuram	..	..	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
	Total II	..	..	7.06	4.32	7.06	7.06	7.06	7.06	7.06	7.06
	Total A (I+II)	..	..	21.99	10.90	21.99	13.64	21.99	13.64	21.99	21.99

TABLE 16-V—cont.

(Statement I.F. 3/Tamil Nadu).

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT / TARGETS AND ACHIEVEMENTS.—cont.

('000' ha.)

Serial number and name of scheme.	District (s) to be benefited.	C.C.A.	Ultimate Irrigation Potential.	Cumulative benefits to end of						
				Fourth Plan (Actual.)		1974-75 (Actual.)		(1975-76 Actual.)		
				Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
B. Pre-Fifth Plan Schemes:										
<i>I. Major Schemes :</i>										
1. Parambikulam—Aliyar Project ..	Coimbatore	202.43	101.25	57.06	57.06	88.22	88.22	88.22	88.22	
2. Modernising Vaigai Channels ..	Madurai and Ramanathapuram ..	42.85	4.05	..	..	..	..	..	..
Total I		245.28	105.30	57.06	57.06	88.22	88.22	88.22	88.22	
<i>II. Medium Schemes :</i>										
1. Marudhanadhi	Madurai	2.45	1.53	..	..	..	..	..	..
2. Palar Porandalar	Madurai	8.09	4.08	..	..	..	..	..	..
Total II		10.54	5.61	..	..	..	..	..	..
Total B (I+II) ..		255.82	110.91	57.06	57.06	88.22	88.22	88.22	88.22	
C. New Schemes of Fifth Plan :										
<i>I. Major Schemes :</i>										
1. Modernising Cauvery Delta System.	No additional Benefits.									
2. Modernisation of Periyar—Vaigai System.	Madurai and Ramanathapuram ..	87.14	15.95	..	..	..	..	..	..
Total I ..		87.14	15.95	..	..	..	..	..	..

ABLE 16-V—cont.
 PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT/TARGETS AND ACHIEVEMENTS—cont.

(‘000’ ha.)

587C-5-28

Serial number and name of scheme.	District (s) to be benefited.	Cumulative benefits to end of								
		1976-77 (Actual).		1977-78 (Actual).		1978-79 (Target).		1982-83 (Target).		
		Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
B. Pre-Fifth Plan Schemes:										
<i>I. Major Schemes.</i>										
1. Parambikulam-Aliyar Project ..	Coimbatore	88.22	88.22	88.22	88.22	88.22	88.22	94.74	94.74	
2. Modernising Vaigai Channels ..	Madurai and Ramanathapuram ..	..	..	4.05	4.05	4.05	4.05	4.05	4.05
Total—I ..		88.22	88.22	92.27	92.27	92.27	92.27	98.79	98.79	
<i>II. Medium Schemes :</i>										
1. Marudhanadhi	Madurai .. .. .	..	..	1.20	..	1.53	1.53	1.53	1.53
2. Palar Porandalar	Madurai .. .. .	..	..	4.08	..	4.08	4.08	4.08	4.08
Total—II ..		..	..	5.28	..	5.61	5.61	5.61	5.61
Total—B (I+II) ..		88.22	88.22	97.55	92.27	97.88	97.88	104.40	104.40	
C. New Schemes of Fifth Plan :										
<i>I. Major Schemes :</i>										
1. Modernising Cauvery Delta System.	No additional Benefits									
2. Modernisation of Periyar—Vaigai System.	Madurai and Ramanathapuram ..	..	..	..	..	..	..	15.95	15.95
Total—I ..		..	..	..	..	..	..	15.95	15.95

TABLE 16V—cont.

(Statement I.F. 3/Tamil Nadu)

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT/TARGETS AND ACHIEVEMENTS—cont.

('000' ha.)

Serial number and name of scheme,	District (s) to be benefited.	C.C.A.	Ultimate Irrigation Potential.	Cumulative benefits to end of						
				Fourth Plan (Actual).		1974-75 (Actual).		1975-76 (Actual).		
				Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
C. New Schemes of Fifth Plan—cont.										
<i>II. Medium Schemes:</i>										
1	Kodaganar	Madurai and Tiruchirappalli ..	2.55	2.22	Reconstruction after breach under consideration.					
2	Vattamalaikarai Odai	Coimbatore	1.20	1.20	..	..	..	..	..	..
3	Varattupallam	Do.	1.45	1.21	..	..	..	..	..	..
4	Varadhamanadhi	Madurai	2.11	0.19	..	..	..	..	..	..
5	Gunderipallam	Coimbatore	0.92	0.92	..	..	..	..	..	..
6	Right side Channel from Sathanur pickup Anicut.	North Arcot and South Arcot ..	8.09	6.84	..	..	..	..	..	..
7	Gundar	Tirunelveli	0.49	0.04	..	..	..	..	..	..
8	P.T. Rajan Channel	Madurai	0.80	0.63	..	..	..	..	..	..
9	Kodumudiar	Tirunelveli	2.51	0.23	..	..	..	..	..	..
10	Kelavarapalli	Dharmapuri	3.68	3.24	..	..	..	..	..	..
		Total-II	23.80	16.72	..	..	..	..	..	..
		Total C (I+II)	110.94	32.67	..	..	..	..	..	..
D. New Schemes of 1978-83:										
<i>I. Major Schemes:</i>										
1	Parambikulam-Aliyar Project Extension.	Coimbatore	46.54	..	..	..	..	..	..	..
2	Diversion of West Flowing Rivers and Other New Schemes.	Tirunelveli, Ramanathapuram, Madurai and Coimbatore. }	To be assessed.							
		Total-I	46.54	..	..	..	..	..	..	..

TABLE 16-V—cont.
 PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT/TARGETS AND ACHIEVEMENTS—cont.

587C-6-28A

('000³ ha.)

Serial number and name of scheme.	District (s) to be benefited.	Cumulative benefits to end of								
		1976-77 (Actual).		1977-78 (Actual).		1978-79 (Target).		1982-83 (Target).		
		Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
C. New Schemes of Fifth Plan—cont.										
<i>II. Medium Schemes.—cont.</i>										
1	Kodaganar	Madurai and Tiruchirappalli ..	Reconstruction after breach under consideration.							
2	Vattamalaikarai Odai	Coimbatore .. .. .	..	..	1.20	..	1.20	1.20	1.20	1.20
3	Varattupallam	Do. .. .. .	..	..	1.21	..	1.21	1.21	1.21	1.21
4	Varadhamanadhi	Madurai .. .. .	..	..	0.19	..	0.19	0.19	0.19	0.19
5	Gunderipallam	Coimbatore .. .. .	..	..	0.92	..	0.92	0.92	0.92	0.92
6	Right side channel from Sathanur pickup Anicut.	North Arcot and South Arcot ..	..	..	..	..	1.65	..	6.84	6.84
7	Gundar	Tirunelveli .. .. .	..	..	..	..	..	..	0.04	0.04
8	P.T. Rajan Channel	Madurai .. .. .	..	..	..	..	0.63	0.63	0.63	0.63
9	Kodumudiar	Tirunelveli .. .. .	..	..	..	..	..	..	0.23	..
10	Kelavarapalli	Dharmapuri .. .. .	..	..	..	..	..	..	3.24	..
		Total-II .. .. .	..	..	3.52	..	5.80	4.15	14.50	11.03
		Total-C (I+II) .. .. .	..	..	3.52	..	5.80	4.15	30.45	26.98
D. New Schemes of 1978-83:										
<i>I. Major schemes:</i>										
1	Parambikulam-Aliyar Project Extension.	Coimbatore .. .. .	..	..	..	..	..	..	35.00	..
2	Diversion of West Flowing Rivers and Other New Schemes.	Tirunelveli, Ramanathapuram Madurai and Coimbatore.	To be assessed.							
		Total—I .. .. .	..	..	..	..	..	..	35.00	..

TABLE 16-V—cont.

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT/TARGETS AND ACHIENEMENTS—cont.

(*000' ha.)

Serial number and name of scheme.	District (s) to be benefited.	C.C.A.	Ultimate Irrigation Potential.	Cumulative benefits to end of						
				Fourth Plan (Actual).		1974-75 (Actual).		1975-76 (Actual).		
				Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
D. New Schemes of 1978-83										
<i>II. Medium Schemes:</i>										
1 Poigai Anicut	Kanyakumari .. .. .	..	..	..	..	..	..	..	..	..
2 Kuthiraiyar	Madurai .. .. .	..	..	..	..	..	..	..	..	..
3 Siddhamalli	Tiruchirappalli .. .. .	..	..	..	..	..	..	..	..	..
4 Rightside channel from Maduramtagam Tank.	Chingleput .. .. .	..	..	..	..	..	..	..	..	..
5 Shenbagathope	North Arcot .. .. .	..	..	..	..	..	..	..	..	..
6 Other New Schemes .. .. .		..	..	..	..	..	..	..	..	..
	Total-II .. .. .	..	..	..	..	..	..	..	..	..
<i>III. Modernisation Schemes:</i>										
1 L.B.P. Canal Lining	Coimbatore and Tiruchirappalli .. .. .	..	..	13.00	..	..	..	..	..	..
2 G.A.C. Lining	Thanjavur .. .. .	..	..	..	..	..	..	..	..	..
3 Modernising L.C.A. System	South Arcot and Thanjavur .. .. .	..	..	..	..	..	..	..	..	..
4 Modernising Tank Irrigation .. .. .	.....	..	..	54.00	..	..	..	..	..	..
	Total-III .. .. .	..	..	67.00	..	..	..	..	..	..
<i>IV. Schemes for conjunctive use:</i>										
NIL.										
	Total D (I+II+III+IV) .. .. .	..	..	..	..	..	..	..	..	..
	GRAND TOTAL (A+B+C+D) .. .. .	..	..	..	74.96	64.47	106.53	95.98	108.28	96.14

TABLE 16-V—cont.

('000' ha.)

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—BENEFIT/TARGETS AND ACHIEVEMENTS—cont.

Serial number and name of scheme.	District (s) to be benefited.	Cumulative benefits to end of								
		1976-77 (Actual.)		1977-78 (Actual.)		1978-79 (Target.)		1982-83 (Target.)		
		Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	Pot.	Ult.	
(1)	(2)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	
D. New Schemes of 1978-83										
<i>II. Medium Schemes—</i>										
1 Poigai Anicut	Kanyakumari									
2 Kuthiraiyar	Madurai									
3 Siddhamalli	Tiruchirappalli									
4 Right side channel from Madu- rantagam Tank.	Chingleput	..	..	..	..	..	..	3.00	..	
5 Shenbagathope	North Arcot									
6 Other New Schemes										
	Total-II	..	..	..	..	..	..	3.00	..	
<i>III. Modernisation Schemes—</i>										
1 L.B.P. Canal Lining	Coimbatore and Tiruchirappalli	..	..	..	..	..	..	..	..	..
2 G.A.C. Lining	Thanjavur	..	..	..	..	..	..	..	..	..
3 Modernising L.C.A. System	South Arcot and Thanjavur	..	..	..	..	..	..	..	..	..
4 Modernising Tank Irrigation .. .. .		..	..	..	..	..	..	5.00	5.00	
	Total-III	..	..	..	..	..	..	5.00	5.00	
<i>IV. Schemes for conjunctive use:—</i>										
	NIL.									
	Total D (I+II+III+IV)	..	..	..	..	..	..	43.00	5.00	
	GRAND TOTAL (A+B+C+D)	110.21	99.12	123.06	105.91	125.67	115.67	199.84	158.37	

TABLE 16-VI.

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF BENEFITS—*cont.* [Statement I.F.3(b)/Tamil Nadu]

'000 ha. gross.

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1978-79.		1979-80.		1980-81.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A. Completed Schemes.—							
<i>I. Major Schemes:</i>							
1	Chittar Pattanamkal	..	..	..	..	..	..
<i>II. Medium Schemes</i>							
1	Ramanadhi	..	..	..	..	..	..
2	Manimukthanadhi	..	..	..	..	..	..
3	Ponnanar	..	..	..	..	..	..
4	Gatananadhi	..	..	..	..	..	..
5	Parappalar	..	..	..	..	..	..
6	Chinnar	..	..	..	..	..	..
7	Thandarai Anicut	..	..	..	..	..	..
8	Restoration of Nandan Channel	..	..	..	..	..	..
9	Karuppanadhi	..	..	..	..	..	..
10	Pilavukkal	..	..	..	..	..	..
	Total II	..	..	..	..	..	..
	Total-A(I+II)	..	..	..	..	..	..

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.							
		1981-82.		1982-83.		Total additional benefits during 1978-83.			
		Pot.	Util.	Pot.	Util.	Pot.	Util.		
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)		
A. Completed Schemes:—									
<i>I. Major Schemes—</i>									
1.	Chittar Pattanamkal	..	..	..	8.35	..	..	..	8.35
<i>II. Medium Schemes—</i>									
1	Ramanadhi	..	..	..	..	..	..	..	..
2	Manimukthanadhi	..	..	..	..	..	..	..	..
3	Ponnanar	..	..	..	..	..	..	..	..
4	Gatananadhi	..	..	..	..	..	..	..	..
5	Parappalar	..	..	..	..	..	..	..	..
6	Chinnar	..	..	..	..	..	..	..	..
7	Thandarai Anicut	..	..	..	..	..	..	..	..
8	Restoration of Nandan Channel	..	..	..	..	..	..	..	..
9	Karuppanadhi	..	..	..	..	..	..	..	..
10	Pilavukkal	..	..	..	..	..	..	..	..
	Total II	..	..	..	..	..	..	..	..
	Total-A (I+II)	..	..	..	8.35	..	..	..	8.35

ABLE 16.VI.—cont.

[Statement I.F. 3(b)/Tamil Nadu]

PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF BENEFITS—cont.

'000' ha. gross.

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1978-79.		1979-80.		1980-81.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
B. Pre-Fifth Plan Schemes.—							
<i>I. Major Schemes—</i>							
1	Parambikulam-Aliyar Project	..	..	..	..	6.52	6.52
2	Modernising Vaigai Channels	..	..	..	..	..	..
	Total—I	..	..	..	..	6.52	6.52
<i>II. Medium Schemes—</i>							
1	Marudanadhi	..	0.33	..	1.53	..	..
2	Palar Porandalar	..	..	..	4.08	..	..
	Total—II	..	0.33	..	5.61	..	..
	Total B. (I+II)	..	0.33	..	..	6.52	6.52

C. New Schemes of Fifth Plan—*I. Major Schemes—*

1	Modernising Cauvery Delta System	..	..	..	..	..	..
2	Modernisation of Periyar-Vaigai System	..	..	..	..	..	..
	Total—I	..	..	..	..	..	..

Targets of additional benefits during 1978-1983.

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1981-82.		1982-83.		Total additional benefits during 1978-83.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)
B. Pre-Fifth Plan Schemes.—							
<i>I. Major Schemes—</i>							
1	Parambikulam-Aliyar Project	..	..	..	..	6.52	6.52
2	Modernising Vaigai Channels	..	..	..	..	..	..
	Total—I	..	..	..	..	6.52	6.52
<i>II. Medium Schemes—</i>							
1	Marudanadhi	..	..	..	..	0.33	1.53
2	Palar Porandalar	..	..	..	..	..	4.08
	Total—II	..	..	..	..	0.33	5.61
	Total B (I+II)	..	..	..	..	6.85	12.13
C. New Schemes of Fifth Plan—							
<i>I. Major Schemes—</i>							
1	Modernising Cauvery Delta System	..	..	..	..	..	..
2	Modernisation of Periyar-Vaigai System	..	15.95	..	15.95	15.95	15.95
	Total—I	..	15.95	..	..	15.95	15.95

TABLE 16.VI.—cont.
 PLAN 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF BENEFITS—cont.

'000 ha. gross.

[Statement I. F. 3(b)/Tamil Nadu]

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1978-79.		1979-80.		1980-81.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C. New Schemes of Fifth Plan—cont.							
<i>II. Medium Schemes—</i>							
1	Kodaganar	Reconstruction after breach under consideration.					
2	Vattamalaikarai Odai		1.20				
3	Varattupallam		1.21				
4	Varadamanadhi		0.19				
5	Gunderipallam		0.92				
6	Right side channel from Sathanur pickup Anicut.	1.65		5.19	6.84		
7	Gundar					0.04	0.04
8	Kodumudiar						
9	P. T. Rajan Channel	0.63	0.63				
10	Kelavarapalli						
	Total—II ..	2.28	4.15	5.19	6.84	0.04	0.04
	Total C. (I+II) ..	2.28	4.15	5.19	6.84	0.04	0.04

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-83.					
		1981-82.		1982-83.		Total additional benefits during 1978-83.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)
C. New Schemes of Fifth Plan—cont.							
<i>II. Medium Schemes—</i>							
1	Kodaganar	Reconstruction after breach under consideration.					
2	Vattamalaikarai Odai						1.20
3	Varattupallam						1.21
4	Varadamanadhi						0.19
5	Gunderipallam						0.92
6	Right side channel from Sathanur pickup Anicut.					6.84	6.84
7	Gundar					0.04	0.04
8	Kodumudiar			0.23		0.23	
9	P. T. Rajan Channel					0.63	0.63
10	Kelavarapalli			3.24		3.24	
	Total—II ..			3.47		10.98	11.03
	Total C. (I+II) ..	15.95	15.95	3.47		26.93	26.98

TABLE 16-VI- cont.

PLAN, 1978-83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF BENEFITS—cont. '000' ha. gross.

(Statement I.F. 3 (b)/Tamil Nadu)

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1978-79.		1979-80.		1980-81.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		('000' HA. GROSS).					
D. New Schemes of 1978-83—							
<i>I. Major Schemes—</i>							
1	Parambikulam-Aliyar Project Extension ..	..	..	..	..	..	..
2	Diversión of West Flowing Rivers and other New Schemes.	..	..	..	..	..	..
	Total I ..	..	..	..	..	..	..
<i>II. Medium Schemes—</i>							
1	Poigai Anicut .. .. .	..	..	..	..	..	..
2	Kuthiraiyar .. .. .	..	..	..	..	..	..
3	Sidhamalli .. .. .	..	..	..	..	..	..
4	Right side Channel from Madurantagam Tank ..	..	..	..	..	..	..
5	Shenbagathope .. .. .	..	..	..	..	..	..
6	Other New Schemes .. .. .	..	..	..	..	..	..
	Total II ..	..	..	..	..	..	..

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1981-82.		1982-83.		Total additional benefits during 1978-83.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)
		('000' HA GROSS).					
D. New Schemes of 1978-83—cont.							
<i>I. Major Schemes.—cont.</i>							
1	Parambikulam-Aliyar Project Extension ..	..	..	35.00	..	35.00	..
2	Diversión of West Flowing Rivers and other New Schemes.	..	..	..	..	..	..
	Total I ..	..	..	35.00	..	35.00	..
<i>II. Medium Schemes—cont.</i>							
1	Poigai Anicut .. .. .	..	..	..	..	..	..
2	Kuthiraiyar .. .. .	..	..	..	..	..	..
3	Sidhamalli .. .. .	..	..	..	..	..	..
4	Right side Channel from Madurantagam Tank ..	..	..	..	..	..	..
5	Shenbagathope .. .. .	..	..	..	..	..	..
6	Other New Schemes .. .. .	..	..	3.00	..	3.00	..
	Total II ..	..	..	3.00	..	3.00	..

TABLE 16-VI—cont.

PLAN, 1978—83—MAJOR AND MEDIUM IRRIGATION PROJECTS—PHASING OF BENEFITS .000' ha. gross.

(Statement I.F. 3 (b)/Tamil Nadu)

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1978-79.		1979-80.		1980-81.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		('000 'HA. GROSS).					
III. Modernisation Schemes—							
1	L.B.P. Canal Lining	..	..	..	..	..	..
2	G.A.C. Lining	..	..	..	..	..	..
3	Modernising LCA System	..	..	..	..	..	..
4	Modernising Tank Irrigation	..	..	..	..	..	..
	Total III	..	..	..	..	..	..
IV. Schemes for Conjunctive Use—							
	Nil.						
Total D (I+II+III+IV)	..	..	..	..	..	..	..
Grand Total (A+B+C+D)	..	..	2.61	9.76	5.19	6.84	6.56

Serial number.	Name of Scheme.	Targets of additional benefits during 1978-1983.					
		1981-82.		1982-83.		Total additional benefits during 1978-83.	
		Pot.	Util.	Pot.	Util.	Pot.	Util.
(1)	(2)	(9)	(10)	(11)	(12)	(13)	(14)
		('000 'HA GROSS).					
III. Modernisation Schemes—cont.							
1	L.B.P. Canal Lining	..	..	..	..	..	..
2	G.A.C. Lining	..	..	..	..	..	..
3	Modernising LCA System	..	..	..	..	..	..
4	Modernising Tank Irrigation	..	..	5.00	5.00	5.00	5.00
	Total III	..	..	5.00	5.00	5.00	5.00
IV. Schemes for Conjunctive Use :—							
	Nil.						
Total D (I+II+III+IV)	..	..	..	43.00	5.00	43.00	5.00
Grand Total (A+B+C+D)	..	15.95	24.30	46.47	5.00	76.78	52.46

TABLE 16-VII.

(Statement I.F. 4 Tamil Nadu.)

PLAN, 1978-83—MAJOR IRRIGATION PROJECTS COSTING MORE THAN RS. 30 CRORES CHECK LISTS.

1 Name of the Projects with brief description, location and districts benefited. In case of multi-purposes and Inter-state Projects, details of sharing of costs and benefits among various purposes and States may be indicated.	<p>Parambikulam-Aliyar Project.</p> <p>The P.A.P. is a multi purpose and multi valley project which envisages utilisation of seven rivers having their source in the Anamalais and which traverse through both the States of Kerala and Tamil Nadu. The Project envisages irrigation facilities to about 97,200 ha (2,40,000 acres) in the dry and arid regions of Coimbatore district of Tamil Nadu in addition to stabilising the irrigation for about 12,150 ha (30,000 acres) in Tamil Nadu and Kerala and also production of power to an extent of 185 MW. The area localised for providing new irrigation facilities is about 1,01,250 hectares (2,50,000 acres). The ayacut under the project will be mainly irrigated dry, wet cultivation being confined to the low lying and seepage affected pockets upto a maximum of 20 per cent of the total ayacut. The project contemplates integration of seven rivers by dams and diversion works and inter-connecting them through tunnels. The districts benefited by the scheme are Coimbatore District in Tamil Nadu and Palaghat district in Kerala. The revised estimate cost of the project as assessed during 1976 is Rs. 8,575.50 lakhs. The allocation of the above cost between irrigation and power is as follows :—</p>
---	--

		(RS. IN LAKHS.)
Irrigation	.. .. .	4,384.37
Power	.. .. .	4,191.13
	Total	<u>8,575.50</u>

2 Date of commencement .. April, 1959.

3 Target date of completion .. 1979-80.

4 Indicate the various main components of the project completed upto 1977-78 and the works proposed for 1978-79 and 1979-83. The details of expenditure and outlay for 1978-79 and 1979-83 may also be indicated.

The following components of this project have been completed up to 1976-77.

- | | |
|----------------------|--|
| 1. Aliyar Dam | 6 Sholayar Dam |
| 2. Thirumurthi Dam | 7. Contour Canal |
| 3. Parambikulam Dam | 8. All irrigation canals and its Distributaries and branches |
| 4. Tunacadavu Dam | 9. Mining of Upper Nirar Tunnel. |
| 5. Pervaripallam Dam | |

TABLE 16-VIII.

**Works proposed to be done during 1978-83.

Serial number.	Description of item of work.	Estimated Quantity.	Work done up to 31st March 1978.	Programme for.	
				1978-79.	1979-83.
(1)	(2)	(3)	(4)	(5)	(6)
Lower Nirar Dam					
Building Masonry Blocks.					
(i) Concrete and Masonry	1,58,480 M ³	1,11,369 M ³	21,875 M ³	25,236 M ³
II. Mining of Lower Nirar Tunnel	8,050 M	5,648 M	2,402	..

The original scheme report envisaged completion of the project by about 1968. But due to stoppage of work at Peruvuripallam and as the Inter-state agreement for taking up the Nirar works including the Lower Nirar Dam in lieu of Tekkadi was concluded only after protracted correspondence and negotiation between the Government of Kerala and Tamil Nadu in 1970, the project could not be completed as originally programmed.

The concurrence for the construction of Lower Nirar Dam was given by Kerala Government only in March, 1974 and the works on the Lower Nirar complex have been taken up for execution and is in progress.

The balance of works are expected to be completed by 1979-80.

**Building masonry for the Lower Nirar Dam will be pushed through ; the mining of Lower Nirar Tunnel will also be pushed through.

TABLE 16-IX-A.

PART II—PHYSICAL PROGRESS AND PROGRAMME.

Item.	Description of item of work.	Unit.	Total estimated quantity.	Works done to end of 5th Plan.	Target for 1978-79.	Target for 1979-83.	Remarks.
I. Head Works (Lower Nirar Dam)—							
(i)	Excavation	M3	3,36,900	2,70,600	34,600	31,700	
(ii)	Concreting and masonry	M3	1,58,480	1,11,369	21,875	25,236	
(iii)	Lower Nirar Tunnel .. .. .	..	8,050	5,648	2,402	..	
II. Main Canals—							
(i)	Earthworks	M3	} All works pertaining to the irrigation potential of 1,01,250 hectares as originally localised have been completed.				
(ii)	Lining	M					
(iii)	Cross drainage structures						
(a)	Numbers	Numbers					
(b)	Cost	Rs.					
III. Distribution System—							
(i)	Length	M	}				
(ii)	Quantity of earth work	M3					
(iii)	No. of structures	Numbers					
(iv)	Man-Power requirement category (Peak Nos./Mandays) .. .. .	..				

TABLE 16-X.

PLAN, 1978-83—MAJOR IRRIGATION PROJECTS COSTING MORE THAN Rs. 30 CRORES ; CHECK LISTS.

1. Name of projects with brief description, location and districts benefited. In case of Multipurpose and inter-State projects, details of showing of cost and benefits among various purposes and States may be indicated.	Modernisation of Periyar-Vaigai Irrigation System benefitting Madurai and Ramanathapuram Districts.
2. Date of commencement	1—1—1978.
3. Target date of completion	31—12—1981.
4. Indicate the various main components of the project completed up to 1977-78 and work proposed for 1978-79 and 1979-83. The details of expenditure and outlay for 1978-79 and 1979-83 may be indicated as below :—	(i) Forming of a Link canal for a length of 32.9 km. with branches and distributaries. (ii) Lining the Periyar Main Canal, its branches, distributaries and field bothies up to 10 ha. limit. (iii) Extension of Periyar Main Canal. (iv) Improvements to pathway system. (v) Improvements to village roads to make them all weather roads. (vi) Improvements to Thirumangalam Main Canal. (vii) Agricultural Extension Programme.

TABLE 16-X—cont.
PART I—EXPENDITURE.

Items.	Latest cost.	Expenditure up to Fifth Plan.	Phasing of outlay in the next Five-Year Plan, 1978-83.					Total 1978-83.
			1978-79.	1979-80.	1980-81. (RS. IN LAKHS.)	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(a) Land Compensation	4,104	278.81	1094	1191.15	1060.20	479.84	Nil.	3825.13
(b) Head Works								
(c) Main canals								
(d) Distribution System up to 1 cusec or 40 hectares block.								
(e) Lining—								
(i) Main canal								
(ii) Distribution System								
(iii) Drainage								
(iv) Establishment								
(v) Other items								

PART II—PHYSICAL PROGRESS AND PROGRAMME.

Item.	Unit.	Total estimated quantity.	Works done to end of Fifth Plan.	Target for 1978-79.	Target for 1979-83.
(1)	(2)	(3)	(4)	(5)	(6)
1. Head Works—					
(i) Excavation	}		Nil.		
(ii) Concreting					
(iii) Masonry					
(iv) Earth work					
2. Main Canals—					
(i) Earth work	m ³	32,46,300	2,35,000	5,07,000	25,04,300
(ii) Lining	m ²	23,18,200	Nil.	6,27,000	16,91,200
(iii) Cross Drainage structures					
(a) Nos.		261	..	81	180
(b) Cost		1,54,01,000	..	20,27,000	1,33,74,000
3. Distribution Systems—					
(i) Length		880 Km.	Nil.	..	..
(ii) Quantity of earth work	m ³	16,38,600	Nil.	46,200	15,92,400
(iii) No. of structures		2,696	Nil.	172	2,524
Manpower requirement category (Peak Nos./Mandays)					
					Furnished in Statement IF-8.

TABLE 16-XI.
PLAN, 1978-83—FLOOD CONTROL DRAINAGE, ANTI-SEA EROSION AND WATER LOGGING PROJECTS—OUTLAY AND EXPENDITURE.

Serial number.	Name of Scheme.	Districts to be benefited.	Estimated cost.		Expenditure up to end of 1973-74.	1974-77 (Actual expenditure).	1977-78.		Total expenditure to end of 1977-78.
			Approved (Year).	Latest (Year).			Approved outlay.	Actual expenditure.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A. Pre-Fifth Plan Schemes :									
<i>I. Multi-purpose Projects :</i>									
NIL.									
<i>II. Flood Control and Drainage Projects—</i>									
	1. Drainage Schemes in Cauvery Delta	Thanjavur	799	1,664.10	58.15	21.04	40.00	31.65	110.84
	2. Cauvery Barrage and other Schemes	Do.	240	498.80	28.36	316.29	98.38	42.46	387.11
	Total II	.. ..	1,039	2,162.90	86.51	337.33	138.38	74.11	497.95
B. New Schemes of Fifth Plan :									
NIL.									
C. New Schemes, 1978-83 :									
	1. Improvements to Chembarampakkam Tank.	Madras and Chingleput	..	116.75	..	..	..	..	..
	2. Flood banks to Adyar and other rivers.	Do.	..	..	..	..	..	..	..
D. Water Development Service—									
NIL.									
	Total (A+B+C+D)	.. ..	..	..	86.51	337.33	138.38	74.11	497.95

(RS. IN LAKHS.)

Serial number.	Name of Scheme.	Districts to be benefited.	1978-79.		1979-83 proposed outlay.		
			Approved outlay.	Anticipated expenditure.	Total.	Capital.	F.E.
(1)	(2)	(3)	(11)	(12)	(13)	(14)	(15)
A. Pre-Fifth Plan Schemes :							
<i>I. Multi-purpose Projects—</i>							
NIL.							
<i>II. Flood Control and Drainage Projects—</i>							
	1. Drainage Schemes in Cauvery Delta	.. Thanjavur	76.40	..	799.60	799.60	..
	2. Cauvery Barrage and other Schemes	.. Do.	7.95	..	..	..	..
	Total II	.. ..	84.35	..	799.60	799.60	..
B. New Schemes of Fifth Plan—							
NIL.							
C. New Schemes, 1978-83—							
	1. Improvements to Chembarampakkam Tank	Madras and Chingleput	..	..	992.05	992.05	..
	2. Flood banks to Adayar and other rivers	.. Do.	..	..	..	..	..
D. Water Development Services—							
NIL.							
	Total (A+B+C+D)	.. ..	84.35	..	1,791.65	1,791.65	..

(RS. IN LAKHS.)

TABLE 16-XII.
PLAN, 1978-83—FLOOD CONTROL PROJECTS—TARGETS AND ACHIEVEMENTS.

Statement I.F.6/Tamil Nadu.)

<i>Serial number.</i>	<i>Items.</i>	<i>Constructed up to end of Fourth Plan.</i>	<i>Actual achievement, 1974-77.</i>	<i>1977-78 (Actual).</i>	<i>1978-79 Target.</i>	<i>1979-83 Target.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Volume of flood storage (M.cu.m.)	.. .. .	.. .. .	No new, storages exclusively for flood moderation are created in the State. However, the multi-purpose Reservoir since formed help in investigating the Floods in the River system.		
2	Length of embankments (km.)	.. .. .	.. .. .	Improvements proposed by schemes prior to 1978-79 are generally of the nature of strengthening and bringing existing banks to standards.		
3	Town Protection works (Nos.)	.. .. .	.. .. .	..	..	..
4	Raising of Villages (Nos.)	.. .. .	.. .. .	..	..	..
5	Length of drainage Channels (km.)	.. .. .	.. .. .	15.48	..	1.00
		(Under 19 Drainage schemes taken up 16.48 k.m. of drainage course is estimated).				
6	Area to be benefited (Lakh hec.) i. Drainage Schemes of Cauvery Delta.	.. .. .	.. .. .	0.14	0.007	0.073
		(The area estimated to be benefited by above mentioned 19 Schemes is 0.22 lakh ha.)				
7	Length of Sea wall (km.)

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TABLE 16-XIII.

(Statement I.F.7/Tamil Nadu.)

PLAN, 1978-83—REQUIREMENTS OF MATERIALS (Metric tonnes).

<i>Serial number.</i>	<i>Item.</i>	<i>1978-79 requirements.</i>		<i>1979-83.</i>	
		<i>Major and Medium Irrigation Programme.</i>	<i>Flood Control.</i>	<i>Major and Medium Irrigation Programme.</i>	<i>Flood Control.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1	Cement	83,600	..	3,40,000	10,000
2	Steel	2,270	..	10,000	..
3	Coal	..	..	..	..
4	Explosives	120	..	1,000	..

TABLE 16-XIV.

(Statement I.F.8/Tamil Nadu.)

PLAN 1978-83—EMPLOYMENT [ABSOLUTE No./Nos. (MANDAYS)].

Details.							Major and Medium Irrigation.			Drainage and Flood Control.		
							1977-78	1978-79	1979-83	1977-78	1978-79	1979-83
							Anticipated.	Target.	Target.	Anticipated.	Target.	Target.
(1)							(2)	(3)	(4)	(5)	(6)	(7)
A. Engineers—												
(a) Graduate Engineers	}	..	..	..	..	..	7,52,400	11,37,000	97,47,000	44,400	50,400	10,75,200
(b) Diploma Holders		..	..	..	..	..	
B. Skilled workmen and Skilled labour	}	..	..	..	..	..	48,90,600	73,90,500	6,33,55,500	2,88,600	3,27,600	69,88,800
C. Unskilled labourers	..	..	..	..	..	..	1,20,38,400	1,81,92,000	15,59,52,000	7,10,400	8,06,400	1,72,03,200
D. Administrative Establishment	..	..	..	..	..	..	11,28,600	17,05,500	1,46,20,500	66,600	75,600	16,12,800

TABLE 16-XV.

(Statement I.F.9/Tamil Nadu.)

PLAN, 1978-83:—IRRIGATION SCHEMES BENEFITING THE "DROUGHT PRONE AREAS"

(RS. LAKHS/'000 ha. gross.)

Serial number.	Name of scheme.	Districts to be benefited.	Latest Estimate cost.	Expenditure up to end of 1973-74.	Expenditure during 1974-78.	1978-79 Approved outlay.	1979-83 Outlay proposed.	Ultimate Irrigation Potential.	Benefits to end of Fifth Plan.		Targets of Addl. benefits during 1978-83 Plan.	
									Potential.	Utilisation.	Potential.	Utilisation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<i>Completed Schemes—</i>												
1	Pilavukkal Schemes	.. .. Ramanathapuram	222.43	122.02	89.24	1.00	..	1.07	1.07	1.07	..	..
2	Chinnar Reservoir	.. .. Dharmapuri	203.70	85.27	133.01	2.75	..	0.76	0.76	0.76	..	..
<i>Under Execution—</i>												
1	Kelavarapalli Reservoir	.. .. Dharmapuri	606.65	..	54.17	100.00	452.48	3.24	..	..	3.24	..

TABLE 16-XVI.

(Statement I.F.10/Tamil Nadu.)

PLAN, 1978-83—Irrigation Schemes Benefiting the Tribal Areas and Backward Classes.

Serial number	Name of scheme.	District/Taluk or Tehsil to be benefited.	Latest Estimate cost.	Expenditure up to end of 1973-74.	Expenditure during 1974-78.	1978-79 Approved outlay.	1979-83 Outlay proposed.	Ultimate Irrigation Potential.	Benefit to end of Fifth Plan.		Targets of additional benefit during 1978-83 Plan.	
									Potential.	Utilisation.	Potential.	Utilisation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)

(RS. LAKHS/'000 ha. gross.)

— NIL. —

Chapter 17

POWER

Position at the end of the Fifth Plan, 1977-78:

17.0. The total installed capacity in the State which was 156 MW at the commencement of the First Plan, 1950-51 rose to 2254 MW at the commencement of the Fifth Plan, 1974-75, i.e., by more than 14 times in the course of 25 years. The addition to the installed capacity made in the first four years of the Fifth Plan, i.e., 1974-78 was however modest. Though the targetted addition to the installed capacity was 935 MW, the actual addition at the end of the fourth year of the Fifth Plan was only 170 MW. This short fall in achievement was due mostly to the non-completion of the Kalpakkam Atomic Power Plant which it is expected will supply 470 MW. Simultaneously with increase in capacity, there has been a rise in demand as well. The system peak demand went up from 139 MW at the beginning of the First Plan to 1282 MW at the commencement of the Fifth Plan; it reached 1641 MW at the end of the fourth year of the Fifth Plan. It should, however, be noted that these figures denote only power actually supplied and not the real demand in so far as much of the demand was suppressed because of power cuts and other restrictions.

587C-6-30A

17.1. The per capita consumption of power in the State increased from 127 units at the beginning of the Fifth Plan to 146 units in 1976-77. At present, the per capita consumption in Tamil Nadu is appreciably higher than the all-India average of 118 units (1976-77).

17.2. The growth and pattern of power consumption in the State have been conditioned by the inadequate availability of power and the various restrictive measures that have been in force from time to time. Following two years of near stagnation in power consumption, there was a 5.4 per cent growth during 1974-75, 11 per cent in 1975-76 and 14 per cent in 1976-77.

17.3. The percentage increase in consumption of power from the commencement of the Fifth Plan to the end of 1976-77 has also varied as between the different sectors—domestic, commercial, industries, agriculture, etc. It is seen from the following table that the proportion of total consumption by the domestic, commercial and industries sectors has increased while that of the other sectors shows a marginal decline. Of the total consumption, industries account for 48 per cent and irrigation 26 per cent and the two together for nearly 3/4 of the total consumption in the State.

TABLE 17.1.

Sector.	Consumption pattern (million units.)			Rate of growth p.a.	
	1974-75	per cent (3)	1976-77	per cent (5)	per cent (6)
(1)	(2)	(3)	(4)	(5)	(6)
1 Domestic	395	7.0	501	7.8	12.7
2 Commercial	381	6.7	486	7.5	12.9
3 Industries	2,402	42.6	3,099	47.9	13.6
4 Traction	39	0.7	49	0.8	12.0
5 Irrigation	1,847	32.7	1,691	26.2	-4.3
6 Public Lighting.	79	1.4	72	1.1	-4.5
7 Miscellaneous.	502	8.9	566	8.7	6.2
Total ..	5,645	100.0	6,464	100.0	7.0

17.4. Parallel with change in the pattern of demand, there has been a change in the composition of supply also.

As at present, the main sources of supply are hydro electric projects and thermal generation. It is seen that since the end of the Second Plan the contribution of hydro resources to total power supply in the State has steadily decreased, while that of thermal generation has steadily increased. The relative shift is brought out clearly in the table given below :

TABLE 17.2.

Plan period.	Installed capacity in MW.			Percentage.	
	Hydro.	Thermal.	Total.	Hydro.	Thermal.
(1)	(2)	(3)	(4)	(5)	(6)
Pre-Plan ..	104	52	156	67	33
End of First Plan 1955-56.	174	82	256	68	32
End of Second plan 1960-61.	459	112	571	80	20
End of Third plan-1965-66.	969	401	1,370	71	29
End of Fourth plan-1973-74.	1,224	1,030	2,254	54	46
End of Fifth plan-1977-78.	1,284	1,140	2,424	53	47

17.5. An important factor responsible for the increasing reliance on thermal power is the need for firming up of installed capacity of grid more on thermal base due to the grid experiencing periodical power shortage.

17.6. In the Fifth Plan, a sum of Rs. 334.81 crores was provided for power development for the five year period, 1974-79. The expenditure incurred during the four years of Fifth Plan was Rs. 264.54 crores. The allotment for the year 1978-79 which now becomes the first year of the Sixth Plan is Rs. 113.81 crores. The total allotment for the Sixth Plan would include the allotment for 1978-79.

A. Forecast of Energy Demand—1978-79 to 1982-83.

17.7. There is a close correlation between economic growth and electricity consumption, so much that the per capita consumption of electric power in a country is accepted as a reliable index of the standard of economic development attained by that country. In making an estimate of the demand for electrical energy in the course of the Sixth Plan years in Tamil Nadu, we have to take into consideration the expected growth of income as well as expansion of the different sectors of the economy.

17.8. The major consumers of the electric power are grouped as follows :—

- (1) Domestic and commercial sectors.
- (2) Large Industries.
- (3) Small Industries.
- (4) Agriculture.

17.9. In respect of the domestic and commercial sectors, the consumption of electricity in Tamil Nadu for the last four years was as follows :—

Year.	Energy consumed in m.u.	Annual rate of increase percent.
(1)	(2)	(3)
1973-74	508	..
1974-75	619	21
1975-76	739	18
1976-77	943	29

17.10. The average rate of growth is thus found to be about 23 per cent. However, for the present purpose of making a projection we assume a much lower growth of 12 per cent per year which approximates to the average over a longer period of time. On this assumption, the demand arising from this sector at the end of the Five-Year Plan 1982-83 will be 1780 m.u.

Large Industries :

17-11. The Perspective Plan for the development of Tamil Nadu envisages a significant expansion of the large industries sector of the state's economy. The power needs of some of the major power intensive industries which may arise in the course of the Sixth Plan can be worked out on the basis of the projected production level of those industries. It is expected that the production of aluminium, fertilizers and chemicals would increase by more than 100 per cent in these years. If these production targets are to be attained as originally envisaged, the power requirements of the heavy industries in the State may be expected to reach 6,700 m.u. by 1982-83 from the present level of 2,500 m.u.

17-12. Thirdly, as regards small industries in conformity with the major objectives of reducing the level of unemployment and poverty in the State, the Government of Tamil Nadu will be initiating a large programme for the establishment of small scale industries all over the State. During the last 3 months of 1976 alone as many as 10,000 small scale industries were registered in the State. At least 2,500 small scale industries are expected to come up every year. If there are no power cuts and other restrictions, the power requirements of this sector may be expected to increase by 15 per cent to 17 per cent per year. Assuming a 13 per cent growth rate, the total demand for power arising from the small industries sector will be 1,290 m.u. in 1982-83.

17-13. Consumption of electricity by the agricultural sector varies from year to year, depending on the intensity of rain fall in the State. Taking into account the average consumption in the years 1969-70 to 1975-76, the requirement of electricity per pump set is 2,450 units per year. There are however, occasions when the average is more than 2,450 units. Out of about 12 lakh irrigation wells in the State, about 8 lakhs have already been electrified, leaving about 4 lakh wells yet to be electrified. But due to various factors like ground water discipline, it is proposed to limit the electrification of wells to about 32,000 pumpsets per year. At the rate of 2,450 units per pumpset, the total additional power requirements per annum for this purpose would be about 78 m.u. Hence, for the five year period, the requirements works out to about 400 m.u.

17-14. Apart from the estimates for the sectoral requirements it is possible to forecast the power demand for the economy as a whole by taking into account the past consumption trends and adopting the exponential trend method. For purposes of this calculation the years 1966-67 to 1971-72 are taken as the base period. Consumption of electricity in these years is more or less normal. On the other hand, the years after 1971-72 there have been power cuts of varying degrees in force. The results are given below:

TABLE 17-3.

Year.	Anticipated consumption in m.u.	Gross requirement in generation in m.u.
	(Sale figures).	
(1)	(2)	(3)
1977-78	10,422	13,157
1978-79	11,632	14,700
1979-80	12,596	15,781
1980-81	13,555	17,040
1981-82	14,782	18,566
1982-83	16,318	20,440

As stated earlier the above figures are derived by using the exponential method in estimating overall demand. A more realistic estimate can be made by combining the estimate of over all demand with the projected sectoral requirements. Then we get the following figures:—

Year.	Peak load in MW.	Energy in m.u.
(1)	(2)	(3)
1982-83	3,262	16,574
1988-89	5,779	29,362

17-15. It is now possible to summarise the position with regard to power supply and demand at the end of the Plan 1978-83. This is shown below :—

	M.W.
(1) Present installed capacity (Ist April 1978).	2,424
(2) Additional capacity envisaged during the VI Plan.	2,035
(3) Total capacity available at the end of VI Plan (1+2).	4,459
(4) Total demand which the available capacity will be able to meet at the end of VI Plan.	2,675
(5) Total expected demand at the end of VI Plan.	3,262
(6) Capacity needed to meet total demand mentioned in (5).	5,440
(7) Gap in installed capacity (6-3).	981

Augmenting power supply :

17-16. Given the present installed capacity in the State and the anticipated increase in demand in the course of the Sixth Plan Period, it would necessitate raising of capacity level to 5,440 M.W. at the end of the Sixth Plan. The gap in terms of installed capacity works out to 3,016 M.W. Measures are to be adopted to close this gap to the extent possible.

17-17. In making power development proposals for the Plan 1978-83 the following points have to be kept in view.

(i) Firstly, the limited potentialities of the State both hydro and fossil. As far as hydro resources are concerned, there is not only absolute shortage but even what is available and has been harnessed for use is susceptible to serious fluctuations due to seasonal factors. Though the extent of known hydro resources is about 4,000 M.W., the more economical and viable schemes have already been exploited. Concerning fossil resources, the only available resource is lignite which is concentrated in one particular area of the State. These resources also have been utilised to some extent, but there is the possibility and the need for exploiting these in full. The first mine cut was opened at Neyveli in 1960 and a 600 M.W. thermal station was established. At the beginning, the annual production of lignite was 3.5 million tonnes used for power generation. Production has since been stepped up to 4 to 4.5 million tonnes and expected to reach 5.5 million tonnes in 1980-81 and 6.5 million tonnes in 1981-82. This will enable the power generation to be stepped up to the optimum level of 600 M.W. from the present level of 400-450 M.W.

Further investigations have established the existence of a larger reserve of 2,000 million tonnes in an area of about 256 Sq. Kms. south of Cuddalore-Virudhachalam railway line. The feasibility report prepared by Messrs. Neyveli Lignite Corporation envisaged the establishment of a super thermal station of 1,000/1,200 M.W. capacity associated with the second mine cut. The report has since been modified recently and the scheme with 3×210 M.W. units at an estimated cost of Rs. 245 crores with the mine to cost Rs. 215 crores has been cleared in December 1977, by the Union Planning Commission.

These units are tentatively targetted for completion by October 1981, July 1982, and April 1983 respectively.

With the completion of the second Thermal station at Neyveli, there will be a little further scope for any thermal scheme utilising local resources. The state has, therefore, necessarily to look for alternative sources of power to meet its future needs. In view of such a contingency it is necessary to shift to nuclear power which would involve a second atomic station in one of the southern districts and expansion of the Kalpakkam Atomic Power Station. It is expected that the first two units of Kalpakkam will come into stream by 1979-80 and by 1980-81 respectively. As regards the second atomic power project, the site selection Committee of D.A.E. has already chosen a promising site at Kudankulam in Tirunelveli district. A decision by the Centre is awaited.

(ii) The second point to be noted is that the possibility of getting assistance from the neighbouring States which are supposed to have surplus power is also very much limited. Tamil Nadu has for long been relying heavily on the neighbouring States for substantial reliefs in past years. Such a reliance proved to be disastrous in the face of uniform monsoon failure, as when the traditionally surplus States of Karnataka and Kerala went deficit in 1972-73 and Tamil Nadu was left to fend for itself. The 10th Annual Power Survey Committee has forecasted that the southern region will be in power deficit by the end of the Sixth Plan, 1982-83. The deficit is estimated at 366/711 M.W./m.u.—most of which is constituted by the deficit in Tamil Nadu 514/2555 M.W./m.u. apart from the other states in the region except Andhra Pradesh.

(iii) Thirdly, since it becomes necessary to make use of all categories of resources i.e. hydro, thermal and nuclear, it is important to consider a proper way of combining all these. This combination depends on the relative costs of exploiting the different sources, the cost of maintenance, the cost of transmission, fuel cost, life of the plant under consideration, etc., The per KW. cost of a hydro and thermal station is in the range of Rs.3,000-3,500 and Rs. 3,500-4,000 respectively. While the capital cost depends on the extent of civil works involved in respect of hydro stations,

the over all economic alternative of having a thermal station depends on its location i.e. whether it is on the pit head of coal mines and near to or away from the load centres or points of coal haulage by rail or ship. A system like ours, which has peak demand predominant during the morning hours due to agricultural loads and again in the evening, though to a lesser degree, with industrial and lighting loads, has necessarily to have a mix of thermal and hydro power for meeting base load and peak load requirements. The nuclear power when it becomes available would take care of the base load with higher load factor. The pumped storage scheme would come in handy for meeting morning peaks.

17.18. 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.

17.19. *Continuing Schemes*—(i) *Kundah H.E.S. IV Stage in Coimbatore district*: Out of 110 M.W. one unit of 60 MW in Kundah Power House III was commissioned in February 1978 and the other 50 M.W. unit at Kundah Power House IV is expected to be commissioned before the end of 1978.

(ii) *Suruliar H.E.S. in Madurai district (35 MW/114 m.u.)*.—Utilising the run-off from the catchment area of 38 sq. Kms. of Suruliar, Eravangalar etc., a single power house with an installed capacity of 35 MW is envisaged. This scheme which was started in 1972 is expected to be completed in 1978–79. The revised cost of the scheme is Rs. 25.05 crores. A sum of Rs. 5.94 crores is provided during Sixth Plan, 1978–83.

(iii) *Tuticorin Thermal Scheme*.—This scheme envisages the installation of two units of 210 M.W. each initially and 630 M.W. ultimately with an energy potential of 1,260 m.u. per unit. Though the scheme was started in 1973–74, due

to limited budget provisions there was not much progress in the earlier years. The first unit of 210 M.W. is expected to be ready during December 1978 and the second unit in June 1979. The revised cost of the scheme is Rs. 152.30 crores and the expenditure up to March 1978 is Rs. 93.88 crores. A sum of Rs. 61.93 crores is provided during the Sixth Plan, 1978–83.

The work on the third unit (210 M.W.) sanctioned by Union Government at a cost of Rs. 71.21 crores is in progress and is expected to be commissioned in 1980–81. A provision of Rs. 67.14 crores has been made for 1978–83.

17.20. *Sanctioned Schemes*—(i) *Servalar H.E.S. in Tirunelveli district*.—A single unit of 20 M.W. with energy benefits of 75 m.u. is proposed utilising the entire water of Servalar and Thambaraparani over a gross head of 56.57 M. Though the Fifth Plan approved outlay 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 1982–83. The revised cost of the scheme is Rs. 21.57 crores. A sum of Rs. 18.00 crores is provided in the Sixth Plan, 1978–83.

(ii) *Kadamparai Pumped Storage H.E.S. in Coimbatore district*.—To meet the peak demand, installation of a 4x100 M.W. reversible turbine generator and construction of one reservoir are envisaged under the Scheme. The annual energy benefits would be 79 m.u. by conventional and 720 m.u. by pumped storage. Only 2 units of 100 M.W. each, are proposed to be erected in the first stage with provision in civil works for 4 units. The expenditure incurred up to March 1978 is Rs. 3.87 crores as against the estimated cost of Rs. 54.00 crores for I stage and Rs. 19.40 crores for II stage. A sum of Rs. 44.11 crores for I stage and Rs. 5.82 crores for II stage is provided during the Sixth Plan, 1978–83.

(iii) *Nellithorai H.E.S. in Coimbatore district*.—It is proposed to utilise a fall of 45 m between the tail race of Kundah Power House IV and FRL of Lower Bhavani Irrigation reservoir by constructing a dam power house with one unit of 50 M.W. The energy benefits will be 109 m.u. The revised cost of the scheme is Rs. 18.15 crores. Though the Fifth Plan approved outlay is Rs. 6.66 crores, due to limited budget provisions, the expenditure

incurred up to January 1978 is only Rs. 45 lakhs. This scheme is expected to spill over beyond 1982-83. A sum of Rs. 15.05 crores is provided in the Sixth Plan, 1978-83.

(iv) *Pandiyar-Punnapuzha in Nilgiris district.*—This scheme envisages the installation of 2 units of 50 M.W each with energy potential of 391 m.u. Though this scheme was sanctioned in 1968 no regular works were undertaken for want of concurrence from Kerala Government for the modified scheme.

State Government are holding negotiation with Kerala Government to expedite the work on this scheme. The revised cost of the scheme is Rs. 73.90 crores but the expenditure incurred upto March 1978 is only Rs. 1.29 crores. The scheme is expected to be ready by 1982-83 and a sum of Rs. 71.20 crores is provided in the Sixth Plan, 1978-83.

17.21. *New Schemes.*—As the major hydro-power schemes in the State have already been exhausted, the remaining projects are only of small capacity and they at best could be used for peaking purposes. Hence, it becomes necessary to plan for increasing the thermal base to meet the growing demand in the grid. Besides the continuing schemes, it is proposed to take up a few new thermal/hydro schemes. Details of these schemes are as follows .

(i) *Mettur Thermal Power Project in Salem district.*—The project envisages the installation of 2 units of 210 M.W each and an agreement with M/s Singereni 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 M.W Mettur tunnel power house during the irrigation closure. The estimated cost on the scheme is Rs. 147.28 crores. A sum of Rs. 127.98 crores is provided in the Sixth Plan, 1978-83.

(ii) *Upper Nirar H.E.P. in Coimbatore district.* This project is to be located upstream of the P.W.D. diversion weir existing at Bed level +1,135 m, across Nirar river and envisages construction of a 67 m high main dam. One unit of 30 M.W capacity is proposed at a cost of Rs. 13.66 crores. The energy benefit will be 153 m.u. A sum of Rs. 11.90 crores is provided in the Sixth Plan, 1978-83.

(iii) *Nirar-Nallar H.E.P. in Coimbatore district.*—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 M.W and energy potential of 373 m.u. A sum of Rs. 12.60 crores is provided in the Sixth Plan.

(iv) *Kundah V. Stage Extension (Parson's Valley Unit-P. H. No. 6) in Nilgiris district.*—The head of 224 m available between Parson's Valley and Emerald reservoirs, is to be utilised, and installation of one 20 M.W at Parson's Valley Power House with energy potential of 54 m.u. is proposed. The cost of this scheme is Rs. 6.40 crores. Project report is sent to Central Electricity Authority for approval. A sum of Rs. 3.52 crores is provided in the Sixth Plan, 1978-83.

(v) *Pykara Ultimate Stage H.E.P. in Nilgiris district.*—For the effective utilisation of surpluses due to the execution of Lone Valley diversion, 2 units of 50 M.W each are to be added, at the Pykara Power House. Replacing of old units in the existing Pykara Power House is also contemplated. The energy benefit will be 270 m.u. and the scheme is expected to cost Rs. 14.58 crores. The provision for this in the Sixth Plan is Rs. 8.03 crores.

(vi) *Lower Mettur H.E.P. in Salem district.*—The drop available beyond the existing power houses and up to Bhavani town is proposed to be utilised by constructing 4 Power Houses each with 30 M.W. of capacity. 537 m.u. of energy is expected to be generated. The cost of the scheme is Rs. 80.39 crores and is under the consideration of Central Electricity Authority. A sum of Rs. 24.12 crores is provided in the Sixth Plan, 1978-83.

(vii) *Upper Amaravathy H.E.P. in Madurai district.*—The project is to utilise the flows from Koniar, Palavachiar and Kumbar tributaries of Amaravathy river in the higher elevations of power generation in the power house with an installed capacity of 20 M.W. and energy potential of 104 m.u. The total cost of the scheme is Rs. 13.30 crores and a sum of Rs. 7.32 crores is provided during 1978-83.

(viii) *Upper Thamaraparani H.E.P. in Tirunelveli district.*—The scheme at a cost of Rs. 70.11 crores contemplates harnessing the power potential of Thambaraparani, Karuniar, Servalari and Kallar basins in 5 power houses with an installed capacity of 165 MW and energy potential of 557 m.u. A sum of Rs. 21.03 crores is provided for the period 1978-83.

(ix) *Paralayar H. E. P. in Kanyakumari district.*—This Scheme is to utilise the flows of various tributaries of Paralayar river for power generation at a cost of Rs. 11.71 crores. The project is of "run of the river scheme" without any storage at any of the dams proposed. The installed capacity of the project is 35 MW and the energy potential is 100 m.u. A sum of Rs. 1.18 crores is provided for the Sixth Plan period.

(x) *Shanmuganadhi H.E.P. in Madurai district.*—This project with an estimated cost of Rs. 17.43 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 m.u. Provision for the VI plan is Rs. 1.74 crores.

(xi) *Cholathipuzha H. E. P. in Nilgiris district.*—This power house is proposed to be located on the left bank of the Chaliyar within Kerala State with the installed capacity of 30 MW and energy potential of 112 m.u. The cost of the scheme is Rs. 10.93 crores and the provision for the period 1978-83 is Rs. 1.09 crores.

(xii) *New Thermal Station near Pulicot Madras.*—Three units of 210 M.W. each with energy benefits of 3780 m.u. is envisaged under this project. A detailed study of the potentialities of this scheme is being made. This scheme is considered essential in view of the additional loads expected under Madras Metropolitan Development Authority Programmes during VII Plan and will be required even after implementation of the 630 MW thermal station at Neyveli with the opening of the second mine. The expected cost is Rs. 210.00 crores and a sum of Rs. 31.50 crores is provided in the Sixth Plan.

(xiii) *Hognekkal Hydro Electric Project in Dharmapuri district.*—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.

A sum of Rs. 100 crores is provided for this scheme during 1978-83.

(xiv) *Ennore Expansion in the Chengalpattu district.*—It is proposed to have one additional unit with capacity of 210 M.W. in the existing Ennore Thermal Station (450 M.W.) and energy potential of 1,260 m.u. The cost of the project is Rs. 70.00 crores and a sum of Rs. 66.50 crores is provided for the VI Plan.

Rural Electrification:

17.22. Since 1966-67 special interest has been taken by the Government of Tamil Nadu in rural electrification. Out of a total of 63,759 villages and hamlets in the State, as many as 60,633 were electrified at the close of 1973-74. The number of pumpsets energised as on 31st March 1974 was 6.81 lakhs out of an estimated number of 12 lakhs wells in the State. In the course of the four years of the Fifth Plan, 2,267 villages and hamlets were electrified raising the total number to 62,900 on 31st March 1978 constituting 98.6 per cent of the total number of hamlets and villages in the State. At the same time, the number of agricultural pumpsets increased to 8.09 lakhs or 67 per cent of the total wells in the State. At present about 1/3 of the irrigated area is under lift irrigation through pumpsets.

17.23. As part of the programmes for promoting the welfare of the poorer section much attention is also given to the electrification of Harijan colonies with subsidy from Government. Out of the total of 25,526 Harijan colonies in the State, 24,797 were electrified by the end of the fourth year of the Fifth Plan. Further, out of 1,100 tribal colonies in the State nearly 450 colonies have been electrified.

17.24. During the plan of 1978-'83, it is proposed to energise 1.65 lakh pump sets and also to electrify 110 villages.

17.25. With the near completion of the programmes under total rural electrification, it is now proposed to take up intensive area development programmes. At present sixty area development projects are being executed with financial assistance from the Rural Electrification Corporation. Further extension to other area is programmed for 1978-'83. The estimated cost of rural electrification programmes in the Sixth Plan is Rs. 125 crores.

Acquisition of electrical undertakings :

17.26. At the close of the Fourth Five-Year Plan, there were seven Private electrical undertakings operating in the State. For the purpose

of ensuring a rational supply of electricity throughout the State, the Government under the Tamil Nadu Private Electricity Supply Undertakings (Acquisition) Act of 1973, acquired these seven undertakings in the course of December 1973 and January 1974. So far no compensation has been paid to any of these units; it will be paid after the audit of accounts submitted by some of these undertakings is over. For this purpose, a sum of Rs. 2.60 crores is provided in the Sixth Plan.

TRANSMISSION AND DISTRIBUTION.

17.27. Tamil Nadu has a well-knit transmission system interconnecting various power systems and sub-stations in the grid. This State being a constituent of the southern regional grid, it is necessary to strengthen the transmission systems for effective regional grid operation.

17.28. The length of lines as on 31st March 1977 in the Tamil Nadu grid was follows:—

230 KV lines	SC	1721 Kms.
110 KV lines	SC	2946 Kms.
110 KV lines	DC	1429 Kms
66 KV lines	SC	2378 Kms.
66 KV lines	DC	422 Kms.

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

17.29 With the programme of commissioning large power stations like Kalpakkam, the one based on the second mine cut at Neyveli and the prospect of getting bulk supply from the neighbouring States, there is need for strengthening the transmission system by constructing 400 KV lines and by establishing load despatch facilities. Further expansion of the existing 230 KV and 110 KV network and the setting up of a 400 KV transmission system will aid in the reduction of losses in transmission and distribution.

17.30. The Transmission and distribution programme contemplates erection of 4964 Kms of EHT lines comprising of 370 Kms. of 66 KV, 2185 Kms of 110 KV, 1668 Kms of 230 KV, 741 Kms. of 400 KV lines, besides 138 new EHT sub-stations. This would reduce the lines losses in the entire system from the present 18.5 per cent to 15 per cent.

17.31. The 400 KV transmission contemplated, besides carrying power from the new projects, will form a firm tie to take care of the stability of the grid. The following 400 KV network are proposed in the Plan.

Cuddapah (A.P.)—Tiruvalam	20 Kms.
Tiruvalam-Kalpakkam	140 Kms.
Kalpakkam—Neyveli II mine cut	140 Kms.
Neyveli-Salem	153 Kms.

Salem-Udumalpet
Salem-Bangalore

158 Kms.
130 Kms.

17.32. While the 400 KV lines form the main tie connecting large sources of power, 230 KV lines will continue to be the grid lines interconnecting major power stations and load centres. The Kadamparai pumped storage scheme with 400 MW power potential will be linked up by D.C. 230 KV line with Neyveli for carrying power to the extent of 480 MW to Kadamparai when the generating sets function as motors.

As more and more of 230 KV lines are brought into operation, most of the 110 lines will function as radial feeders.

17.33. Apart from erecting new 110 KV lines, there is the need to connect the 110 KV sub-stations with alternative sources of supply and progressively convert the 66 KV system to 110 KV.

Reactive compensation:

17.34. In a large net work like Tamil Nadu with predominantly rural load, the need for voltage control and minimisation of losses assumes great importance. Realising this, installation of synchronous condensers and shunt capacitors has been taken up. Synchronous condensers at Korattur (35 MVAR) and shunt capacitors to the extent of 281 MVAR have been installed. This is not adequate and the load flow studies made for 1983-84 conditions have indicated that synchronous condensers of 250 MVAR are yet to be added at ten of the EHT sub-stations of Tamil Nadu and action on this has been initiated.

17.35. In addition to the above, the load flow studies indicate that a total of 424 MVAR of shunt capacitors would be required to maintain satisfactory voltage level at the various stations of the grid. There are already 280 MVAR shunt capacitors in service and the balance quantities have to be procured and installed during the VI Plan period.

Enhancement of Reactive capacity :

17.36. With the growth of the system, the fault MVAR of various sub-station buses will increase and there is need for replacing the existing circuit breakers with higher capacity one during the plan period.

Also, it is proposed to improve sub-transmission and L.T. system in the urban cities and rural areas for ensuring reliable power supply.

The additions and improvements outlined above require an allotment of Rs. 225 crores in the years 1978-83.

REGIONAL GRID.

The need for inter-State agreement and Co-operation:

17-37. With the growth of the power industry the concept of regional grids has also assumed great importance. The southern regional grid was the first to be formed in the country in August 1972. It is a forerunner of the national grid. It comprises of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu with the regional load despatching centre at Bangalore.

17-38. In addition, the southern region is connected to the western region through the Belgaum (Southern region), Kollapur (Western region), by a 220 KV. line. Southern region is also connected to Orissa through the 220 KV. Upper-sileru (A.P.), Balimola (Orissa) tie-line. Such integrated operation results in greater system reliability; reduces the requirements of spinning reserve by taking advantage of the diversity in the peaks in the constituent systems; and this ensures very economical operation of the power system as a whole.

17-39. The integrated operation of the power system in southern region has been found quite useful especially during emergencies since assistance to the system in distress can be easily obtained from the neighbouring systems immediately. Such integrated operation has also been found useful in minimising wasteful surplusing in the hydel reservoirs in the constituent system during peak monsoon seasons.

17-40. The ultimate aim of the formation of inter-regional ties will be the establishment of the All India Grid.

17-41. It should, however, be noted that though the regional grid operation has been functioning since 1972 and is quite useful under conditions of moderate shortfall, it is not helpful when a major shortage situation arises. Hence, it is necessary that each State should plan to have generation capacity sufficient enough to meet all its requirements and secure a 10 per cent surplus.

The long-term view:

17-42. The integrated grid system is designed to bring about a better distribution of the combined resources of the States concerned. But production is as much important as distribution. From the long-term point of view, the solution of power shortage has to be found in optimal

utilisation of the resources of all the States. For this purpose, agreements have to be entered into by adjoining States with a view to exploit and utilise their hydro resources for power development and irrigation purposes by joint effort. An agreement of Tamil Nadu with the Kerala Government, also with Karnataka and Maharashtra would be of immense benefit to all these States. Much of the water resulting from heavy rains on the western ghats flows into the Arabian sea crossing relatively a narrow strip of land. Hydro power potentialities of these flows are considerable. But only a small part has been harnessed for this purpose by the Kerala State. Yet Kerala has power surplus even in years when the monsoon is below normal. An inter-State agreement in this regard would help in making the best use of these natural resources both for irrigation and power generation. On this point, an agreement was arrived at with Kerala State at a meeting held at the Planning Commission at Delhi in September 1973, with regard to the sharing of the costs and benefits of the Iddikkj State II project. Any long-term programme should be based on a demarcation of the areas constituting the western ghat region, a study of the excess waters available and their location best technically feasible means of diverting the waters; a study of the lay and nature of the lands on the eastern side of the ghats which would benefit by the diversion, and the feasibility and cost of developing power first, and then diverting the surplus waters. The acceptable scheme would be one which reconciles all the above points clearly. This requires some careful preliminary studies which may be entrusted to a Cell of competent state technical experts working in co-operation with the Union Government's specialists.

17-43. There is scope for a similar agreement among Tamil Nadu, Karnataka and Maharashtra. The ground for such inter-State agreements may be prepared in the Sixth Plan period.

RESEARCH AND DEVELOPMENT.

17-44. The Tamil Nadu Grid has a well-knit transmission system inter-connecting various power stations both hydro and thermal and sub-stations with 1,721 Kms. of 230 KV lines, 4,375 Kms. of 110 KV lines, 2,800 Kms. of 66 KV lines in addition to other sub-transmission lines. The operation of this net work poses many problems in addition to the problems of generation.

17.45. The Research and Development Directorate of the Board is carrying out research studies on power under the grant-in-aid of the Central Board of Irrigation and Power.

17.46. Items of research work initiated in the earlier years and which are to be continued in the sixth Plan are grouped under two heads: (a) Thermal and hydro (b) Transmission and distribution and listed below—

(a) *Thermal and hydro—*

(i) Improving the performance of electro static precipitators.

(ii) Instrumentation and control system.

(iii) Failure of 6.6 KV. motors.

(iv) Failure of condenser tubes in thermal stations. In respect of hydro stations,

(v) Corrosion and tuberculation of penstock pipes.

(vi) Insulation studies of power equipment.

(vii) Relay and protection problems (both hydro and thermal).

(b) *Transmission and distribution—*

(i) Insulator contamination.

(ii) Vibration of overhead conductors.

(iii) Temperature rise of O.H. conductors.

(iv) Reliability studies on power systems.

(v) Line loss studies in transmission and distribution system.

(vi) Lightning studies.

17.47. In the context of rapid rural electrification in the State and the rural development programme it is proposed to study the problems in the distribution LT network, which is of the order of 2.14 lakh Kms. such as—

(a) Premature failure of H.T. capacitors.

(b) Problems associated with use of aluminium UG. cables in L.T. distribution and control circuits.

(c) Frequent failure of distribution transformers, lightning arresters especially in rural areas.

17.48 Further, the following new problems are proposed to be studied in consultation with the Central Board of Irrigation and Power:—

(i) *Thermal—*

(a) Study of boiler tube failures.

(b) Study on wear and tear of coal conduits.

(c) Identification of factors leading to partial and forced outages of units.

(d) Problems on availability of adequate cooling facilities and to arrive at suitable norms for lake cooling systems.

(e) Quality of water required.

(f) Development of instruments for continuous performance monitoring.

(g) Contamination of water with harmful foreign materials discharged from industries situated nearby.

(ii) *Hydro—*

(h) To assess the remaining useful life of the control and protective switch gears, potential and current transformers, D.C. batteries, etc.,

(i) Decreasing the noise level in power houses.

(iii) *Transmission and distribution—*

(a) Evaluation of longevity of fluorescent lamps.

(b) Development of tools for hot line maintenance works.

(c) Behaviour of protection schemes of transmission lines under abnormal conditions.

Man-power and Training:

17.49 With the rapid expansion of the facilities for power supply, the operation of Tamil Nadu Power Grid has become more and more complicated. At present, it is fed by 16 hydro generating stations and 3 thermal stations; besides, there is inter-change of power from the neighbouring States. Further addition to installed capacity in the course of the Sixth Plan, the harnessing of nuclear power and the introduction of 400 KV transmission system will call for a greater degree of operational efficiency requiring a band of trained personnel to operate the grid. The grid will have to handle large blocks of power, administer a wide range of network and operate generating units of bigger size.

17.50 To impart training in operation and maintenance of hydro electric stations, a training institute is programmed to be set up before the end of 1978 which would train 80 engineers and 80 workers per year.

17.51 Similarly in respect of thermal generating stations, a training institute has been started for 80 engineers and 80 workers annually on the construction and operation of thermal

stations. One more institute is contemplated under the Tuticorin thermal complex for purposes of similar training.

17.52 As regards training in the execution of rural electrification works as well as in the operation and maintenance of the vast LT net works, there are at present 2 training schools sponsored by the Rural Electrification Corporation in addition to 4 technical training centres managed by the Board. These institutes train 560 workers per annum. Two additional training centres are proposed to be set up in the Sixth Plan period.

17.53 In order to promote operating efficiency of the Board, an officer training institute has to be set up at Madras. This institute with the other training institutes mentioned earlier will conduct refresher courses and management training courses for the benefit of engineers at junior and mid level.

17.54 Apart from the institutes available in the State, facilities are provided for the State engineers to get training in institutes outside the State such as in Kota and Badarpur which provide training in the operation and maintenance of thermal generating stations. Also, officers have been deputed for training in many international centres abroad. It is proposed to enlarge the training programmes further in the coming years.

17.55 On the management side, management training has been given though in a limited way at ASCI at Hyderabad and IPA, New Delhi.

17.56 For the benefit of the clerical, cash collection and stores staff, two training institutes will have to be started one at Madras and the other at Trichirappalli to impart instructions in procedures, rules and regulations as part of the programme of improving the efficiency of the Electricity Board.

TABLE 17.1.

(P & B. D)

FIVE-YEAR PLAN 1978-83 : POWER PROGRAMMES—OUTLAYS AND EXPENDITURE.

Serial number and scheme.	Location (district.)	Benefits; MW/MU.	Estimated cost.		Expendi- ture up to March 1978.	Balance on 1st April 1978.
			As per investment approved by P.C.	Revised cost (latest).		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. Continuing—						
(RUPEES IN CRORES).						
1 Kundah IV St.	Coimbatore	50/34	1.98	11.64	11.55	0.09
2 Suruliar	Madurai	35/114	6.59	25.05	17.35	7.70
3 Lone Valley	Nilgris	.. /27	0.44	1.49	0.65	0.84
4 Tuticorin 1st	Tirunelveli	420/2520	75.05	152.30	93.88	58.42
	Sub-Total (A)	505/2695	84.06	190.48	123.43	67.05
B. Sanctioned—						
1 Servalar	Tirunelveli	20/75	8.35	21.57	2.68	18.89
2 Tuticorin II St.	Tirunelveli	210/1260	71.21	71.21	4.07	67.14
3 Kadamparai PS Ist	Coimbatore	200/79	54.00	54.00	3.87	50.13
4 Kadamparai PS IIst.	Coimbatore	200/	35.12	19.40	..	19.40
5 Nellithorai	Coimbatore	50/109	7.58	18.15	0.46	17.69
6 Pandiar Punnapuzha	Nilgiris	100/391	15.25	73.90	1.15	72.75
	Sub-Total (B)	780/1914	137.51	258.23	12.23	246.00
C. New—						
1 Mettur Thermal	Salem	120/2310	..	147.28	..	147.28
2 Upper Nirar	Coimbatore	30/153	..	13.66	..	13.66
3 Nirar, Nallar	Coimbatore	155/373	..	18.33	..	18.33
4 Parsons Valley	Nilgiris	20/54	..	6.40	..	6.40
5 Pykara Ultimatest	Nilgiris	100/270	..	14.58	..	14.58
6 Lower Mettur	Salem	120/537	..	80.39	..	80.39
7 Upper Amaravathy	Madurai	20/104	..	13.30	..	13.30
8 Upper Thambaraparani	Tirunelveli	165/557	..	70.11	..	70.11
9 Paralayar	Kanyakumari	35/100	..	11.71	..	11.71
10 Shanmuganadhi	Madurai	30/125	..	17.43	..	17.43
11 Cholathipuzha	Nilgiris	30/112**	..	10.93**	..	10.93
12 North Madras	Chingleput	630/3700	..	210.00	..	210.00
13 Upper Cauvery (Hogenakkal).	Dharmapuri	250/864**	..	100.00**	..	100.00
14 Gas turbines	3 locations	213/1278	..	60.00	..	60.00
15 Ennore Extension	Chingleput	210/1260	..	70.00	..	70.00
	Sub-Total (C)	2428/11877	..	844.12	..	844.12
	Total Generation (A+B+C)	3713/16486	221.57	1292.83	135.66	1157.17

Estimated Outlay for					Completion..				
1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Total for Five years (8-12)	Spill over beyond 1982-83	As per 1978-79 plan dis- cussions.	As now antici- pated.	
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
-)0-19 1-50	0-88	0-68	0-50	0-48	(-) 0-19 5-94	1-76	A) 77-78 B) 78-79	78-79 78-79	
+1-90@									
0-44	0-40	..	..	..	0-84	..	79-80	79-80
45-77	16-16	..	..	..	61-93@@	..	79-80	79-80
47-52	17-44	0-68	0-50	0-48	68-52	1-76	..	..
+1-90@									
2-20 +1-07@@@	3-86	4-57	2-88	3-42	18-00	0-89	83-84	81-83	
10-27	46-18	10-60	..	..	67-14	..	80-81	80-81
3-10*	12-00	12-00	11-00	6-01	44-11	6-02	82-84	83-84	
..	..	..	1-94	3-88	5-82	13-58	84-86	86-87
..	1-77	3-54	4-43	5-31	15-05	2-64	84-85	84-85	
2-00+	18-00	19-20	21-60	10-40	71-20	1-55	83-84	82-83	
17-57	81-01	50-00	41-85	29-02	221-32	24-68	..	..
+1-07									
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
4-98	10-00	20-00	58-00	35-00	127-98	19-30	81-84	82-83	
..	1-40	2-80	3-50	4-20	11-90	1-7	..	83-84	
..	1-80	3-60	3-60	3-60	12-60	5-73	..	86-87	
..	..	0-64	1-28	1-60	3-52	2-88	..	84-85	
..	..	1-46	2-92	3-65	8-03	6-55	..	84-85	
..	..	..	2-04	16-08	24-12	56-27	..	87-88
..	..	1-33	2-66	3-33	7-32	5-98	..	86-87	
..	..	..	7-01	14-02	21-03	49-08	..	88-89
..	..	..	..	1-18	1-18	10-53	..	87-88
..	..	..	..	1-74	1-74	15-69	..	87-88
..	..	..	..	1-09	1-09	9-84	..	87-88
..	..	..	..	31-50	31-50	178-50	..	87-88
..	10-00	30-00	30-00	30-00	100-00	..	..	85-86
..	..	..	..	..	..	60-00	..	..
..	7-00	14-00	17-50	28-00	66-50	3-50	..	83-84	
(C) 4-98	30-20	73-83	134-51	174-99	418-51	425-61	..	..
(A+B+C) 73-04	129-45	124-51	176-86	204-49	738-35	4-2-05	..	..

TABLE 17-I—cont.
FIVE-YEAR PLAN 1978-83—POWER PROGRAMMES—OUTLAYS AND EXPENDITURE—cont.

(RUPEES IN CRORES.)

Serial number and scheme.	Location (District)	Benefits MW/MU.	Estimated cost.		Expenditure up to 3/78	Balance on 1-4-1978	Estimated Outlay for					Total for Five years (8)-(12)	Spill over beyond 1982-83.	Completion.	
			As per investment approved by P.C.	Revised cost (latest)			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.			As per 1978-89 plan discussions.	As now anticipated.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
D. Transmission and Distribution	32.50	35.00	50.00	52.50	55.00	225.00			
E. Rural Electrification.	11.50	23.50	30.00	30.00	30.00	125.00			
F. Miscellaneous.															
1 Investigation.							0.19	0.50	0.50	0.50	0.50	2.19			
2 Research, Development and Training.							0.05	1.00	1.25	1.25	1.66	5.21			
3 Acquisition.							2.60	..	..	..	..	2.60			
4 Improvements to ETS and BBPH.							1.75	..	..	..	..	1.75			
5 Old Schemes.							0.44	..	..	..	..	0.44			
6 Advance action.							..	6.00	6.00	6.00	7.00	25.00			
Sub Total (F) ..			3713/16486				5.03	7.50	7.75	7.75	9.16	37.19			
Grand Total (A to F) ..			221.37	1292.83	135.66	1,157.17	122.07	195.45	212.26	267.11	298.65	1095.54			

* Outlay approved by Planning Commission.

* Rs. 5 Crores + Rs. 10 lakhs.

** Tamil Nadu Share being on inter-state project. *** Rs. 4.98 crores for the Mettur Thermal is not included in the B.E. already approved.

@ Additional requirements for 1978-79 is Rs. 1.90 crores.

@@ Difference between Col. (8) and col. (14) is due to prices not yet settled and actuals slightly exceeded. These will be reconciled when all contract values are known.

@@@ Additional requirements for 1978-79 is Rs. 1.07 crores.

A : Saving Rs. 0.28.

B : Deferred payment under electrical works.

TABLE 17-II.

(P. & B. : II)

TAMIL NADU POWER GENERATION PROJECTS—PHASING OF BENEFITS (M.W.).

Serial number and name of schemes.	Approved capacity.	Capacity added up to the end of 1977-78.	Capacity Additions.							Spillover beyond 1982-83.	Remarks.
			1978-79.		1979-80. Target.	1980-81. Target.	1981-82. Target.	1982-83. Target.	Total. 1978-83.		
			Target.	Anticipated.							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(A) Approved/on going schemes—											
1. Kundha IV Stage Extension ..	110	60	50	50	..	..	..	..	110	..	..
2 Suruliar H.E.S.	35	..	35	35	..	..	..	..	35	..	..
3. Servalar H.E.S.	20	..	..	..	..	..	..	20	20	..	..
4 Tuticorin Thermal power project I Stage	420	..	210	210	210	..	..	..	420	..	..
5 Tuticorin Thermal power Project II Stage.	210	..	..	..	..	210	..	..	210	..	..
6 Kandamparai P.S. H.E.S. ..	400	..	..	..	..	..	..	100	100	300	..
7 Pandiyar Punnampuzha H.E.S. ..	100	..	..	..	..	..	..	100	100	..	..
8 Nellithorai	50	..	..	..	..	..	..	..	..	50	..
9 Melkodmund Lone Valley diversion I Stage.	(11 m.u.)	(11 m.u.)	..	..	..	..	..	..	..	..	..
10 Melkodmund and Lone Valley diversion in II Stage.	(16 m.u.)	..	..	..	(16 m.u.)	..	..	..	(16 m.u.)	..	..
11 Kalpakkam Atomic P.S.	470	235	..	235	..	470
Sub Total—(A)	<u>1,815</u>	<u>60</u>	<u>295</u>	<u>295</u>	<u>445</u>	<u>210</u>	<u>235</u>	<u>220</u>	<u>1,465</u>	<u>350</u>	<u>..</u>

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TABLE 17-II—cont

TAMIL NADU POWER GENERATION PROJECTS—PHASING OF BENEFITS (M.W.)—cont.

(P. & E.II)

Serial number and name of schemes.	Approved capacity.	Capacity Added up to the end of 1977-78.	Capacity Additions.						Spillover beyond 1982-83.	Remarks.	
			1978-79.		1979-80. Target.	1980-81 Target.	1981-82. Target.	1982-83. Target.			Total 1978-83.
			Target.	Anticipated.							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(B) New Schemes proposed—											
1 Mettur Thermal	420	..	..	..	..	..	..	210	210	210	..
2 Nirar	30	..	..	..	..	..	..	..	..	30	..
3 Nallar	155	..	..	..	..	..	..	..	..	155	..
4 Parsons Valley	20	..	..	..	..	..	..	..	..	20	..
5 Pykara Ultimate	100	..	..	..	..	..	..	..	..	100	..
6 Lower Mettur HES	120	..	..	..	..	..	..	..	..	120	..
7 Upper Amaravathi	20	..	..	..	..	..	..	..	..	20	..
8 Upper Thambaraparani	165	..	..	..	..	..	..	..	..	165	..
9 Paralayar	35	..	..	..	..	..	..	..	..	35	..
10 Shanmuganadhi	30	..	..	..	..	..	..	..	..	30	..
11 Cholathipuzha	30	..	..	..	..	..	..	..	..	30	..
12 North Madras (Thermal)	630	..	..	..	..	..	..	..	..	630	..
13 N.L.C. Second mine cut I Stage ..	630	..	..	..	..	..	210	210	420	210	..
14 N.L.C. Second mine cut II Stage ..	630	..	..	..	..	..	..	..	..	630	..
15 Gas Turbine	213	..	..	..	..	..	..	..	..	213	..
16 Hogenakkal H.E.S.	250	..	..	..	..	..	..	..	..	250	..
17 E.T.S. Expansion	210	..	..	..	..	..	..	..	..	210	..
Sub-Total—(B)	3,688	.	.	.	.	.	210	420	630	3,058	.
TOTAL—(A)+(B)	5,503	60	295	295	445	210	445	640	2,095	3,408	..

TABLE 17- III (Abstract).
PLAN, 1978-83—E.H.T, LINES AND SUB-STATIONS.

(P. & E. : III)

(RUPEES IN CRORES.)

<i>Schemes.</i>	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	<i>VI Plan outlay.</i>	<i>Spillover beyond 1982-83.</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
I. Lines—								
<i>(A) Continuing Schemes—</i>								
(a) 400 KV. .. .. .	..	..	..	..	..	..	..
(b) 230 KV.	11.23	6.69	..	..	..	17.92	..
(c) 110 KV.	3.11	3.53	..	..	..	6.64	..
(d) 66 KV.	0.44	0.69	..	..	..	1.13	..
<i>(B) New Works—</i>								
(a) 400 KV. .. .. .	..	..	2.00	9.76	14.23	25.99	16.88
(b) 230 KV.	1.87	9.04	10.93	2.25	1.26	25.35	2.36	
(c) 110 KV.	2.79	2.12	5.00	8.00	10.00	27.91	10.00	
(d) 66 KV. .. .. .	..	..	..	..	..	..	..
SUB TOTAL ..	19.44	22.07	17.93	20.01	25.49	104.94	29.24	
II. Sub-Stations—								
<i>(A) Continuing Works—</i>								
(a) 400 KV. .. .. .	..	..	..	..	..	..	..
(b) 230 KV.	1.92	1.67	..	..	..	3.59	..
(c) 110 KV.	4.73	3.78	..	..	..	8.51	..
(d) 66 KV.	0.29	0.25	..	..	..	0.54	..
<i>(B) New Works—</i>								
(a) 400 KV. .. .. .	..	3.10	13.64	14.32	9.42	40.48	4.47
(b) 230 KV.	2.20	5.61	4.27	7.62	3.44	23.14	3.97	
(c) 110 KV.	0.61	3.59	5.00	8.00	8.00	25.20	10.00	
(d) 66 KV.	0.29	0.25	1.00	1.00	1.00	3.54	..	
SUB-TOTAL ..	10.04	18.25	23.91	30.94	21.86	105.00	18.44	
 GRAND TOTAL ..							209.94	
							(or)	
							210 crores.	

TABLE 17-III-A.

Name of the scheme.	Cost Approved by Planning Commission.	Revised cost.	Expenditure up to 1977-78.	Financial (Crores) Estimate on				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Lines—								
(A) Continuing Schemes—								
(a) 400 KV .. .. .	..	..	..	..	..	..	..	..
(b) 230 KV .. .. .	..	..	..	..	..	..	..	..
(1) Chingleput-Thiruvalam S.C.	2.92	2.36	2.26	0.10	..	..	..	..
(2) Chingleput--Korattur S.C.	1.53	1.53	1.03	0.33	0.17	..	..	..
(3) TTPH. Tuticorin Auto D.C.	0.19	0.19	0.08	0.11	..	..	..	..
(4) Tuticorin-Madurai S.C.	3.11	3.11	0.29	2.82	..	..	..	..
(5) Kundah-Ingur-Mettur S.C.	3.11	3.11	0.32	2.00	0.79	..	..	..
(6) Kalpakkam-Villupuram Neyveli S.C.	3.89	3.89	1.12	2.38	0.39	..	..	..
(7) Tuticorin-Karaikudi S.C. Neyveli	8.86	8.86	0.03	3.49	5.34	..	..	..
Total ..			5.13	11.23	6.69	..	..	..
110 KV. Lines as a whole				3.11	3.53	..	..	..
66 KV. Lines as a whole				0.44	0.69	..	..	..

TABLE 17 III-A—cont.

Name of the scheme.	Spill beyond 1982-83. (10)	Length KM. (11)	Completed to end of 1977-78. (12)	Physical progress.					Beyond 1982-83. (18)	Target date of completion. (19)
				1978-79. (13)	1979-80. (14)	1980-81. (15)	1981-82. (16)	1982-83. (17)		
I. Lines—										
(A) Continuing Schemes—										
(a) 400 KV
(b) 230 KV
(1) Chingleput-Thiruvalam S.C.	105 KM	T.E. 30 per cent.	T.E. 70 per cent St. 100 per cent.	..	..	..	..	..	8/79
(2) Chingleput-Korattur S.C.	55 KM	Sur-100 per cent. S.S.-100 per cent.	T.E.-100 per cent. St.100 per cent.	..	..	..	..	..	12/78
(3) TTPH. Tuticorin Auto D.C.	5 KM	Sur-100 per cent.	S.S.-100 per cent T.E.-100 per cent. St.-100 per cent.	..	..	..	..	..	8/78
(4) Tuticorin-Madurai S.C.	150 KM	Survey-100 per cent.	S.S.-100 per cent. T.E.-100 per cent. St.-100 per cent.	..	..	..	..	..	12/78
(5) Kundah-Ingur-Mettur S.C.	172 KM	Survey-100 per cent.	S.S.-100 per cent. T.E.-30 per cent.	T.E.-70 per cent. St.-100 per cent.	..	..	..	..	79/80
(6) Kalpakkam-Villupuram-Neyveli S.C.	140	Survey-100 per cent.	S.S.-100 per cent. T.E.-100 per cent. St.-100 per cent.	..	..	..	..	..	3/79
(7) Tuticorin-Karaikudi-S.C. Neyveli	370	Survey-50 per cent.	Sur-50 per cent. S.S.-100 per cent. T.E.-20 per cent.	T.E.-80 per cent. St. -100 per cent.	..	..	..	..	6/79
110 KV lines as a whole
66 KV Lines as a whole

TABLE 17 III-A—cont.

Name of the scheme.	Cost Approved by Planning Commission.	Revised cost.	Expenditure up to 1977-78.	Final (Crores) Estimates on				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
New Works—								
<i>(B) (a) 400 KV—</i>								
(1) Neyveli-Salem	8.83	..	..	..	2.00	4.00	2.83
(2) Salem-Udumalpet	8.72	..	..	..	..	2.84	2.84
(3) Salem-Bangalore	8.76	..	..	..	..	2.92	2.92
(4) Neyveli-Kalpakkam	7.73	..	..	..	..	..	2.52
(5) MAPP—Thiruvalem S.C.	7.73	..	..	..	..	..	2.52
(6) Cuddapah-Thiruvalem	1.10	..	..	..	..	..	0.60
Sub Total	42.87	..	..	..	2.00	9.76	14.23

TABLE 17 III-A—cont.

Name of the scheme,	Cost Approved by Planning Commission.	Revised cost.	Expenditure up to 1977-78.	Financial (Crores) Estimates on					Spill beyond 1982-83.
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
New works—									
<i>(b) 230 KV—</i>									
(1) Kalpakkam-Arni	2.78	2.78	..	0.39	2.39	..	..	..	..
(2) Tiruchirappalli-Udumalpet	3.84	..	..	1.00	2.84	..	..	..
(3) Kayathar-Madurai DC	3.66	..	0.60	1.00	2.06	..	..	..
(4) Tuticorin-Kayathar I	1.25	..	0.50	0.25	0.50	..	..	..
(5) Thiruvalem-Arni SC	0.96	..	..	..	0.05	0.55	0.36	..
(6) Kalpakkam-Chingleput III Ct	0.84	..	..	..	..	0.20	0.40	0.24
(7) Thiruvalem-Panjty SC ; Ennore SC	3.12	..	..	..	..	0.50	0.50	2.12
(8) Kadamparai-Udumalpet SC	1.36	..	..	..	0.36	1.00	..	..
(9) Mettur Thermal Station-Mettur Auto S.S.D.C.	0.42	..	..	0.20	0.22	..	..	..
(10) Mettur Thermal Station-Salem S.C. Line	1.69	..	..	0.50	1.19	..	..	..
(11) Pandiar-Punnampuzha-Kundah IV Stage SC	1.57	..	..	0.57	1.00	..	..	..
(12) Pandiar-Punnampuzha-Salem S.C.	5.71	..	..	3.00	2.71	..	..	..
(13) Inter-State—Idikki-Udumalpet S.C.	0.88	0.37	0.38	0.13	..	..	..	..
Total	28.08	0.37	1.81	9.14	10.93	2.25	1.26	2.36
110 KV lines (as a whole)	0.31	2.79	2.12	5.00	8.00	10.00	10.00
66 KV lines (as a whole)

New Works—cont.

TABLE 17-III-A—cont.

(1)	(1) —cont.	Length in K.M.	Completed up to 1977-78. target.	Physical Progress.					Beyond 1982-83.	Target date of completion.
				1978-79. target.	1979-80	1980-81	1981-82	1982-83		
(11)			(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)	Kalpakkam Arni	100 KM	..	SS—100	TE—100 St—100	..	..	..	..	3-80
(2)	Trichirappalli-Udumalpet	160 KM	..	SS—25	SS—75 TE—25	TE—75 St—100	..	..	..	80-81
(3)	Kayathar-Madurai DC	124 KM	..	SS—25	SS—75 TE—25	TE—75 St—100	..	..	..	80-81
(4)	Tuticorin-Kayathar I	52 KM	..	..	SS—75 TE—25	SS—25 TE—75 St—100	..	..	..	80-81
(5)	Thiruvalem-Arni SC	40 KM	..	..	..	SS—25	SS—75 TE—25	TE—75 St—100	..	82-83
(6)	Kalpakkam-Chingleput III Ct.	35 KM	..	..	..	..	..	SS—50	SS—50 TE—25	83-84
(7)	Thiruvalem-Panjetty SC ; Ennore SC	130 KM	..	..	..	..	..	SS—50	SS—50 TE—25	83-84
(8)	Kadamparai-Udumalpet SC	34 KM	..	..	..	SS—100 TE—75	TE—25 St—100	..	..	81-82
(9)	Mettur Thermal Station -Mettur Auto S.S.D.C.	10 KM	..	..	..	SS—100 TE—75	TE—25 St—100	..	..	81-82
(10)	Mettur Thermal Station-Salem S.C. Line	40 KM	..	..	..	SS—100 TE—75	TE—25 St—100	..	..	81-82
(11)	Pandiar-Punnampuzha IV Stage S.C.	61 KM	..	..	..	SS—100 TE—75	TE—25 St—100	..	..	81-82
(12)	Pandiar-Punnampuzha Salem S.C.	222 KM	..	..	SS—75	SS—25 TE—50	TE—50 St—100	..	..	81-82
(13)	Intere-State—Idikki-Udumalpet S.C.	35 KM	..	SS—100 TE—25	TE—75 Str—100	..	..	..	..	81-82
	Total ..	1043 KM	..	..	..	..	..	..	..	79-80
	110 KV lines (as a whole)	..	..	..	..	..	..	..	..	..
	66 KV lines (as a whole)	..	..	..	..	..	..	..	..	..

TABLE 17-III-A.—cont.

Serial number and name of the Scheme—		As per investment approved by Planning Commission.	Revised latest cost.	Expenditure up to 1977-78.	Financial Estimate.					Spill over beyond 1982-83.
					1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
(a) 400 KV S.S. Nil										
230kv s.s.										
(1) Chingleput Auto SS	1.70	1.78	1.65	0.13	..	..	..	..	..
(2) Mettur	0.96	2.03	1.97	00.6	..	..	..	..	..
(3) Extension at Thiruvalem	0.49	0.48	0.48	..	..	..	..	..	..
(4) Kayathar	0.76	2.00	1.84	0.16	..	..	..	..	..
(5) Tuticorin	0.63	1.77	0.21	1.06	0.50	..	..	..	..
(6) Karaikudi	1.63	1.69	0.01	0.51	1.17	..	..	..	..
110 KV (as a whole)		..	..	4.73	3.78	..	..	..	..
66 KV S.S. (as a whole)		..	..	0.29	0.25	..	..	..	..
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		
		(Per cent.)	(Per cent.)		(Per cent.)					
(a) 400 kv .s.s.—Nil.										
230 k.v.s.s.										
(1) Chingleput Auto SS	Ist stage completed.	II stage	..	..	..	..	..	..	..
(2) Mettur .. .. .	..	25	..	..	..	..	..	..	..
(3) Extension at Thiruvalem	100	..	..	..	..	..	..	..	..
(4) Kayathar	Energised	S. Gear. 25	..	..	..	..	..	..	..
(5) Tuticorin	CW 100	SW	..	..	..	..	..	..	..
(6) Karaikudi	Land entered	Ist Ph SE 50 CW 100	..	II stage TE 100 SE 50	..	..	..	..	..
110 K V S S (as a whole)	..	..	..	..	..	..	..	..	..
66 KVSS (as a whole)	..	..	..	..	..	..	..	..	..

Serial number and name of the Scheme.—

TABLE 17—III-A—contd.

(1)	As per investment approved by planning Commission.	Received latest cost.	Expenditure up to 1977-78.	Financial Estimate.					Spill over beyond 1982-83.
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(a) 400 kv. ss.									
1 Salem (500 MVA)	10.29	10.29	..	..	1.60	6.00	1.22	1.38	..
2 Neyveli (300 MVA) .. .. .	..	8.12	..	..	1.30	4.75	1.00	1.07	..
3 Udumalpet (500 MVA) .. .. .	..	8.93	..	..	0.10	1.30	5.30	1.07	1.16
4 Thiruvalem (500 MVA) .. .. .	..	9.49	..	..	0.10	1.40	5.60	1.15	1.24
5 M.A.P.P. (300 MVA) .. .. .	..	8.12	..	..	..	0.10	1.20	4.75	2.07
Total .. .. .	..	..	..	..	3.10	13.64	14.32	9.42	4.47

TABLE 17—III-A—Contd.

(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(a) 400 kv. s.s.—								
1 Salem (500 MVA)	82.83
2 Neyveli (300 MVA)	82.83
3 Udumalpet (500 MVA)	83.84
4 Thiruvalem (500 MVA)
5 M.A.P.P. (300 MVA)
Total

TABLE 17-III-A—Cont.

<i>Serial number and name of the Scheme—</i>								<i>As per investment approved by Planning Commission.</i>	<i>Revised latest cost.</i>	<i>Expenditure up to 1977-78.</i>	<i>Financial Estimate.</i>					<i>Spillover beyond 1982-83.</i>
<i>(1)</i>								<i>(2)</i>	<i>(3)</i>	<i>(4)</i>	<i>(5)</i>	<i>(6)</i>	<i>(7)</i>	<i>(8)</i>	<i>(9)</i>	<i>(10)</i>
230 kv ss.—																
1	Arni Auto SS	..	..	..	..	..	..	1.50	1.57	..	0.07	1.50	..	..	..	..
2	Udumalpet	..	..	..	..	..	..	..	0.69	..	..	0.10	1.00	3.95	0.82	0.87
3	Ingur	..	..	..	..	..	..	1.71	1.84	0.01	0.83	1.00	..	..	..	..
4	Villupuram	..	..	..	..	..	..	1.81	1.88	0.01	0.42	1.12	0.32	..	..	..
5	Thiruvarur	..	..	..	..	..	..	1.61	1.46	..	0.24	0.88	0.34	..	..	..
6	Panjetty	..	..	..	..	..	..	..	4.44	..	..	0.10	0.64	2.60	0.56	0.54
7	Extension at Pasumalai	..	..	..	..	..	..	0.11	0.11	..	0.11	..	..	..	..	..
8	Extension at Kundah	..	..	..	..	..	..	0.12	0.11	..	0.11	..	..	..	..	..
9	Extension at Mettur	..	..	..	..	..	..	0.12	0.11	..	0.11	..	..	..	..	..
10	Extension at Neyveli	..	..	..	..	..	..	0.11	0.11	..	0.11	..	..	..	..	..
11	Extension at Korattur	..	..	..	..	..	..	0.11	0.20	..	0.20	..	..	..	..	..

Serial number and name of the Scheme

TABLE 17-III-A—cont.

(1)	Length in K.M.	Completed up to 1977-78 target.	Physical Progress.					Beyond 1982-83.	Target date of completion.
			1978-79. target.	1979-80.	1980-81.	1981-82.	1982-83.		
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
230 KV S.S.—									
1 Arni Auto SS	C.W. 100	S.E. 100 TE. 100	..	..	..	..	3/79
*2 Udumalpet	Land entered.	SE. 50	TE. 50	SW. 50	SW. 25	SW. 25	SG. 100	83/84
3 Ingur	3/79
4 Villupuram	C.W. 50 S.W. 25	C.W. 50 S.W. 50 T.E. 50	SG. 100 TE. 50	..	..	..	..
5 Thiruvarur	Land entered C.W. 50	C.W. 50 T.E. 50 S.W. 50	S.W. 50	..	..	..	..
*6 Panjetty	C.W. 50	C.W. 50 S.W. 50	S.W. 50	T.E. 25	TE. 50	83/84
7 Extension at Pasumalai	C.W. 100 S.W. 100	..	..	..	..	..	3/79
8 Extension at Kundah	C.W. 100 S.W. 100	..	..	..	..	..	3/79
9 Extension at Mettur	C.W. 100 S.W. 100	..	..	..	..	..	3/79
10 Extension at Neyveli	C.W. 100 S.W. 100	..	..	..	..	..	3/79
11 Extension at Korattur	C.W. 100 S.W. 100	..	..	..	..	..	3/79

Serial number and name of the Scheme—

TABLE 17-III A—cont.

(1)	As per investment approved by Planning Commission	Revised latest cost	Expenditure up to 1977-78	Financial Estimate.					Spillover beyond 1982-83
				1978-79	1979-80	1980-81	1981-82	1982-83	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. 230 KV Extension									
*(a) Tuticorin	0.36	0.36	..	..	0.18	0.18	..	..	..
*(b) Kayathar	1.07	1.07	..	..	0.36	0.71	..	..	..
*(c) Madurai	0.71	0.71	..	..	0.18	0.18	0.35	..	..
*(d) Trichy	0.36	0.36	..	..	0.18	0.18	..	..	..
*(e) Ennore	0.36	0.36	—	..	..	..	..	..	0.36
*(f) Tiruvalam	1.78	1.78	..	..	..	..	..	1.00	0.78
*(g) Kalpakkam	1.42	1.42	—	..	..	..	..	..	1.42
*(h) Chengalpattu	0.36	0.36	..	..	..	..	..	0.36	..
*(i) Salem	1.07	1.07	—	..	..	0.36	0.36	0.35	..
*(j) Neyveli	1.07	1.07	..	..	..	0.36	0.36	0.35	..
Total .. .. .	..	..	0.02	2.20	5.61	4.27	7.62	3.44	..
110 KV S.S. (as a whole) ..	..	..	..	0.61	3.59	5.00	8.00	18.00	3.97
66 KV S.S. (as a whole) ..	..	..	0.02	0.29	0.25	1.00	1.00	1.00	10.00

(*yet to be approved by Planning Commission.)

TABLE 17-III-A—cont.

(1)	Length in K.M. (11)	Completed up to 1977-78 target. (12)	Physical Progress.					Beyond 1982-83 (18)	Target date of completion (19)
			1978-79 target. (13)	1979-80 (14)	1980-81 (15)	1981-82 (16)	1982-83 (17)		
12. 230 KV Extension—									
*(a) Tuticorin	CW-100%	SW-100%	..	..	..	80-81
*(b) Kayathar	CW-100%	SW-100%	..	..	..	80-81
*(c) Madurai	CW-50% SW-50%	CW-50% SW-25%	SW-25%	..	..	81-82
*(d) Trichy	CW-100%	SW-100%	..	..	..	80-81
*(e) Ennore	CW-100% SW-100%	83-84
*(f) Tiruvalam..	CW-100%	SW-100%	82-83
*(g) Kalpakkam	84-85
*(h) Chengalpattu	CW-100%	CW-50% SW-50%	83-84
*(i) Salem	CW-50% SW-25%	CW-50% SW-25%	SW-50%	..	82-83
*(j) Neyveli	CW-50% SW-25%	CW-50% SW-25%	SW-50%	..	82-83
			Total	..	..	..	..	..	..
110 KVSS (as a whole)
66 KVSS (as a whole)

(*yet to be approved by planning commission.)
 CW—Civil work,
 SW—Structural work,
 SG—Switchgear erected,
 TB—Transformer erected.

TABLE 17 IV.

TRANSMISSION AND DISTRIBUTION—PROGRAMME FOR REDUCING LOSSES.

(P. C. E. IV)

Expenditure on equipment and works incurred for reducing transmission losses (Rs. in lakhs).

1977-78.		1978-79.		1979-80.		1980-81.		1981-82.		1982-83.		Remarks.
Estimate.	Percentage of losses.											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
660	18.5	700	18.45	770	18.40	847	18.35	932	18.30	1,025	18.25	-

Measures of Improvement—

1. Based on computer studies action has been initiated to procure 2 Nos. 25 MVAR synchronous condensers under IDA credit and these are expected to be erected at Salem and Thiruvallam by end of 1978-79. The estimated cost is Rs. 1.6 crores. Further studies are being made to assess MVAR requirement.
VI Plan: 10 Nos. 25 MVAR planned at 10 locations.
2. 37,687 Nos. LT shunt capacitors (1 to 2 KVAR) totalling 56.5 MVAR have been erected across the consumers installation.
3. Another 52,000 Nos. (1 to 3 KVAR) LT shunt capacitors totalling 90.5 MVAR have been ordered and 21,500 Nos. have been supplied.
4. 17 Nos. REC SS schemes costing Rs. 434 lakhs and 8 Nos. SI Schemes costing Rs. 594.6 lakhs are under execution to reduce the losses. Out of 21-sub-stations sanctioned under system improvement, 10 have already been commissioned.
5. Systematic study has been taken up by providing metering equipment in certain H.T. feeders 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.

TABLE 17-V.
RURAL ELECTRIFICATION PROGRAMME.

(P & E V/8)

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

Physical programme/achievement.	Cumulative progress up to 31st March 1978.	Number of pumpsets/tubewells energised during 1978-79 (target).
(1)	(2)	(3)
(a) Programme of pumpsets/tubewells energisation under—		
(i) Normal State Plan funds for rural electrification ..	7,59,545	34,100
(ii) R.E.C. normal programme	42,069	13,500
(iii) M.N.P. .. .. .	..	..
(iv) D.P.A.D./S.F.D.A./M.F.A.L.* .. .. .	..	..
(v) Tribal/Hill area plan* .. .. .	..	..
(vi) Service connections under normal distribution ..	..	..
(vii) Institutional finances like A.R.D.C./L.D.B. Commerical Banks/C.C.B.*	7,992	2,400
(viii) Other sources (like consumer deposits scheme, etc., Please specify source).	..	..
(ix) Total (i) to (viii) .. .. .	..	50,000
(x) Total by end of the year	8,09,606	8,59,606
(b) Village electrification under (Nos.)—		
(i) Normal State Plan	15,519	8
(ii) R.E.C. Programme .. .. .	..	..
(iii) M.N.P. .. .. .	..	..
(iv) D.A.A.P./S.F.D.A./M.F.A.L.* .. .. .	..	..
(v) Tribal / Hill area Plan* .. .. .	..	..
(vi) Normal distribution Programme .. .. .	..	..
(vii) Institutional finances like ARDC/LDB/CB/CCB* ..	..	..
(viii) Other sources like consumer deposits, etc. (Please specify source)	..	..
(ix) Total (i) to (viii) .. .. .	..	10
(x) Total by end of the year	15,522	15,532
(xi) Rural population benefited according to 1971 census by end of year.	286.37 (in lakhs)	287.67 (in lakhs)

Physical programme/achievement.	Number of pumpsets/tubewells energised during			
	1979-80 (Estimate).	1980-81 (Estimate).	1981-82 (Estimate).	1982-83 (Estimate).
(1)	(4)	(5)	(6)	(7)
(a) Programme of pumpsets/tubewells energisation under—				
(i) Normal State Plan funds for rural electrification ..	39,000	Scheme-wise, break-up cannot be furnished at present		
(ii) R.E.C. normal programme	10,000	NOTE—During the plan period 1.65 lakh pumpsets are proposed to be energised, limiting the		
(iii) M.N.P. .. .. .	..		

TABLE 17-V—cont.

Physical programme/achievement.	Number of pumpsets/tube-wells energised during			
	1979-80 (Estimate).	1980-81 (Estimate).	1981-82 (Estimate).	1982-83 (Estimate).
(1)	(4)	(5)	(6)	(7)
(iv) D.P.A.D./S.F.D.A./M.F.A.L.* .. .. .	..	outlay of Rs. 125 crores.		
(v) Tribal/Hill area plan* .. .. .	..		
(vi) Service connections under normal distribution .. .. .	..		
(vii) Institutional finances like A.R.D.C./L.D.B. Commercial Banks C.C.B.*	1,000			
(viii) Other sources (like consumer deposits, scheme, etc., ) .. .. .	..		
(ix) Total (i) to (viii)	50,000	50,000	50,000	50,000
(x) Total by end of the year	9,09,606	9,59,606	10,09,606	10,59,606
(b) Village electrification under (nos.)—				
(i) Normal State Plan .. .. .	..	There will be 203 nos. census villages remaining to be electrified after 31st March 1979. All these villages are located in Tribal areas and these places will be electrified subject to the funds made available to the Board by the State Government from the Tribal sub-plan.		
(ii) R.E.C. Programme .. .. .	..	After the Government's programme of Tribal sub-plan only the targets can be decided upon.		
(iii) M.N.P. .. .. .	..		
(iv) D.P.A.P./S.F.D.A./M.F.A.L.* .. .. .	..		
(v) Tribal/Hill Area Plan* .. .. .	..		
(vi) Normal distribution Programme .. .. .	..		
(vii) Institutional finances like A.R.D.C./L.D.B./C.B. C.C.B.* .. .. .	..	..	..	..
(viii) Other sources like consumer deposits, etc., (Please specify sources) .. .. .	..	..	..	..
(ix) Total (i) to (viii) .. .. .	..	..	..	..
(x) Total by end of the year .. .. .	..	..	..	..
(xi) Rural population benefited according to 1971 census by end of year (in lakhs).	Based on the electrification of Tribal villages under Tribal sub-plan.			

TABLE 17. V.—cont.

Physical Programme/achievement.	Cumulative progress up to 31st March 1978.	Number of pumpsets/Tubewells energised during				
		1978-79 (Target).	1979-80 (Estimate).	1980-81 (Estimate).	1981-82 (Estimate).	1982-83 (Estimate).
(1)	(2)	(3)	(4)	(5)	(6)	(7)
C. End benefits by end of the year—						
1. Small Industries—						
(a) Number of connections			1.207 lakhs	} Specific targets are not fixed.		
(b) Connected load (KW)			786			
2 Domestic commercial service (Nos.)	22.42 lakhs	} Specific targets are not fixed.				
3 Street light (Nos.)	0.39 lakhs					
4 Other rural connections (Nos.)	1.58 lakhs					
5 Harijan Bastis in (Nos.)	24,797	729	All the Harijan Bastis programmed to be electrified by 1978-79.			

NOTE.—*Please check (i) Appropriate source of energisation of pumpsets/Tube well and village electrification.

TABLE 17-VI.

RURAL ELECTRIFICATION.

(P & E : 10)

Financial Location—Expenditure on Rural Electrification.

<i>Programme.</i>	1978-79 ** (Approved).	1979-80 (Estimate).	1980-81 (Estimate).	1981-82 (Estimate).	1982-83 (Estimate).
(1)	(2)	(3)	(4)	(5)	(6)
	(RUPEES IN CRORES.)				
(a) Outlay within the normal State Plan for R.E. works (approved by Planning Commission).	9.08	A provision of Rs. 23.50 crores will be required.	An amount of about Rs. 35 crores will be required tentatively for energisation of 50,000 pumpsets.		
(b) R.E.C. normal loans (approved by Planning Commission).	2.42				
(c) D.R.A.P./S.F.D.A./M.F.L.A./M.N.P. . . . .	..			
(d) Tribal/Hill area Plans*	0.05	NOTE.—During the plan period 1.65 lakh pumpsets are proposed to be energised, limiting the outlay of Rs. 125 crores.			
(e) Funds utilised for R.E. works from within the provision under normal development, sub-transmission and distribution.	..				
(f) Institutional finances from A.R.D.C./L.D.B./C.B./C.C.B.*.	0.34@ 0.50@@				
(g) Other sources like consumers' deposit scheme, etc., (please specify source in each case) subsidy from State Government for Harijan Colonies electrification.	0.68				
Total (a) to (g) ..	13.07	23.50			

* Please Check (/) Appropriate source of funding.

@ Anticipated A.R.D.C. loan assistance.

@@ Anticipated loan assistance from Allahabad Bank.

** A provision of Rs. 24.80 crores will be required to energise 50,000 pumpsets and other works.

TABLE 17-VII.
INVESTIGATION AND SURVEYS.

(P & E. : VII)

Serial number and name of schemes under investigation.	Annual phasing of outlay.					Total 1978-83.
	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN LAKHS.)					
1 Chinnar-Chittar Diversion Project	0.50	1.00	..	..	..	1.50
2 Kundah Ultimate stage H.E. Project	3.00	8.00	6.67	5.00	5.00	27.67
3 Pykara Ultimate stage H.E. Project	0.50	1.00	..	..	..	1.50
4 Lower Mettur H.E.P.	2.00	4.00	5.00	..	..	11.00
5 Lower Moyar H.E.P. (Kukkalthorai unit) ..	1.50	4.00	0.83	..	..	6.33
6 Upper Nirar H.E. Project	3.00	6.00	6.67	5.00	3.33	24.00
7 Kundah additional diversion project	3.00	6.00	8.33	8.33	6.67	32.33
8 Komiar H.E. Project	2.00	4.00	1.67	1.67	..	9.34
9 Nirar Nallar Diversion H.E. Project	1.00	4.00	8.33	6.67	5.00	25.00
10 Valar Pumped Storage Project	0.50	2.00	3.33	5.00	5.00	15.83
11 Upper Pandiyar H.E. Project .. ..	..	..	2.50	3.33	5.00	10.83
12 Hogenakkal H.E. Project .. ..	..	..	..	5.00	13.33	18.33
13 Mettur Thermal P. S.	2.00	4.00	1.67	1.67	1.67	11.01
14 North Madras Thermal P. S.	1.00	6.00	5.00	8.33	5.00	25.33
Total ..	20.00	50.00	50.00	50.00	50.00	220.00

(NOTE.—Cost estimates for investigation have been not prepared scheme-wise.)

TABLE 17—VIII.

(P & E : VIII)

POWER.

TAMIL NADU—MAN POWER PLANNING AND REQUIREMENTS.

Serial number and category/type of skill.	Man power required during construction.			Number Required during operation and Maintenance Phase.	1979-80.		1980-81.		1981-82.		1982-83.	
	Peak require-ment.	Number in position on 31st March 1978.	1978-79 Number required.		Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.
	(2)	(3)	(4)		(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I. Mettur Thermal Scheme (3 x 110 MW)—												
1. Technical	335	Nil.	170	Nil.	245	Nil.	555	Nil.	320	Nil.	280	} 192
2. Non-technical	321	"	160	"	225	"	321	"	295	"	260	
3. Skilled and semi-skilled	2,620	"	1,300	"	1,800	"	2,600	"	2,300	"	2,100	} 550
4. Unskilled	1,440	"	700	"	1,000	"	1,440	"	1,300	"	1,140	
Total—Thermal Station ..	4,716		2,330		3,370		4,716		4,215		3,780	742
II. Upper Ninar H.E.P. (30 MW)—												
1. Technical	40	..	..	..	16	..	33	..	40	..	40	..
2. Non-technical	20	..	..	..	8	..	15	..	20	..	20	..
3. Skilled and semi-skilled	500	..	..	..	200	..	500	..	500	..	500	..
Unskilled .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	560	..	..	..	224	..	548	..	560	..	560	..

III. Nirar-Nallar HEP (35 + 120 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	28	..	53	..	66	..	66	..
2. Non-technical	..	..	..	..	..	..	..	..	..	12	..	24	..	24	..	32	..
3. Skilled and Semi-skilled	..	..	..	..	..	..	..	..	..	320	..	640	..	800	..	800	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	360	..	717	..	890	..	898	..

IV. Parsons Valley HEP (20 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	40	..	16	..	33	..	40	..
2. Non-technical	..	..	..	..	..	..	..	..	..	20	..	8	..	15	..	20	..
3. Semi-skilled and skilled	..	..	..	..	..	..	..	..	..	500	..	200	..	400	..	500	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	560	..	224	..	448	..	560	..

V. Pykara Ultimate Stage (2 x 50 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	66	..	26	..	52	..	66	..
2. Non-technical	..	..	..	..	..	..	..	..	..	25	..	10	..	20	..	25	..
3. Skilled and Semi-skilled	..	..	..	..	..	..	..	..	..	750	..	300	..	600	..	750	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	841	..	336	..	672	..	841	..

TABLE 17-VIII—cont.

POWER—cont.

TAMIL NADU—MAN POWER PLANNING AND REQUIREMENTS—cont.

Serial number and category, type of skill.	Man power required during construction.			Number Required during operation and Maintenance Phase.	1979-80.		1980-81.		1981-82.		1982-83.	
	Peak requirement.	Number in position on 31st March 1978.			Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.	Number required for construction.	Number required for O and M.
		(2)	(3)									
VI. Lower Mettur HEP (4 x 30 MW)—												
1. Technical	60	..	130	..	..
2. Non-technical	30	..	60	..	..
3. Skilled and Semi-skilled	200	..	400	..	..
4. Unskilled
Total	290	..	590	..	..
VII. Upper Amaravathi HEP (1 x 20 MW)—												
1. Technical	26	..	52	..	..
2. Non-technical	10	..	20	..	..
3. Skilled and semi-skilled	300	..	600	..	..
4. Unskilled
Total	336	..	672	..	..
VIII. Upper Thambaraparani HEP (165 MW)—												
1. Technical
2. Non-technical
3. Skilled and Semi-skilled
4. Unskilled
Total

IX. Paralayar HEP (35 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	..
2. Non-technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..
3. Skilled and Semi-skilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	200	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	224	..

X. Shanmuganadhi HEP (30 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16	..
2. Non-technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..
3. Skilled and Semi-skilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	200	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	224	..

XI. North Madras (Pulicut 3 x 210 MW)—

1. Technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	170	..
2. Non-technical	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	160	..
3. Skilled and semi-skilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,300	..
4. Unskilled	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	700	..
Total	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,330	..

TABLE 17-VIII—cont.
POWER—cont.

TAMIL NADU: MAN POWER PLANNING AND REQUIREMENTS.

Serial number and category/type of skill.	Man power required during construction.			Number Required during operation and Maintenance Phase.	1979-80.		1980-81.		1981-82.		1982-83.	
	Peak require-ment.	No. in position on 31st March 1978.	1978-79 number required.		Number required for construc-tion.	Number required for O and M.	Number required for construc-tion.	Number required for O and M.	Number required for construc-tion.	Number required for O and M.	Number required for construc-tion.	Number required for O and M.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
XII. Ennore Extension (210 MW)—												
1. Technical	213	..	..	..	100	..	147	..	213	..	192	..
2. Non-technical	200	..	..	..	100	..	140	..	200	..	180	..
3. Skilled and semi-skilled	1,560	..	..	..	800	..	1,080	..	1,560	..	1,380	..
4. Unskilled	864	..	..	..	420	..	600	..	864	..	780	..
Total ..	2,837	..	..	..	1,420	..	1,967	..	2,837	..	2,532	..

NOTE.—Categorisation of staff furnished in line with the categorisation now obtaining Man power Optimisation not taken into account. Staff for G.T., Cholathipuzha and Hogenakkal not assumed.

Chapter 18

ROADS AND BRIDGES

18.0. Proper road network and road transport form the basic infrastructure in promoting social and economic development in a country. Further if best results in respect of development activities in different sectors like agriculture, irrigation, industries, forestry, fisheries, etc., are to be achieved, development of the infrastructure of road facility in harmony with these sectors is necessary.

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 89,514 kms. in March 1978. However much remains to be done in improving the quality of roads and also in the distribution of road network especially to cater to the needs of people in rural areas. The Table 18-1 below shows the length of roads in the State by type of surface as on 31st March 1961, 31st March 1974 and 31st March 1978.

TABLE 18-1.

Length of roads in Tamil Nadu. (in kms.)

Type of surface.	As on 31st March 1961.	As on 31st March 1974.	As on 31st March 1978.
(1)	(2)	(3)	(4)
(a) Cement concrete ..	530	417	337
(b) Black topped ..	12,402	25,844	31,446
(c) Water bound macadam.	16,054	23,372	24,929
(d) Unsurfaced ..	9,206	31,984	32,802
Total ..	<u>38,192</u>	<u>81,617</u>	<u>89,514</u>

18.2. It may be observed that while the length of unsurfaced roads had increased by more than 3 times, during 1961—78, 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 traffic during all weathers. 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 1978-83. The Transport Expert Committee set up by the Government under the Chairmanship of Thiru C.R. Pattabiraman to suggest ways for improving the working of the 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 M.D.R. to State Highways may be taken at the rate of 5 to 6 per cent for about 5 years from 1978-79 and then at the rate of 3 per cent steadily in subsequent years". Considering these aspects, programmes for VI Plan 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 up to 1977-78 was Rs. 54.54 crores. This includes flood repair works for Rs. 10 crores done in 1977-78 due to the unprecedented flood and storm occurred in the State during 1976. The value of spill over works as on 1st April 1978 was Rs. 13.63 crores. Constraints on financial resources and the termination of Fifth Five-Year Plan one year in advance are the causes for the heavy spill over.

Schemes proposed during 1978-83 :

Development of National Highways Urban links :

18.4 Only a nominal provision of Rs. 1.50 crores is made for works of original nature like bridges, causeways, improvements etc., on National Highways lying within urban limits.

State Roads Programme (Works on Government roads) :

18.5. During V Plan period, due to reduced plan allocations every year only spill over works of IV Plan and a few works sanctioned in V Plan were executed. A sum of Rs. 15.17 crores is provided during 1978-83 for schemes to remove the existing deficiencies in the road network such as, carrying out improvements to the geometrics, strengthening pavements, replacing old and narrow

bridges and providing new structures, etc. Further under other District Roads that out of 4200 kms there is still 315 kms as unmetalled and in the case of Major District Roads out of 330 kms there is still 37 kms of unmetalled surface. These roads would be gradually taken up and improved to black topped stage.

Other Roads Programme (Works on Panchayat and Panchayat Union Roads):

18.6. As pointed out in the general guidelines of Five Year Plan 1978-83, an integrated approach to the development of roads and road transport in rural areas is envisaged. The existing categories of roads in rural areas and the cost for improving them to dustless surface level for buses to run are shown below:—

Table 18-2

Serial number and category.	Length in km.	Number of villages benefited.	Size of the population benefited. (in lakhs.)	Improvements cost (Rs. crores).
(1)	(2)	(3)	(4)	(5)
1. Existing Panchayat Union roads carrying bus traffic today.	3,673	3,618	38.48	16.16
2. Existing Panchayat Union roads that can carry bus traffic and benefit the people.	9,827	7,548	74.70	53.78
3. Formation of essential links to open up areas with traffic potentials.	1,981	1,733	16.28	15.64
	<u>15,481</u>	<u>12,899</u>	<u>129.46</u>	<u>85.58</u>

18.7. In view of financial constraints it is proposed to improve the entire length involved in the first category and about 20% of works in the second category into all weather standards during 1978-83. A sum of Rs. 26.05 crores is provided for this scheme.

Over/Under Bridges:

18.8. The cost of construction of over/under bridges in lieu of existing level crossings is borne jointly by State Government and Railways and also Municipalities in the case of works falling within the Municipal limits. The spill over value of works as on 1st April 1978 is Rs. 391 lakhs. Seven new works in the districts at a cost of Rs. 421 lakhs and two schemes in Madras City at a cost of Rs. 168 lakhs under the World Bank Project are also proposed to be taken up during 1978-83. The outlay proposed is Rs. 7.65 crores.

Metropolitan Road Development Scheme:

18.9. The major road and bridge works within Madras City are taken up under this scheme. The value of spill over works, as on 1st April 1978 is Rs. 0.73 crores. In view of Government's, latest order for annexing some of the semi-urban areas to Madras City more new works have to be undertaken. A sum of Rs. 2.73 crores is provided for this scheme during 1978-83.

Tools and Plants:

18.10. Most of the major plants available in the Department have outlived their utility but there was no systematic replacement of this outlived plants for want of funds. Only during 1973-74, 66 rollers were purchased to meet the needs of the rural roads programme. As it is proposed to launch a massive rural roads development programme to open out more bus routes during 1978-83, it becomes necessary to purchase suitable equipments like rollers, tractors fitted with pumpsets, etc. A sum of Rs. 8.69 crores is provided for this purpose.

Metalling of Rural Roads (Minimum Needs Programme):

18.11. The development of rural roads was done during Fifth Plan under the following two schemes:

- (a) Rural Roads Scheme.
- (b) Fair weather Roads Programme.

18.12. The Rural Roads Scheme was launched in 1972-73 with a view to connect villages with a population of 1,500 and above with all weather roads.

The total requirement for this scheme to link the villages with a population of 1,500 and above (based on 1971 census figures) is Rs. 39.79 crores. This is to improve 4,955 kms. of the existing Panchayat Union roads up to metalling and to provide road facilities to 1,772 villages with a population of about 35.44 lakhs. However, in view of the limited resources, it is proposed to improve 1,076 kms. of Panchayat Union Roads only during this plan period under this scheme which would benefit 385 villages with a population of about 7.7 lakhs. To achieve this target a sum of Rs. 8.64 crores is provided.

18.13. The Fair Weather Roads Programme was launched since 1974-75 with the objective of connecting villages with gravel roads irrespective of population size where there are no communication facilities. The roads after formation are handed over to Panchayat Unions and Panchayats concerned for maintenance. As these roads get affected after rains and since with meagre financial resources Panchayat Unions and Panchayats are not able to maintain these roads, Government have decided to connect the villages only with metalled roads in future. The overall requirement under Fair Weather Road Programme to metal all the roads already formed, viz., 4,165 kms. (including the roads formed in the drought affected areas utilising the grants given to the District Collectors) which would benefit 2,751 villages with a population of nearly 22 lakhs works out to Rs. 11.36 crores. This apart 10,025 kms. of Fair Weather Roads are to be newly formed and metalled at a cost of Rs. 36.88 crores, linking 5,525 villages with a population of about 44.23 lakhs. However, considering the constraints of the finance it is proposed to take up the metalling of 4,165 kms. of roads only which are already formed during the new Plan period, as any further delay would result in the investment made in forming these roads becoming infructuous. So a provision of Rs. 11.36 crores is absolutely necessary. Including the value of spillover works, a sum of Rs. 23.70 crores is provided for metalling of rural roads scheme during 1978-83.

Avenues :

18.14. Plantation and rearing of 1.2 lakhs shade giving trees and 14.0 lakhs palmyrah seedlings per year on the road margins is proposed. As against the total cost of Rs. 2.95 crores, a sum of Rs. 2.00 crores is provided.

Wayside amenities including improvements to Travellers' Bungalows :

18.15. Provision of basic facilities such as rest sheds with toilet facilities, light refreshment stalls, etc., to the crew of lorries and buses and also spare parts shops, fuel station, etc., at frequent intervals on all the Highways of this State is proposed. To make a modest beginning a provision of Rs. 65 lakhs is made for 1978-83.

Tribal Area Sub-Plan :

18.16. Priority is given for provision of link roads to tribal habitations so that medical, educational and other social welfare benefits could be made available easily to the tribal population. Four improvement works at a cost of Rs. 88 lakhs are nearing completion in Kalrayan Hills of South Arcot district and Salem district. Eight new works for development of roads in tribal pockets in different hilly regions covering a distance of 171 kms. would be implemented in 1978-83. A sum of Rs. 2.36 crores is provided during 1978-83 including the spillover works of value Rs. 0.26 crore.

Central Road Fund Works :

18.17. As per recent guidelines, the Central Road Fund will be utilised for Research and Development Programmes, wayside amenities, service roads for by-passes, etc., as against works such as formation of ghat roads, construction of bridges, etc., undertaken so far. A sum of Rs. 7.50 crores is provided including the spillover works of Rs. 2.40 crores.

Road facilities to fisherman villages and hamlets :

18.18. Due to lack of communication facilities fishermen find it difficult to transport the fish catches to the marketing centres. With the increased fish production envisaged during the plan period, provision of road facilities to fishermen villages/hamlets becomes necessary and a sum of Rs. 2.00 crores is earmarked for this purpose.

Research and Development :

18.19. 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 various private and Government Institutions in the State and also by other neighbouring States. The State Administrative Reforms Committee has recommended that the Highways Research Station should be ultimately headed by a Chief Engineer considering its present day importance and its potential for further development. Further setting up of a number of Regional and Field laboratories to exercise proper control and quality on works is necessary. Highway 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. 2.00 crores is provided under this scheme for 1978-83.

Centrally Sponsored Schemes :**Rural Link Roads :**

18.20. The objective is to connect villages in coastal and backward areas with a population of about 1,500 individually or in clusters by means of link roads not exceeding 5 kms. in length. So far, Government of India have allotted Rs. 71 lakhs for this scheme. So far, Rs. 33.66 lakhs have been spent on this scheme. It is proposed to cover greater number of villages during 1978-83 and an outlay of Rs. 10.45 crores is provided under this Centrally Sponsored Scheme.

Hill Area Development Scheme :

18.21. During Fifth Plan, 21 works at a cost of Rs. 110.09 lakhs were executed only in Nilgiris district. Of this, 12 works were completed, 8 are nearing completion and one work is yet to be taken up. Since the benefits of this scheme are to be extended to other hilly areas in the State, an outlay of Rs. 2.82 crores is proposed for 1978-83.

Western Ghat Road Development :

18.22. Improvements to Sirumalai Ghat road in Madurai district at a cost of Rs. 15 lakhs was executed during Fifth Plan. Eight works at a cost of Rs. 2.18 crores in Madurai, Salem and Nilgiris districts are proposed to be taken up during 1978-83.

Economic and Inter-State Importance Scheme :

18.23 Development of East coast Road from Madras to Kanyakumari to N. H. standard is essential as this highway besides connecting important projects like Kalpakkam Atomic Power Project, Tuticorin Thermal Power Station, etc., will also help the development of backward areas in the coastal region. The total length of alignment from Madras to Kanyakumari is about 770 kms. and the cost of development works out to Rs. 37.20 crores for single lane pavement and Rs. 57.20 crores for double lane pavement. In view of resources constraint, it is proposed to limit the programme for single lane pavement only. Besides the development of East Coast Road, six other new works costing Rs. 505 lakhs are also proposed to be undertaken during 1978-83 and a sum of Rs. 42.84 crores is proposed for this purpose including the cost of spillover works of Rs. 0.64 crore.

World Bank assisted scheme :**Madras Urban Development Project :**

18.24 A project at a cost of Rs. 8.18 crores for improving the arterial roads in Madras Metropolitan area like Anna Salai, Poonamalle High Road, forming of an inner ring road connecting NH4, NH5 and NH45 and for some works of improving city streets in Madras Corporation sector is executed from 1977-78 with World Bank Aid. This three year programme is likely to be carried on till the end of 1980-81. For the remaining two years, Rs. 2.00 crores per year is necessary. A sum of Rs. 10 crores including the cost of spillover works approved by World Bank is provided for 1978-83.

Mass Rapid Transport System as long term need :

18.25 To meet the Transport needs by 1991, a high capacity circular railway on the inner circular corridor is essential as suggested by the consultants to the Railways and this inner corridor would be used as a multi-modal transport system i. e. used both for road and rail transport. The inner ring road, the road part of this corridor which is under execution with World Bank Aid, would be completed in phased manner. The alignment of inner ring road generally satisfies the needs of railway alignments excepting in a few places where it runs through developed areas and where this road geometrics are not suitable to railway alignment. A preliminary survey to identify the

most appropriate alignment for the railways is to be carried out early as suggested by the Working Group set up by Government of India for evolving time-bound programme for an integrated transport in Madras City so that freezing of land development on the alignment could be made obviating costly land acquisition later.

Total Cost :

18.26 The total outlay on schemes on roads and bridges proposed under State sector during 1978-83 works out to Rs. 102.00 crores. The schemewise outlay is shown in Table 18-I appended.

TABLE 18-I.

Schemes on Roads and Bridges, 1978-83.

Serial number and scheme. (1)	Proposed Outlay 1978-83 (2)
(RUPEES IN CRORES.)	
A State Sector —	
1. National Highways Urban Links ..	1.50
2. State Roads Programme	15.17
3. Other Roads Programme	26.05
4. Over/Under Bridges	7.65
5. Metropolitan Road Development ..	2.73
6. Tools and Plant	8.69
7. Metalling Rural Roads Programme (Minimum Needs Programme)	23.70
8. Avenues	2.00
9. Wayside amenities including improvements to Traveller's Bungalows..	0.65
10. Tribal Sub-Plan	2.36
11. Central Road Fund Works	7.50
12. Road facilities to Fishermen Villages/ hamlets.	2.00
13. Research and Development	2.00
Total — A. State Sector Schemes ..	102.00
B. Centrally Sponsored Schemes —	
1. Rural Link Roads	10.45
2. Hill Area Development Scheme	2.82
3. Western Ghat Road Development Pro- gramme.	2.18
4. Economic and Inter State Importance Scheme.	42.84
Total — B. Centrally Sponsored Schemes ..	58.29
C. World Bank assisted Scheme —	
1. Madras Urban Development Scheme ..	10.00

TABLE 18-II.
STATE SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL.

(RS. IN LAKHS.)

Item and category N.H. Urban S.H. etc.	Cost of the scheme.	Expendi- ture upto 1977-78 in the case of spillover schemes.	Proposed outlay 1978-83.	Break of Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. SCHEMES FOR REMOVAL OF DEFICIENCIES IN EXISTING ROAD NET WORK.—								
(i) Spillover Schemes—								
(a) Costing Rs. 5 lakhs and above								
1. State Roads Programme	125.00	95.66	29.34	15.00	14.34	..	..	..
2. Other Roads Programme	123.75	26.84	96.91	32.77	52.95	11.19	..	..
3. C. R. F.	217.33	88.32	129.01	57.96	42.05	29.00	..	..
Total (a)	466.08	210.82	255.26	105.73	109.34	40.19	..	..
(b) Costing less than Rs. 5 lakhs—								
1. State Road Programme	2.15	..	2.15	2.15	..	..	..	..
2. Other Roads Programme	51.27	23.86	27.41	10.57	16.84	..	..	..
3. Metropolitan Road Development Programme.	3.40	3.18	0.22	0.22	..	..	..	..
4. C. R. F.	7.11	..	7.11	5.83	1.28	..	..	..
Total (b)	63.93	27.04	36.89	18.77	18.12	..	..	..
Total of (a) and (b)	530.01	237.86	292.15	124.50	127.46	40.19	..	..
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1. State Roads Programme	307.00	..	257.00	..	60.00	60.00	60.00	77.00
2. Other Roads Programme	474.64	..	230.65	..	75.00	59.50	40.00	56.15
3. Metropolitan Road Development Programme.	45.00	..	45.00	..	..	25.00	10.00	10.00
4. C. R. F.	133.50	..	162.50	..	..	37.50	65.00	60.00
Total (a)	980.14	..	695.15	..	135.00	182.00	175.00	203.15
(b) Costing less than Rs. 5 lakhs—								
1. State Roads Programme	56.00	..	56.00	..	14.00	14.00	14.00	14.00
2. Other Roads Programme	881.35	..	705.33	..	150.00	150.00	150.00	255.33
Total (b)	937.35	..	761.33	..	164.00	164.00	164.00	269.33
Sub-Total of (a) and (b)	1,926.49	..	1,458.48	..	299.00	346.00	339.00	472.48

TABLE 18-II—cont.

STATE SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

Item and Category N.H. Urban S.H. etc.	Cost of the scheme.	Expendi- ture up to 1977-78 in the case of spill over schemes.	Proposed outlay 1978-83.	(RS. IN LAKHS.)				
				Break of Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
II. REPLACEMENT—								
(i) Spill over Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1 State Roads Programme	69.10	32.31	36.79	19.00	17.79	..	..	..
2 Metropolitan Road Development Programme.	24.50	3.32	21.18	5.45	15.73	..	..	..
Total (a) ..	<u>93.60</u>	<u>35.63</u>	<u>57.97</u>	<u>24.45</u>	<u>33.52</u>	<u>..</u>	<u>..</u>	<u>..</u>
(b) Costing less than Rs. 5 lakhs.—								
1. State Roads Programme.	10.20	0.10	10.10	10.10	..	..	..	..
Total (b) ..	<u>10.20</u>	<u>0.10</u>	<u>10.10</u>	<u>10.10</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
Sub total (a) and (b) ..	<u>103.80</u>	<u>35.73</u>	<u>68.07</u>	<u>34.55</u>	<u>33.52</u>	<u>..</u>	<u>..</u>	<u>..</u>
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above.—								
1 N.H. Urban	25.00	..	25.00	..	7.00	12.00	6.00	..
2 State Roads Programme.	566.00	..	465.00	..	110.00	110.00	110.00	135.00
3 Other Roads Programme	54.75	..	54.75	10.95	10.95	10.95	10.95	10.95
4 Metropolitan Road Development Programme.	10.00	..	10.00	..	10.00	..	..	..
Total (a) ..	<u>655.75</u>	<u>..</u>	<u>554.75</u>	<u>10.95</u>	<u>137.95</u>	<u>132.95</u>	<u>126.95</u>	<u>145.95</u>
(b) Costing less than Rs. 5 lakhs—								
1 State Roads Programme	130.00	..	130.00	..	30.00	30.00	30.00	40.00
2 Other Roads Programme	1,490.95	..	1,490.95	..	350.00	350.00	350.00	440.95
Total (b) ..	<u>1,620.95</u>	<u>..</u>	<u>1,620.95</u>	<u>..</u>	<u>380.00</u>	<u>380.00</u>	<u>380.00</u>	<u>480.95</u>
Sub-total of (a) and (b) ..	<u>2,276.70</u>	<u>..</u>	<u>2,175.70</u>	<u>10.95</u>	<u>517.95</u>	<u>512.95</u>	<u>506.95</u>	<u>626.80</u>

TABLE 18-II—cont.

STATE SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

(RUPEES IN LAKHS).

Item number and Category N.H. Urban S.H. etc.	Cost of the scheme.	Expendi- ture up to 1977-78 in the case of spill over schemes.	Proposed outlay 1978-83.	Break of Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
III. ADDITIONAL FACILITIES TO CATER FOR TRAFFIC NEEDS ;—								
(i) Spill Over Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1. State Roads Programme.	72.50	69.28	3.22	3.22	..	..	..	..
2. Metropolitan Road Development Scheme.	67.42	30.21	37.21	8.71	19.00	9.50	..	..
3 Over/Under Bridges in lieu of existing level crossings.	686.74	295.74	391.00	67.39	60.59	121.00	110.50	31.52
Total(a) ..	826.66	395.23	431.43	79.32	79.59	130.50	110.50	31.52
(b) Costing less than Rs. 5 lakhs—								
				Nil.				
Total(a) and (b) ..	826.66	395.23	431.43	79.32	79.59	130.50	110.50	31.52
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1. N.H. Urban ..	18.00	..	18.00	..	7.00	7.00	4.00	..
2 State Roads Programme.	529.00	..	479.00	..	120.00	120.00	120.00	119.00
3 Metropolitan Road Development Programme.	145.00	..	145.00	..	35.00	42.00	46.00	22.00
4 Over/Under bridges in lieu of existing level crossings.	374.00	..	374.00	..	39.00	150.00	150.00	35.00
Total(a) ..	1,066.00	..	1,016.00	..	201.00	319.00	320.00	176.00
(b) Costing less than Rs. 5 lakhs—								
1 N.H. Urban ..	107.00	..	107.00	..	20.00	25.00	30.00	32.00
2 State Road Programme	10.00	..	10.00	..	10.00	..	..	..
3 Metropolitan Road Development Programme	13.99	..	13.99	..	5.99	8.00	..	..
Total (b) ..	130.99	..	130.99	..	35.99	33.00	30.00	32.00
Sub-total (a) and (b) ..	1,196.99	..	1,146.99	..	236.99	352.00	350.00	208.00

TABLE 18-II—cont.

STATE SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

(RUPEES IN LAKHS).

Item number and Category N.H. Urban S.H. etc.	Cost of the scheme.	Expendi- ture upto 1977-78 in the case of spill over schemes.	Proposed outlay 1978-83.	Break of Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IV. EXPANSION OF EXISTING ROAD NET WORK—								
(i) Spill Over Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1 State Roads Programme ..	5.00	2.00	3.00	3.00	..	..	..	..
2 Tribal Sub Plan	64.66	39.06	25.60	25.60	..	..	..	..
3 C.R.F.	369.14	265.63	103.51	6.01	62.50	35.00	..	..
Total (a)	438.80	306.69	132.11	34.61	62.50	35.00	..	..
(b) Costing less than Rs. 5 lakhs—								
				Nil.				
Sub-total (a) and (b)	438.80	306.69	132.11	34.61	62.50	35.00	..	..
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1 State Roads Programme ..	35.00	..	35.00	..	15.00	20.00	..	..
2 Tribal Sub Plan	208.60	..	208.60	..	48.55	57.10	57.10	45.85
3 C.R.F.	363.70	..	344.37	..	22.20	59.50	125.00	137.67
Total (a)	607.30	..	587.97	..	85.75	136.60	182.10	183.52
(b) Costing less than Rs. 5 lakhs—								
1 Tribal Sub-Plan	1.40	..	1.40	..	1.40	..	..	..
2 C.R.F.	3.50	..	3.50	..	3.50	..	..	..
Total (b)	4.90	..	4.90	..	4.90	..	..	..
Sub-total of (a) and (b)	612.20	..	592.87	..	90.65	136.60	182.10	183.52

TABLE 18-II—cont.
STATE SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

Item and Category <i>N.H. Urban S.H. etc.</i>	Cost of the scheme.	Expendi- ture up to 1977-78 in the case of spill over schemes.	Proposed outlay 1978-83.	(RUPEES IN LAKHS)				
				Break of Outlay.				
(1)	(2)	(3)	(4)	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
				(5)	(6)	(7)	(8)	(9)
V. TOOLS AND PLANTS—								
(i) Spill Over Schemes ..	69.00	..	69.00	14.00	55.00	..	..	..
(ii) New Schemes	800.00	..	800.00	..	125.00	175.00	225.00	275.00
VI. METALLING OF RURAL ROADS (MINIMUM NEEDS PROGRAMME)—								
(i) Spill Over Schemes ..	370.00	..	370.00	300.00	70.00	..	..	..
(ii) New Schemes	2,000.00	..	2,000.00	..	400.00	500.00	525.00	575.00
VII. AVENUES—								
(i) Spill Over Schemes ..	..	..	..	..	..	..	..	..
(ii) New Schemes	200.00	..	200.00	6.00	44.00	50.00	50.00	50.00
VIII. WAYSIDE AMENITIES—								
<i>(Including improvements to T.B.'s.)</i>								
(i) Spill Over Schemes ..	..	..	..	..	..	..	..	..
(ii) New Schemes	65.00	..	65.00	..	12.00	15.00	18.00	20.00
IX. ROADS TO FISHERMEN VILLAGES/HAMLETS—								
New Scheme	200.00	..	200.00	..	50.00	50.00	50.00	50.00
X. RESEARCH AND DEVELOPMENT—								
(i) Spill Over Schemes ..	..	..	..	..	..	..	..	..
(ii) New Schemes	200.00	..	200.00	..	40.00	45.00	55.00	60.00
GRAND TOTAL—								
(i) Spill Over Schemes ..	2,336.27	975.55	1,362.76	586.98	428.07	205.69	110.50	31.52
(ii) New Schemes	9,477.38	..	8,837.04	16.95	1,815.59	2,182.55	2,301.05	2,520.90
GRAND TOTAL ..	11,813.65	975.55	10,199.80	603.93	2,243.66	2,388.24	2,411.55	2,552.42
	OR	OR	OR	OR	OR	OR	OR	OR
Rupees in crores ..	118.14	9.76	102.00	6.04	22.44	23.88	24.12	25.52

TABLE 18-III.

CENTRAL SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL.

(T.R.I.)

(RUPEES IN LAKHS)

Item and Category N.H. Urban S.H. etc.	Expendi- ture up to 1977-78 in the case of spill over Scheme.	Proposed, out lay 1978-83.	Break-up of Outlay.					
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. SCHEMES FOR REMOVAL OF DEFICIENCIES IN THE EXISTING ROAD NEW WORK :—								
(i) Spill Over Schemes—								
(a) Costing Rs. 5 lakhs and above—								
(i) E and I Schemes.. .. .	271.44	207.86	63.58	43.58	20.00	..	..	..
(b) Costing less than Rs. 5 lakhs .. ..	..	..	..	..	..	..	..	..
Total	271.44	207.86	63.58	43.58	20.00	..	..	..
(ii) New Schemes.—								
(a) Costing Rs. 5 lakhs and above.—								
1. Western Ghat Development Programme	83.00	..	83.00	..	19.00	29.00	20.00	15.00
2. E and I Scheme	361.00	..	361.00	..	101.00	99.00	89.00	72.00
Total	444.00	..	444.00	..	120.00	128.00	109.00	87.00
(b) Costing less than Rs. 5 lakhs—								
Western Ghat Development Programme.	2.00	..	2.00	..	2.00	..	..	..
Total	446.00	..	446.00	..	122.00	128.00	109.00	87.00
II. REPLACEMENT—								
Nil.								
III. ADDITIONAL FACILITIES TO CATER FOR TRAFFIC NEEDS—								
(i) Spill Over Schemes—								
(a) Costing Rs. 5 lakhs and above	Nil.	..	..	..	..	..	..	..
(b) Costing less than Rs. 5 lakhs	Nil.	..	..	..	..	..	..	..
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above—								
Western Ghat Development Programme.	38.00	..	38.00	..	10.00	18.00	10.00	..
(b) Costing less than Rs. 5 lakhs	Nil.	..	..	..	..	..	..	..
Sub-total (i) and (ii)	38.00	..	38.00	..	10.00	18.00	10.00	..

TABLE 18-III—cont.

CENTRAL SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

(T.R.L.)

(RUPEES IN LAKHS.)

Item number and Category N.H. Urban S.H., etc.	Cost of the scheme.	Expendi- ture upto 1977-78 in the case of spill over scheme.	Proposed outlay 1978-83.	Break up of Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IV. EXPANSION OF EXISTING NEW WORK—								
(i) Spill Over Schemes—								
(a) Costing Rs. 5 lakhs and above—								
(i) Hill Area Develop- ment Programme.	54.89	34.15	20.74	20.74	..	..	..	..
(ii) Western Ghat Development Prog- ramme.	15.00	12.00	3.00	3.00	..	..	..	..
Total (a) ..	69.89	46.15	23.74	23.74	..	..	..	..
(b) Costing less than Rs. 5 lakhs—								
Hill Area Development Programme.	22.57	10.91	11.66	11.66	..	..	..	..
Total (b)	22.57	10.91	11.66	11.66	..	..	..	..
Total (a) and (b) ..	92.46	57.06	35.40	35.40	..	..	..	..
(ii) New Schemes—								
(a) Costing Rs. 5 lakhs and above—								
1. Hill Area Develop- ment Programme.	176.58	..	176.58	..	65.23	64.70	36.65	10.00
2. Western Ghat Development Prog- ramme.	92.00	..	92.00	..	15.00	18.00	25.00	34.00
3. E. and I. Scheme ..	139.00	..	139.00	..	35.00	35.00	35.00	34.00
Total (a) ..	407.58	..	407.58	..	115.23	117.70	96.65	78.00

TABLE 18-III—cont.

CENTRAL SECTOR SCHEMES—ABSTRACT OF PLAN TOTAL—cont.

(T.R.I.)

(RUPRES IN LAKHS)

Item number and Category N.H. Urban S.H., etc.	Cost of the scheme.	Expenditure up to 1977-78 in the case of spill over Scheme.	Proposed outlay 1978-83.	Breakup of Outlay				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IV. EXPANSION OF EXISTING NEW WORK—cont.								
(ii) New Schemes—cont.								
(b) Costing less than Rs. 5 lakhs—								
1. Hill Area Develop- ment Programme.	73·42	..	73·42	..	..	..	27·14	46·28
Sub-total (a) and (b)	481·00	..	481·00	..	115·23	117·70	123·79	124·28
V. RURAL LINK ROADS—								
(i) Spill over works	45·00	33·66	45·00	45·00	..	..	..	..
(ii) New Schemes	1,000·00	..	1,000·00	..	200·00	260·00	270·00	280·00
VI. EAST COAST ROAD ..								
	3,720·00	..	3,720·00	..	650·00	800·00	1,000·00	1,270·00
GRAND TOTAL ..	6,093·90	298·58	5,829·00	124·00	1,467·00	1,514·00	1,513·00	1,211·00
RUPRES IN CRORES ..	60·94	2·99	58·29	1·24	14·67	15·14	15·13	12·11
GRAND TOTAL:								
(i) Spill Over Schemes..	408·90	298·58	143·98	123·98	20·00	..	..	..
(ii) New Schemes ..	5,685·00	..	5,685·00	..	1,097·23	1,313·70	1,512·79	1,761·28
Total ..	6,093·90	298·58	5,828·98	123·98	1,117·23	1,313·70	1,512·79	1,761·28
(or).								
58·29 Crores.								

TABLE I8-IV.

WORLD BANK SECTOR—WORLD BANK PROJECT.

Item and Category (N.H. Ur- ban S.H. M.D.R., etc.).	Cost of the Scheme.	Expendi- ture up to 1977-78 in the case of spill over scheme.	Proposed outlay 1978-83.	Outlay.					(T.R.I.) (RUPEES IN LAKHS.)
				1978-79.	1979-80.	1980-81,	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
V. ABSTRACT OF TOTALS—									
1. Schemes for removal of deficiencies in the existing road net works—									
(i) Spill over schemes—									
(a) Costing Rs. 5 lakhs and above.	48.22	4.33	43.88	10.00	20.00	13.88	..	..
(b) Costing less than Rs. 5 lakhs.	..	..	..	..	..	..	..	..
(ii) New schemes—									
(a) Costing Rs. 5 lakhs and above.	..	..	..	..	..	..	..	..
(b) Costing less than Rs. 5 lakhs.	..	..	..	..	..	..	..	..
(iii) Total of (i) and (ii) ..	48.22	4.33	43.88	10.00	20.00	13.88	..	..
2. Replacement—									
(i) Spill Over Schemes—									
(a) Costing Rs. 5 lakhs and above.	42.11	10.08	32.03	9.00	23.03	..	..	..
(b) Costing less than Rs. 5 lakhs.	21.85	13.82	8.03	8.03	..	..	..	..
(ii) New Schemes—									
(a) Costing Rs. 5 lakhs and above.	..	..	..	..	..	..	..	..
(b) Costing less than Rs. 5 lakhs.	..	..	..	..	..	..	..	..
(iii) Total of (i) and (ii) ..	63.96	23.90	40.06	17.03	23.03	..	..	..

TABLE 18-IV—cont.
WORLD BANK SECTOR—WORLD BANK PROJECT—cont.

Item and Category (N.H. Urban S.H. M.D.R. etc.)	Cost of the scheme.	Expenditure up to 1977-78. in the case of spill over scheme.	Proposed outlay 1978-83.	(RUPEES IN LAKHS.)				
				Outlay.				
				1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3 Additional facilities to cater for Traffic needs—								
(i) <i>Spill over schemes—</i>								
(a) Costing Rs. 5 lakhs and above	576.67	94.26	432.40	134.49	161.26	186.65	..	..
(d) Costing less than Rs. 5 lakhs..	10.53	2.65	7.88	7.31	..	0.57	..	..
(ii) <i>New Schemes—</i>								
(a) Costing Rs. 5 lakhs and above	905.00	..	425.78	..	..	..	210.00	215.75
(d) Costing less than Rs. 5 lakhs	..	..	..	..	..	..	..	..
Total (i) and (ii)	1,492.20	96.91	916.06	141.80	161.26	187.22	210.00	215.75
4. Expansion of existing road net work	..	..	..	..	..	..	..	..
5. Grand total—								
Spill Over Schemes	699.38	125.14	574.22	168.83	204.29	201.10	..	..
New Schemes	905.00	..	425.78	..	..	..	210.00	215.75
Total	1604.38	125.14	1000.00	168.83	204.29	201.10	210.00	215.75

TABLE 18-V.
FIVE-YEAR PLAN, 1978-83.
Rural Roads Outlay/Expenditure.

(T.R. 2)

(RS. IN CRORES.)

Item.	Total Cost.	Fifth Plan outlay.	Expenditure up to end of 1977-78.	Proposed outlay 1978-83.	Out lay .					Employment potential in lakh mandays.		
					1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Unskilled.	Skilled.	
					(6)	(7)	(8)	(9)	(10)		(11)	Tech. (12)	Non-Tech. (13)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Total rural roads of which—												
(1) M.N.P. (Metalling Rural Roads).	23.70	20.68	..	23.70	3.00	4.70	5.00	5.25	5.75	248.85	2.09	8.30
(2) Other than M.N.P. (other Roads Scheme).	30.77	2.76	0.51	26.05	0.54	6.56	5.81	5.51	7.63	273.53	2.29	9.12
Total	54.47	23.44	0.51	49.75	3.54	11.26	10.81	10.76	13.38	522.38	4.38	17.42

TABLE 18-VI.

FIVE-YEAR PLAN, 1978-83.

Roads—Physical Targets and Achievement.

(T.R. 3)

Item.	As on 31st March 1977.	As on 31st March 1978. (Provisional)	As on 31st March 1979. (Anticipated)	As on 31st March 1983. (Target).
(1)	(2)	(3)	(4)	(5)
	KM.	KM.	KM.	KM.
1. Surfaced	55,904	56,712	57,223	60,212
2. Unsurfaced	32,302	32,802	33,302	37,802
3. Total	88,206	89,514	90,525	98,014
Rural Roads out of total roads length (Including other district roads and village roads) of which—				
1. M.N.P.	3,184	3,356	3,556	1,076
2. Other than M.N.P.	67,546	68,546	69,341	79,310
5. Roads other than Rural Roads (3-4)	17,476	17,612	17,628	17,628

TABLE 18-VII.

FIVE-YEAR PLAN, 1978-83.

Roads—Minimum Needs Programme—Targets and Achievements.

(T.R. 4)

(1)	Rural Roads. (2)	Fair Weather Roads. (3)
1. Target in the Plan (1978-83)—		
(a) Length	1,076 kms.	4,166 kms.
(b) Total number of villages in the State	385	2,751
(i) With a population of 1,500 and above	197*	113
(ii) With a population between 1,000-1,500	128**	218
(iii) With a population below 1,000	60	2,420
2. Achievements in 1974-78—		
(i) Length likely to be completed	2,458 kms.	4,525 kms.
(ii) Number of villages likely to be connected—		
(a) With a population of 1,500 and above	1,023	104
(b) With a population of between 1,000-1,500	216	1,107
(c) with a population below 1,000	152	1,707
(iii) Length to be in progress—		
(a) For villages with a population of 1,500 and above	290	..
(b) For villages with a population between 1,000-1,500 .. .. .	..	155
(c) For villages with a population below 1,000 .. .. .	..	145
3. Number of villages not connected with roads as on 31st March 1978—		
(a) With a population of 1,500 and above	1,091	12
(b) With a population between 1,000-1,500	1,051	530
(c) With a population below 1,000	8,805	4,986
4. Roads taken up in 1978-79—		
(a) Length	336 kms.	416 kms.
(b) Number of villages likely to be connected—		
(i) With a population of 1,500 and above	50	30
(ii) With a population between 1,000-1,500	38	20
(ii) With a population below 1,000	21	139

*Main villages.

**Incidental villages.

TABLE 18—VIII.
ABSTRACT.
FIVE YEAR-PLAN, 1978-83.
Communications.

Scheme.	Total cost.	Fifth Plan outlay.	Expenditure up to 1977-78 in case of Spill over Schemes.	Proposed outlay 1978-83.	Outlay.		
					1978-79.	1979-80.	1980-81.
					(6)	(7)	(8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. State Sector Schemes	118.14	51.08	9.75	102.00	6.04	22.44	23.88
2. Central Sector Schemes	58.29	5.98	..	58.29	1.24	14.67	15.14
3. World Bank Sector	16.04	1.25	1.18	10.00	1.69	2.04	2.01
Total	192.47	58.31	10.93	170.29	8.97	39.15	41.03

Scheme.	Outlay.		Employment potential in lakh mandays.		
	1981-82.	1982-83.	Unskilled.	Skilled.	
	(9)	(10)	(11)	Tech.	Non-Tech.
(1)—Cont.	(9)	(10)	(11)	(12)	(13)
1 State Sector Schemes	24.12	25.52	1,050.00	8.80	35.00
2 Central Sector Schemes	15.13	12.11	612.00	5.13	20.40
3 World Bank Sector	2.10	2.16	105.00	0.88	3.50
Total	41.35	39.79	1,767.00	14.81	58.90

TABLE 18-IX.
FIVE-YEAR PLAN, 1978-83
State Sector Schemes—Communications. (T.R. 10)

Schemes.	Total Cost.	Fifth Plan outlay.	Expenditure up to 1977-78 in case of Spillover Schemes.	Proposed outlay 1978-83.	Outlay.	
					1978-79.	1979-80.
					(6)	(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 National Highways Urban	1.50	0.82	..	1.50	..	0.34
2 State Roads Programme	19.17	13.43	2.00	15.17	0.53	3.91
3 Other Roads Programme	30.75	2.76	0.51	26.05	0.54	6.56
4 Over/Under Bridges	10.60	1.72	2.95	7.65	0.67	1.00
5 Metropolitan Road Development Programme.	3.09	1.45	0.36	2.73	0.14	0.86
6 Tools and Plant	8.69	3.18	..	8.69	0.14	1.80
7 Metalling Rural Roads Schemes	23.70	20.68	..	23.70	3.00	4.70
8 Avenues	2.00	..	..	2.00	0.06	0.44
9 Wayside Amenities including improvements to Travellers Bungalows.	0.65	0.04	..	0.65	..	0.12
10 Tribal Sub-Plan	2.75	1.00	0.39	2.36	0.26	0.50
11 Research and Development	2.00	..	..	2.00	..	0.40
12 Central Road Fund Scheme	11.24	6.00	3.54	7.50	0.70	1.31
13 Road facilities to fishermen villages/hamlets ..	2.00	..	..	2.00	..	0.50
Total	118.14	51.08	9.75	102.00	6.04	22.44

TABLE 18-IX—cont.
 FIVE-YEAR PLAN, 1978-83.—cont.
 STATE SECTOR SCHEMES—Communications—cont.
 (RUPEES IN CRORES.)

Schemes.	Outlay.			Employment potential in mandays.		
	1980-81.	1981-82.	1982-83.	Unskilled.	Skilled.	
	(8)	(9)	(10)		Tech.	Non-Tech.
(1)—cont.	(8)	(9)	(10)	(11)	(12)	(13)
1 National Highways Urban	0.44	0.40	0.32	Please see Abstract in Table 18-VIII above.		
2 State Roads Programme	3.54	3.34	3.85			
3 Other Roads Programme	5.81	5.51	7.63			
4 Over/Under Bridges	2.71	2.60	0.67			
5 Metropolitan Road Development Programme	0.85	0.56	0.32			
6 Tools and Plant	1.75	2.25	2.75			
7 Metalling Rural Roads Schemes	5.00	5.25	5.75			
8 Avenues	0.50	0.50	0.50			
9 Wayside Amenities including improvements to Travellers Bungalows.	0.15	0.18	0.20			
10 Tribal Sub-Plan	0.58	0.37	0.45			
11 Research and Development	0.45	0.55	0.60			
12 Central Road Fund Scheme	1.61	1.90	1.98			
13 Road facilities to fishermen villages/hamlets ..	0.50	0.50	0.50			
Total ..	23.89	24.11	25.32			

TABLE 18-X.
 FIVE-YEAR PLAN 1978-83.
 CENTRAL SECTOR SCHEMES—Communications.
 (T.R. 10).

Central Sector Schemes.	Total cost.	Fifth Plan outlay.	Expenditure up to 1977-78.	Proposed outlay 1978-83.	Outlay	
					1978-79.	1979 80.
					(6)	(7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Rural link roads	10.45	0.85	..	10.45	0.45	2.00
2 Hill area development programme	2.82	1.00	..	2.82	0.32	0.65
3 Western ghat road development programme ..	2.18	0.12	..	2.18	0.03	0.46
4 Economic and inter-State importance scheme.	5.64	4.01	..	5.64	0.44	1.56
5 East coast road	37.20	..	..	37.20	..	10.00
Total ..	58.29	5.98	..	58.29	1.24	14.67

Scheme.	Outlay.			Employment potential in man days.		
	1980-81.	1981-82.	1982-83.	Unskilled.	Skilled.	
	(8)	(9)	(10)		Technical.	Non-technical.
(1)—cont.	(8)	(9)	(10)	(11)	(12)	(13)
1 Rural link roads	2.50	2.70	2.80	Please see Abstract in Table 18-VIII above.		
2 Hill area development programme	0.65	0.64	0.56			
3 Western ghat road development programme ..	0.65	0.55	0.49			
4 Economic and inter-State importance scheme	1.34	1.34	1.06			
5 East coast road	10.00	10.00	7.20			
Total ..	15.14	15.13	12.11			

TABLE 18-XI.

FIVE-YEAR PLAN, 1978-83.

WORLD BANK SECTOR—Communications.

		(T.R. 10)						
		(RUPEES IN CRORES)						
<i>Scheme.</i>		<i>Total cost.</i>	<i>Fifth Plan outlay.</i>	<i>Expenditure up to 1977-78 in case of spill over schemes.</i>	<i>Proposed outlay 1978-83.</i>	<i>Outlay.</i>		
						<i>1978-79.</i>	<i>1979-80.</i>	
(1)		(2)	(3)	(4)	(5)	(6)	(7)	
World Bank Project	.. .. .	7.05	1.25	1.18	10.00	1.69	2.04
<i>Schemes.</i>		<i>Outlay.</i>			<i>Employment potential in mandays.</i>			
		<i>1980-81.</i>	<i>1981-82.</i>	<i>1982-83.</i>	<i>Unskilled.</i>	<i>Skilled.</i>		
(1)—Cont.		(8)	(9)	(10)	(11)	(12)	(13)	
World Bank Project	.. .. .	2.01	2.10	2.16	Please see the Abstract in Table 18-VIII above.		

Chapter 19

ROAD TRANSPORT AND INLAND WATERWAYS

19.0. In respect of road transport, the Plan, 1978-83 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.

19.1. In pursuance of the Government's policy of nationalisation of passenger bus transport, Transport Corporations have been set up covering the different regions of the State and they are committed to the social objective of providing cheap and efficient transport services to the public. There are seven passenger Transport Corporations at present in the State including the Corporation located in Madras City which has three wings, viz., Metropolitan, Express and District.

19.2 The budget provision for road and water transport services during the Fifth Plan (1974-79) was Rs. 32.80 crores. The expenditure during the first four years 1974-78 was Rs. 29.09 crores. The budget provision for 1978-79 is Rs. 11.10 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 total strength of the fleet of the Transport Corporations in the State at the commencement of the Fifth Plan (1st April 1974) was 2,938 and this had increased to 5,227 as on 31st March 1978.

Transport Corporations—Non-Metropolitan :

19.3. As on 1st April 1978, the mofussil Transport Corporations had a fleet strength of 3,639 buses which run over 10 lakhs Kms. per day carrying about 22 lakhs passengers. They operate 1,811 routes of which 1,069 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 30,000 strong. The State Transport Corporations which account for about 44.5 per cent of total fleet strength in the non-Metro area of the State (52 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 1,069 unremunerative routes as against 742 remunerative routes. The reason is mainly to fulfil the social objective of providing cheap transport service to the public in interior villages. The fare of 5 paise per km. now being charged by these corporations is reasonable 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 maintaining the excellence in technical standards of maintenance 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, started in 1975 with a Government equity of Rs. 122 lakhs. It has now a resource base of about Rs. 700 lakhs including deposits from public. So far it has rendered financial assistance to the State Transport Undertakings to a tune of Rs. 16 crores, which have enabled the State Transport Undertakings to purchase more than 1,100 new buses for their replacement/augmentation programme.

Development Programme for 1978-83 :

19.5. The studies carried out with the aid of Ford Foundation show that "the 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 capita 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 K.M. from a bus route have to be provided with bus facility.

19.6. Taking all these factors into consideration it is proposed to augment the fleet at 6 per cent per year. This rate is reduced to 4 per cent during the fare revision year. It may be necessary to revise the fares once during the plan period of 1978-83 so as to meet the anticipated increase in the cost of operation and materials. It is assumed that the number of buses in the private sector is more or less static and future needs will be met by the expansion of the fleet of State Transport Undertakings as per augmentation

programme outlined above. On this assumption the number of public and private sector buses in 1983 may be expected to be 4,747/4,536 resulting in progressive nationalisation from 44.5 per cent to 51 per cent for the non-metro area (including metro buses the percentage will be 52 to 60 per cent).

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 3,639 buses, 222 are more than 12 years old and 495 are more than 10 years old. 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 3 years. But the replaced buses will be utilised by other Corporations for another 4 years. 2,640 buses are required for replacement during 1978-83.

19.8. The year-wise requirement of buses for augmentation and replacement programmes of Transport Corporations (*non-metro*) is shown in Table 19-I appended to this Chapter.

19.9. With the above assumptions in mind, the capital outlay on buses has been worked out. 3,748 buses are required in the non-metro area during the plan period, of which 1,108 are for augmentation and 2,640 are for replacement (*Vide* Table 19-II appended to this Chapter). The cost per bus, which is now at Rs. 1.50 lakhs is expected to rise by about 10 per cent every year during the plan period, as the experience has shown that the increase in cost has been nearly 100 per cent over a period of 9 years.

19.10. As the fleet strength increases, a number of 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 mufussil depot is about 50. On this basis the cost of consequent infrastructural facilities is calculated.

19.11. The attainment of the objective of reaching every village requires that certain procedures be simplified to enable better utilisation of buses. One of these is the introduction of the area permit system doing away with the present restriction

of each bus to an individual route. Pending that step, multipronged permits may be issued to facilitate operation of buses on more than one route. As buses to villages are required in the morning and night, and cities require additional buses during office hours, it should be possible to operate district buses serving the villages in the city during peak hours.

19.12. Road is an essential infrastructure for Road Transport Corporations and unless the road is in good motorable condition the corporation buses cannot operate effectively. Government of India have recently permitted the companies to incur expenditure on construction and maintenance of rural link roads and claim deduction in the computation of their taxable profits. But prior approval is required from the Government of India for such programmes. As maintenance and upgradation of road surface on rural areas are items of immediate necessity for actual road users like Transport Corporations, the Government Corporations may be permitted to obtain post-approval for such rural development programmes.

19.13. In the case of urban roads also the Corporations may be permitted to carry out essential repairs to road surfaces and this expenditure may be allowed as deduction from the Motor Vehicles tax payable.

Madras Metropolitan Transport :

19.14. The Madras Metropolitan area covers 1,167 square kilometres. The population of Madras Metropolitan Area which was 35 lakhs in 1971 had increased to 41 lakhs in 1977 and is expected to reach 48 lakhs in 1983. Further, unlike in other Metropolitan cities in India where a major portion of passenger 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 metres) is able to meet only 20 per cent of the total traffic in a day. Pallavan Transport Corporation (Metro) meets the balance 80 per cent of the total traffic with its 1,491 buses operating in 227 routes and covering over a distances of 3 lakh kms. a day. About 20 lakh passengers per day utilise this metropolitan transport services.

19.15. The fleet strength of 1,491 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 bus observed during peak period has to be reduced to atleast 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 per cent per year and on this basis about 1,109 additional buses will be required during 1978-83. Besides increasing the fleet strength construction of 12 depots and 78 terminals to service and maintain the buses efficiently and also about 900 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 1978-83 is shown in the table 19.1 below. Figures in column (2) indicate the Physical targets if the service is to be run in an ideal way. In the next column minimum requirements are given.

TABLE 19.1.

Item.	Need based requirement during 1978-83.	Proposed during 1978-83.	Cost during 1978-83.
(1)	(2)	(3)	(4)
		(RS. IN CRORES)	
(i) Buses	1,109	583†	34.57
		1,269*	
(ii) Depots	12	7	1.75
(iii) Terminals	78	38	1.90
(iv) Shelters	900	500	0.15
(v) Central workshop.. .. .	2	1	0.30
(vi) Two way radio communication system.	1	1	0.05
(vii) Driver Training School (expansion).	..	..	0.10
Total capital outlay required for Madras Metropolitan Transport during 1978-83.			38.82

† Augmentation

* Replacement of Buses more than 8 years old.

19-16. As against the total capital outlay of Rs. 38.82 crores the total internal generation of Pallavan Transport Corporation (Metro) during 1978-83 will be only Rs. 16.79 crores leaving a gap of Rs. 22.03 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-III appended to this chapter.

World Bank Project for metropolitan transport :

19-17. The Pallavan Transport Corporation (Madras City) Limited prepared a seven year programme (1974-81) for purchase of 2,536 buses and developing two major depots, eight minor depots, seven service centres and 34 bus terminals. This plan had provided for an annual augmentation of fleet of 10 per cent and replacement of vehicles at the end of eight years. The plan for depots and terminals was designed to cut down on dead mileage and to service and maintain the buses efficiently.

19-18. As the internal generation resources of Pallavan Transport Corporation Limited could not meet these financial outlays, the World Bank was approached for assistance. The World Bank which examined this proposal from both operational and financial angles and in relation to the complimentary programme of road improvement has approved a programme of procurement of 380 vehicles for replacement, 170 vehicles for augmentation, developing of three bus depots and eight bus terminals and 400 passenger shelters at a cost of Rs. 12.17 crores for the period 1977-80.

19-19. With the World Bank Assistance, in the first year (1977-78) of the Project period, 67 new buses have been put on road, one depot and five terminals are in various stages of construction and 100 passenger shelters have been completed.

Action will have to be taken to get the World Bank Assistance beyond the present project period of 1977-80.

Long Term measures to relieve congestion in the Metropolitan traffic :

19-20. (i) *Developing the inner corridor-connecting Mount Road with Tiruvellore Road.*—This will link the Guindy Industrial Estate, Anna Nagar, 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, the full benefits may not be realised during 1978-83.

(ii) Metropolitan Rapid Transport System.—

As against the expected traffic intensity of 14.7 lakh trips a day in the north-south eastern corridor (Tiruvottiyur to Kasturiba Nagar) by 1983, the bus system in this region at present can provide only about 6 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 Tiruvottiyur 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 :

19-21. The cost of the schemes under both metropolitan and non-metropolitan transport in the five year period 1978-83 adds up to Rs. 116.99 crores. Internal resources are estimated at Rs. 72.49 crores leaving thus a gap of Rs. 44.50 crores. The Tamil Nadu Transport Development Finance Corporation in 1977-78 gave financial assistance to the Transport Corporations to the extent of Rs. 4 crores (net). If 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 can raise its lending to the Transport Corporations to Rs. 35 crores. If the assistance from the World Bank is also taken into account, the balance will be about Rs. 3 crores only which has to be

met either by market borrowings or by loans from the Life Insurance Corporation. To obtain the assistance from World Bank a sum of Rs 1 crore is provided under IDA Scheme.

Inland Waterways—Improvements to Buckingham Canal (Centrally Sponsored Scheme) :

19-22. For effecting improvements to Buckingham Canal in Tamil Nadu limits, a Master Plan for Rs. 560 lakhs was prepared and sent to Government of India in 1975. The scheme provides for improvement works in South Buckingham Canal, at an estimated cost of Rs. 185 lakhs and in North Buckingham Canal at an estimated cost of Rs. 375 lakhs. However, the Government of India did not sanction the scheme and instructed the Government of Tamil Nadu to keep this scheme in abeyance for 2 years on the ground that the traffic potential was not encouraging. In the meantime, pending approval of the Master Plan, the first phase of works in North Buckingham Canal in reach M 0/0 to 10/1 costing Rs. 65.20 lakhs has been sanctioned and the work has already been executed.

19-23. The Government of India have also stated that the scheme relating to improvements to Buckingham Canal between Madras and Nellore at a cost of Rs. 200 lakhs has been recommended by the Working Group for inclusion in the Centrally Sponsored Schemes for the Five-Year Plan 1978-83.

19-24. The cost for improvements to North Buckingham Canal from M 10/1 to 35/6 as II phase of work works out to Rs. 210 lakhs

Central Sector—Sethusamudram Ship Canal Project.

19-25. 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 object to reduce the travel distance by 300 to 350 miles for the ships sailing from the West Coast to the East Coast of India around Sri Lanka. Between 1860 and 1968, as many as 14 proposals have been proposed but no approval from the Government of India was obtained so far.

19-26. A High Level Committee was constituted in 1963 with Shri C. V. Venkateswaran, retired Development Advisor to Government of India as Chief Engineer and the project report with an estimated cost for Rs. 37.50 crores was submitted to the Government of India. The Committee

observed that the Tuticorin Harbour Project and Sethusamudram Project should be executed as parts of one and the same project as their success depend on each other. An income of Rs. 232 lakhs per annum was anticipated with an expenditure of Rs. 70 lakhs (*i.e.*) Rs. 49 lakhs for operation and Rs. 21 lakhs for depreciation and the estimated net earnings would be Rs. 162 lakhs.

19-27. Execution of this project will be beneficial particularly to the under-developed and drought prone East Ramanathapuram District. Since it has a good employment potential, it is suggested that the scheme may be taken up early in the Central Sector.

19-28. The estimated cost of the project at present would be of the order of Rs. 100 crores. Since this is a navigational scheme, under water transport, this will have to be implemented by the Central Government.

RAILWAYS.

19-29. 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 while the bulk of goods traffic moves from d to areas served by the broad gauge in the North. This hampers quick movement of agricultural products and other goods. Considering the increased growth rate in passengers and goods traffic, construction of the following new lines as well as doubling of the track are to be taken up in the State during 1978-83 :—

(i) Construction of a third line between Villivakkam and Thiruvellore and between Gummidipoondi and Basin Bridge.

(ii) Karur-Dindugal-new broad gauge line.

(iii) Tiruchy-Madurai-parallel broad gauge line.

(iv) Chamaraja Nagar — Sathiamangalam Tiruppur-Dharapuram-Palani-new broad gauge line.

In addition to these, parallel broad gauge lines to the existing metre gauge lines in important lines of the State where the traffic has increased significantly and gauge conversion stretching from Karur to Tirunelveli (via) Dindigal, Madurai and Maniyachi is necessary.

19-30. Yards and terminals existing in Tamil Nadu are also to be improved in places like Erode, Jolarpet and Tondiarpet yards and terminals at Coimbatore, Madras Egmore, Madras Beach, etc.

19-31. 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—1978-83.

Year.	Requirement of buses (Number.)			Total cost on buses.	Cost on Civil works.	Total capital outlay.	Internal generation.	Gap.
	Augmenta- tion.	Replace- ment.	Total.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				(RUPEES IN CRORES.)	(RUPEES IN CRORES.)	(RUPEES IN CRORES.)	(RUPEES IN CRORES.)	(RUPEES IN CRORES.)
1978-79	213	526	739	11.09	1.50	12.59	10.70	1.89
1979-80	225	526	751	12.38	1.65	14.03	10.80	3.23
1980-81	160	526	686	12.49	1.82	14.31	11.30	3.01
1981-82	248	526	774	15.48	2.00	17.48	11.40	6.08
1982-83	262	536	798	17.56	2.20	19.76	11.50	8.26
Total ..	1,108	2,640	3,748	69.00	9.17	78.17	55.70	22.47

Table 19-II.
REQUIREMENT OF BUSES (NON-METRO).

<i>Serial number and name of STU.</i>						1978-79.			1979-80.			1980-81.		
						Aug.	Rep.	Total.	Aug.	Rep.	Total.	Aug.	Rep.	Total.
(1)						(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	P.T.C.(E)	..	..	..	..	15	57	72	16	57	73	11	57	68
2.	P.T.C.(D)	..	..	..	..	24	16	40	25	16	41	17	16	33
3.	PRC	..	..	..	..	43	93	136	45	93	138	32	93	125
4.	CTC	..	..	..	..	39	67	106	41	67	108	29	67	96
5.	CRC	..	..	..	..	31	107	138	33	107	140	24	107	131
6.	ATC	..	..	..	..	16	50	66	17	50	67	12	50	62
7.	KTC	..	..	..	..	31	92	123	33	92	125	24	92	116
8.	TPTC	..	..	..	..	14	44	58	15	44	59	11	44	55
Total						213	526	739	225	526	751	160	526	686

<i>Serial number and name of STU.</i>						1981-82.			1982-83.			Total.		
						Aug.	Rep.	Total.	Aug.	Rep.	Total.	Aug.	Rep.	Total.
(1)—cont.						(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1.	P.T.C.(E)	..	..	..	..	18	57	75	19	57	76	79	285	364
2.	P.T.C.(D)	..	..	..	..	27	16	43	28	16	44	121	80	201
3.	PRC	..	..	..	..	50	93	143	53	95	148	223	467	690
4.	CTC	..	..	..	..	44	67	111	47	69	116	200	337	537
5.	CRC	..	..	..	..	37	107	144	39	110	149	164	538	702
6.	ATC	..	..	..	..	18	50	68	19	53	72	82	253	335
7.	KTC	..	..	..	..	37	92	129	39	92	131	164	460	624
8.	TPTC	..	..	..	..	17	44	61	18	44	62	75	220	295
Total						248	526	774	262	536	798	1 108	2,640	3,748

Table 19-III.

STATE ROAD TRANSPORT UNDERTAKINGS (METRO)—REQUIREMENT OF BUSES, CAPITAL OUTLAY, INTERNAL GENERATION AND THE GAP IN RESOURCES—1978-83.

Year.	Requirement of buses (No.)			Total cost of buses.	Cost of Works.	Total Capital Outlay	Internal generation	Gap.
	Augmentation.	Replacement.	Total.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				(Rs. in crores.)	(Rs. in crores.)	(Rs. in crores.)	(Rs. in crores.)	(Rs. in crores.)
1978-79 .. ..	..	236	236	3.54	0.75	4.29	2.01	2.28
1979-80	146	254	400	6.60	0.75	7.35	3.32	4.03
1980-81	146	254	400	7.28	0.75	8.03	3.42	4.61
1981-82	146	254	400	8.00	0.95	8.95	3.70	5.25
1982-83	145	271	416	9.15	1.05	10.20	4.34	5.86
<i>Total for 5 years</i> ..	583	12.69	18.52	34.57	4.25	38.82	16.79	22.03

TABLE 19-IV.

FIVE-YEAR PLAN, 1978-83.

(STATEMENT T. R. 5)

Road Transport Undertakings—Outlays and Expenditure (Rs. in lakhs).

Serial number and Scheme.	Total cost.	5th Plan Outlay.	Expenditure up to 1977-78 in the case of spill over schemes.	Proposed Outlay 1978-83	Outlay					Employment potential in man days/year (in lakhs).			Remarks.
					1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Unskilled	Skilled.		
					(6)	(7)	(8)	(9)	(10)		Tech.	Non-Tech.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1. Purchase of buses—													
(a) For existing routes and new routes—													
(i) Number	1,691	213	371	306	394	407	5.86	25.0	15.43	..
(ii) Cost	3,172	320	612	557	788	895	..	..	..	..
(b) Buses for replacement—													
(i) Number	3,909	762	780	780	780	807	..	..	..	..
(ii) Cost	7,185	1,143	1,287	1,420	1,560	1,775	..	..	..	..
(c) Total—													
(i) Number	5,600	975	1,151	1,086	1,174	1,214	..	..	..	..
(ii) Cost	10,357	1,463	1,899	1,977	2,348	2,670	..	..	..	..
2. Purchase of Trucks, if any—													
(i) Number
(ii) Cost
3. Workshop including works building	1,342	225	240	257	295	325	..	..	..	..
4. Staff quarters
5. Other expenditure including purchase of Auxiliary vehicles.
6. Grand Total	11,699	1,688	2,139	2,234	2,643	2,995	..	..	..	..
7. Fleet at the end of the year—													
(i) Buses (Numbers)	5,330	3,852	4,223	4,529	4,923	5,330	..	..	..	..
(ii) Trucks (Numbers)

Chapter 20

PORTS, HARBOURS AND SHIPPING

20-0. Besides two major ports there are two Intermediate ports and 5 Minor Ports in the State.

20-1 During the Fifth Plan, a sum of Rs. 52.40 lakhs was spent for the development of Minor Ports of Cuddalore, Nagapattinam and Rameswaram. Due to the fall in the cargo traffic at Cuddalore and Nagapattinam, various schemes costing Rs. 200 lakhs originally envisaged in the Fifth Plan were deferred. The cost of spill over works at Cuddalore Port as on 31st March 1978 was Rs. 8 lakhs.

20-2. During the Plan 1978—83, the following projects are proposed :—

(i) *Rameswaram Port*.—Construction of a permanent pier for berthing ships at a cost of Rs. 180 lakhs is proposed. Once the Pamban road bridge which is under construction is completed and N.H. No. 4 is connected to Rameswaram and with ferry service to Sri Lanka, Rameswaram Port will have an International Port status. Even with all its disadvantages at present like anchoring of ships at 1.5 kms. from the shore, this Port handles more than 1 lakh passengers per year. If better facilities are provided, tourist traffic will increase which will be a source of income.

(ii) *Pamban*.—Dredging of Pamban Channel to 12 feet draft at a cost of Rs. 24 lakhs is proposed. The deepening of this channel which is now less

than 6 feet will boost the coastal traffic between West Coast and East Coast. The fishing trawlers can also use the dry dock facilities at Mandapam.

(iii) *Nagapattinam*.—Construction and supply of one new Cutter Suction Dredger at a cost of Rs. 55 lakhs is proposed. The dredger now available being 30 years old and of low dredging capacity, is not adequate to keep the channel free of silt. At present, it is not possible for vessels to utilise the fishing harbour at Kadavayur and also the ice plant available there due to heavy silting in the approach to the harbour.

(iv) *Colachel*.—Following a feasibility study, construction of a pier or any other mode of development to improve the rate of loading operations at a cost of Rs. 15 lakhs is proposed. This port handles about 50,000 tonnes of illuminate sand exported by the Indian Rare Earths Limited at Manavalakurichi which is 3 kms. from Colachel. The main disadvantages are lack of a pier and protected stacking area. The ship and shore traffic is being done at present by canoes of 1 to 3 tonnes capacity and the cargo also becomes wet. Only if there is a pier or a wharf big boats of 30 to 40 tonnes could be employed to quicken the loading operations. This port can be developed to handle about 3,000—4,000 tonnes a day ; the Rare Earth Factory at Manavalakurichi can then export more cargo through this port.

(v) *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 are selected by the Fisheries Department for development of landing facilities in the VI Plan period 1978–83. One division with an Executive Engineer which is all that is available at present is not sufficient to carry out these programmes. In the first phase one Superintending Engineer and one Additional Executive Engineer would be added and further expansion would be done in stages as and when schemes are sanctioned. The cost on establishment will be Rs. 5 lakhs per year.

(vi) *Hydrographic Survey Wing.*—As there is no hydrographic survey wing in the Port Department, the Minor Ports Survey Organisation of Government of India is being approached every time and there is considerable delay in the survey works as that organisation itself has a number of programmes on its hand. A sum of Rs. 10 lakhs is provided for purchasing survey launch and equipments. The cost on establishment will be Rs. 0.60 lakhs per year.

20.3. The proposed 1978–83 Plan outlay on Ports and Harbours is as follows :—

	<i>Outlay for 1978, 1983.</i>
	(RUPEES IN LAKHS.)
(A). Capital Outlay—	
(i) Spillover Works	8
(ii) Rameswaram Port	180
(iii) Pamban Port	24
(iv) Nagapattinam Port	55
(v) Colachel Port	15
(vi) Hydrographic Survey Wing.	10
Sub-Total (A) ..	292
(B). Revenue Account (Recurring)—	
(i) Strengthening of Port Engineering Division—Establishment cost of Rs. 5 lakhs per year.	25
(ii) Formation of Hydrographic Survey Wing—Establishment cost of Rs. 0.6 lakhs per year.	3
Sub-Total (B) ..	28
Total (A) and (B)	32

Shipping :

20.4. Poompohar Shipping Corporation Limited was established in April 1974 to move 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 vessels M.V. Tamil Anna and M.V. Tamil Periyar E.V.R. in December 1974 at a cost of Rs. 139 lakhs and Rs. 75 lakhs respectively. During the 12 months from March 1975 to February 1976, the two vessels carried 1.23 lakhs tonnes of coal from West Bengal collieries to Madras. Since June 1976 due to the delinking of coal requirements of the thermal stations at Madras from Bengal-Bihar and linking them to collieries in the Chanda Region in Madhya Pradesh by Government of India, the vessels had to meet the needs of only industrial users like India Cements Tamil Nadu Cements Corporation, etc.

20.5. A linkage is now re-established by the Tamil Nadu Electricity Board with Bengal-Bihar Coal fields. However, due to absence of adequate number of railway wagons, the Electricity Board is again using the Corporation vessels since March 1978. The Tuticorin Thermal Power Station under construction will have 3 units of 210 M.W. each and the first unit is expected to be commissioned in December 1978. The second unit would be ready in June 1979 and the third unit in December 1979. With the commissioning of these 3 units, the coal requirement of Tamil Nadu Electricity Board is expected to increase from 1 lakh tonnes in 1978–79 to 7 lakhs tonnes in 1979–80, 14 lakhs tonnes in 1980–81 and 18 lakhs tonnes thereafter. A contract has been entered into by the Corporation for a period of 20 years for transporting coal between Haldia Port and Tuticorin.

20.6. The existing 2 vessels are aged more than 20 years and their capacity is also inadequate to meet the future requirements. Government have decided to dispose of these vessels and have permitted the Corporation to buy 2 or 3 vessels of 35,000 D.W.T. each to meet the requirements of transporting coal for the Tamil Nadu Electricity Board.

20.7 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 1978–83 is Rs. 2 crores.

TABLE 20-I.

FIVE-YEAR PLAN, 1978-83.

Minor Ports—Outlays and Expenditure.

Schemes.	Total cost.	Proposed outlay 1978-83.	(RUPEES IN LAKHS.)				
			Outlay.				
			1978-79.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Spillover schemes—</i>							
1 Cuddalore Port—Construction of cargo shed ..	5.00*	5.00	1.00	4.00	..	..	..
2 Provision of revetment on the Eastern Bank of Uppanar for a length of 600 metres.	3.00*	3.00	1.00	1.00	1.00	..	..
<i>New schemes—</i>							
1 Rameswaram Port	180.00	180.00	Nil.	48.00	54.00	40.00	38.00
2 Pamban Port—Dredging	24.00	24.00	Nil.	12.00	12.00	..	..
3 Nagapattinam Port—Dredger	55.00	55.00	Nil.	..	15.00	20.00	20.00
4 Colachel Port	15.00	15.00	2.00	3.00	5.00	5.00	..
5 Hydrographic Survey Wing	13.00	13.00	0.60	1.60	4.60	5.60	0.60
6 Strengthening of Port Engineering Division ..	25.00	25.00	Nil.	6.00	6.00	6.50	6.50
Total—Minor Ports ..	320.00	320.00	4.60	75.60	97.60	77.10	65.10

(* Cost of the spillover works.)

Schemes.	Employment potential in mandays.		
	Unskilled.	Skilled.	
		Technical.	Non-Technical.
(1)—cont.	(9)	(10)	(11)
<i>Spillover schemes—</i>			
1 Cuddalore Port—Construction of cargo shed ..	6,000	900	3,000
2 Provision of revetment on the Eastern Bank of Uppanar for a length of 600 metres.	4,000	600	1,500
<i>New schemes—</i>			
1 Rameswaram Port	240,000	48,000	60,000
2 Pamban Port—Dredging .. .. .	..	..	..
3 Colachel Port	12,000	4,000	6,000
4 Nagapattinam Port—Dredger .. .. .	..	Purchase of Machineries.	
5 Hydrographic Survey Wing .. .. .	..	Do.	..
6 Strengthening of Port Engineering Division ..	..	120,000	36,000
Total—Minor Ports ..	262,000	173,500	106,500

TABLE 20-II.
FIVE-YEAR PLAN 1978-83.

Serial number and scheme.	Total cost.	Shipping.								(RUPEES IN LAKHS).		
		Fifth Plan. outlay.	Expenditure upto 1977-78 in case of spillover schemes.	Proposed outlay 1978-83.	Outlay.					Employment potential in mandays.		
					1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Unskilled.	Skilled.	
					(6)	(7)	(8)	(9)	(10)		Technical.	Non-Technical.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1 Assistance to Poomphur Shipping Corporation.	3 vessels proposed to be acquired. \$ 27 million.	\$ 27 M	..	200-00	..	100-00	100-00	..	..	..	19,440 in a year.	1,800 in a year.

Chapter 21

GENERAL EDUCATION AND ART AND CULTURE

Education for Development of Human Resources :

21.0. Educational and Man-power Planning are inseparable in Indian economy. We are elsewhere considering employment and man-power aspects. In this chapter for budgetary purposes, we are discussing educational outlays.

Education is viewed as a social and economic investment to ensure a continuous process of economic development and social change. The acquisition of skills and new attitudes, development of personality and the formation of a disciplined and educated citizenry are among the goals of education. Economic planning in respect of education has oscillated between two conflicting aims of (i) education for all and consequential explosion in mass education and (ii) the quest for excellence in research and advanced studies involving enormous per capita investments in higher education for a few who form the link between international standards of educational achievement and our immediate possibility for the masses. In this plan exercise, attempts are made to reconcile the social purpose of giving education to all children up to the age of 14 as has been directed under the Constitution of India and also to ensure higher education with the dual objective of socio-economic change especially in respect of the economically and socially weaker sections of the society and simultaneously the quest for higher

standards and qualitative achievements. The review section (21.7) that follows states the position in respect of age-groups 6-11, 11-14 and 14-17 for boys and girls for the years 1973-1978.

21.1. Modernisation and innovation, regurgitative views of higher education which need to be made relevant, understanding of International examples to meet Indian situation, enabling University of Madras to be a major Indian Centre for national and international studies, logical structuring of innovation and changes—modernisation of data gathering, inventing suggestions and encouragement of operations research, the engineering of packages and programmes for operational research, testing and evaluation, formation of information systems, demonstration of the effectiveness of the packages and programmes, training of product systems in the use of packages and programmes and servicing and nurturing education are some of the instruments to attain the following phases of educational planning :—

- (a) Identification of operational projects ;
- (b) Solution of operational projects ;
- (c) Operationalisation of solutions ;
- (d) Assessment of effectiveness and efficiency of the packages and programmes ;
- (e) The making of potential adopters aware of the existence of the packages and programmes ;

(f) The conviction of adopters of the efficiency of the packages and programmes ;

(g) Development of a level of research competent with the packages and programmes ; and

(h) Completion of the Planning efforts and identification of second generation situations.

21.2. After a review of the earlier Five-Year Plan period, and directions of development outlays, we should arrive at quantitative changes, qualitative improvements and socio-economic targets for pre-school education, elementary education, expansion of facilities, improvement of quality, improvement of physical facilities, change in hours of work, orientation for social and economic development, along with work experience and academic skills.

21.3. Secondary Education in terms of magnitude, scope for academic proficiency, scope for vocationalisation expansion, quantitative gains and problems, qualitative improvement, girls education, sports education-leisure-time activities for children like fine arts, music, painting, etc., are some of the main areas of planning.

21.4. In terms of higher education the main themes, problems and issues are the admission policy, the role of graduate studies, Post-graduate studies, the unique problems of Madras University, the strengthening of post-graduation in Colleges, funding and promotion of research and qualitative improvement in colleges, expansion of Universities with distinct academic purpose, a study of University income and expenditure patterns, the role of new Universities, the role and functions of bodies to co-ordinate the developmental and planned efforts of the Universities in Tamil Nadu vis-a-vis University Grants Commission, Indian Council of Social Science Research etc., the development and strengthening of English and Tamil as State languages, the establishment of specialised institutions of English studies, modern Tamil studies, regional and specialised institutions for Physical Education, leisure time activities, fine arts, music, painting etc., and games, sports and physical culture, especially swimming and ocean-based occupations to care for the sea area of 200 miles from the coast line of Tamil Nadu.

21.5. Special Programmes like establishment of new divisions under the Tamil Nadu Text Book Society like Reference Publications Division and Academic Scales Promotion Division would strengthen all levels of educational endeavours.

21.6. Revival of traditional cultural attainments, modernisation of art for socio-economic transformation, planning and implementation machinery, monitoring of Primary, Secondary and Higher Education, Research and Development in Education, Comparative studies of All India Plans and Tamil Nadu Plans and linkages between Polytechnics, Technical institutions and vocational level of plus two stage of education, also form the developmental features of Planning. Degree courses : goals and aims, expansion of post-graduation, the role of technological universities, spread of management education, linkage between science and technology, plan for Scheduled Castes and Backward Classes and research and development are other areas of planning to be considered.

Review of past performance :

21.7. The review of past performance and the present position in various fields of educational activities are given in the sections below .

The position at the end of the Fifth Plan period :

21.8. 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 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 groups 6-11, 11-14 and 14-17.

As per the Third All-India Educational Survey taken in December, 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 :—

(1)	Population			Year.	Total expenditure from State Government funds on Revenue account. (Rupees in crores.).	Expenditure under Education Demand (Rs. in crores).	Percentage of column (3) to column (2).	Plan expenditure component included in column (3).
	(2)	(3)	(4)					
1 Primary Schools available in the habitation.	147	16,167	8,043	1973—74 (Actuals).	4.73	104	21.9	12
2 Primary Schools available within 1 k.m. of habitation.	3	1,438	10,161	1974—75 (Actuals).	5.28	115	22.0	7
3 Primary Schools available within 1-2 k.m. of habitation.	9	801	5,024	1975—76 (Actuals).	5.58	123	22.0	7
4 Primary schools available at a distance of more than 2 k.m.	..	..	1,562	1976—77 (Actuals).	6.28	143	23.0	7
				1977—78 (R.E.)	7.09	169	24.0	12
Total ..	159	18,406	24,790					

(excludes 3 crores under capital budget.).

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 kilo-metres and the population in these habitations was only 1.87 lakhs, which was only 0.65 per cent of the total rural population.

Performance in the Fifth Plan period :

21.9. Educational expenditure constitutes the highest single component in the Budget. From the early sixties educational expenditure has continued to account for a steady 22 per cent of the total expenditure of the Tamil Nadu Government on the

revenue account. The details for the past few years are given below :—

Year.	Total expenditure from State Government funds on Revenue account. (Rupees in crores.).	Expenditure under Education Demand (Rs. in crores).	Percentage of column (3) to column (2).	Plan expenditure component included in column (3).
1973—74 (Actuals).	4.73	104	21.9	12
1974—75 (Actuals).	5.28	115	22.0	7
1975—76 (Actuals).	5.58	123	22.0	7
1976—77 (Actuals).	6.28	143	23.0	7
1977—78 (R.E.)	7.09	169	24.0	12

(excludes 3 crores under capital budget.).

(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 special items such as approved schools, Industrial training institutes, etc., nor does it include expenditure on Medical, Agricultural and Veterinary education. All these items account for about Rs.30 crores every year in recent years and if 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).

21.10. The Fifth Plan outlay sectorwise is given below:—

Sector.	Tentative V Plan outlay suggested by Tamil Nadu in September 1973.	V Plan outlay approved by Union Planning Commission in October 1976.	Actual expenditure.				Total for four years.	Proposed for 1978-79.
			1974-75 (Actuals).	1975-76 (Actuals).	1976-77 (Actuals).	1977-78 (B.E.)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
General Education	75.06	43.04	6.27	5.69	7.14	10.41	29.51	16.62
Art and Culture	2.30	1.43	(-)0.09	0.19	0.15	0.26	0.51	0.31
Technical Education	10.75	5.53	0.70	0.51	0.69	0.90	2.80	1.38
Total—Education	88.12	50.02	6.88	6.39	7.98	11.57	32.82	18.31
Total—State Plan	12,19.00	11,22.32	1,41.33	1,72.71	2,42.47	2,60.92	8,17.43	297.51

(RUPEES IN CRORES).

The expenditure under General and Technical Education has progressively increased during the years. 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 period. During the Fifth Plan period, the non-plan expenditure under school education programmes increased from Rs. 92.78 crores in 1974-75 to Rs. 1,16.71 crores at the end of 1976-77. The bulk of the non-plan expenditure is accounted for in the primary education sector.

Objectives and Approach to the Plan 1978-83.

21.11. The instruments and phases of educational planning mentioned in section 21.0 above would ensure the following objectives :—

(a) A far greater priority for a programme of universalising elementary education in the age group 6-14 with special emphasis on the enrolment of girls and the children of weaker sections of the community ;

(b) Priority for Adult Education with special emphasis on illiterates in the age group 15-35 ;

(c) Emphasis on vocationalisation at the Secondary stage and the improvements of quality of secondary stage and higher education ;

(d) An integrated look at the plan and the non-plan provisions in the budget ;

(e) Improvement of the quality of monitoring and implementation of the programmes ; and

(f) Development of a rural development strategy in the educational programmes, encouragement of science education and a system of non-formal education and training at all stages.

21.12. The educational policies of the Government of Tamil Nadu during the earlier plans were directed towards universalisation of elementary education for all the children upto the age of 14 and to remedy the education 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 during the Plan period 1978-83 for achieving these objectives, within the available resources.

The Programmes for the Plan 1978-83:

21.13. The outlays proposed under each sector of education are as below :—

TABLE 21.1.

Serial number and sector. (1)	Total outlay for 1978-83. (2) (RUPEES IN LAKHS.)
<i>State Plan—</i>	
1 Elementary Education	32,30
2 Secondary Education	10,06
3 Higher Secondary Education ..	20,00
4 Adult and Non-formal Edu- cation.	4,00
5 Higher Education	8,64
Total—General Education ..	75,00 or 75.00 crores.
<i>Centrally sponsored Central Sector scheme—</i>	
1 Adult Education (N.A.E.P.) ..	13,00 or 13.00 crores.

Plan and Non-Plan Components:

21.14. Elementary Education, Adult and Non-formal Education and Higher Secondary Education will receive priority in the plan period. 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 non-plan component of the education budget has increased much over the years. From Rs. 108.98 crores in 1974-75 it has increased to Rs. 1,62.29 crores in 1977-78 registering an increase of 48.9 per cent. The bulk of the non-plan expenditure is accounted for in the primary education sector. 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

Programmes 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 in the face of retrenchment of personnel.

Elementary Education :

21.15. The enrolment of children in the age group 6-11 increased from 90.2 per cent in 1973-74 to 93.4 per cent in 1977-78. Similarly the enrolment of children in the age group 11-14 and 14-17 increased from 52.3 per cent and 33.0 per cent in 1973-74 to 56.8 per cent and 33.4 per cent respectively in 1977-78. 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 in primary schools. In spite of the fact that Primary Schools are provided for all pupils near their houses, yet about 42 per cent of the pupils drop out without completing even the primary stage of education.

21.16. The outlay for Elementary Education for the Plan 1978-83 is Rs. 32.30 crores. This forms 43 per cent of the total outlay on Education. The outlay covers the requirements envisaged for the Revised Minimum Needs Programme for Elementary Education.

21.17. The main stress will be on extending education to non-attending children, reduction of wastage and stagnation and raising the attendance rates.

Enrolment targets in Elementary Education :

21.18. The single age group population figures for Tamil Nadu have been made available by the Government of India in June, 1978. According to these figures, the total population of age group 6-11 in 1983 will be 63 lakhs. Therefore, in order to ensure that all school-age children in the age group 6-11 are in schools, the actual enrolment in 1982-83 should be of the order of more than 110 per cent of 63 lakhs, i.e., about 69 lakhs taking into account repeaters and under aged and over aged children. In order to achieve cent per cent enrolment under the age group 6-11 about 10 lakhs of pupils will have to be additionally enrolled in standards I to V during the period 1978-79 to 1982-83. As regards the enrolment of children in the age group 11-14, the present enrolment of 17 lakhs in standards V to VIII should be stepped up to 33 lakhs in 1982-83 to

ensure cent per cent enrolment. However, it will not be possible to enrol the additional 10-17 lakhs of pupils of age group 6-11 and 11-14 under the formal system before 1982-83. The average annual enrolment in the age group 6-11 and 11-14 during the earlier plans was 2 lakhs of pupils. The same target is therefore proposed for the plan 1978-83. The remaining number yet to be enrolled will be 17 lakhs. Even with the most strenuous efforts, it may not be realistic to project for the enrolment of 10 lakhs of children in the age group 6-14 under non-formal educational system. It may be seen under Section 21.21 that a provision of Rs. 4 crores has been made for enrolment of children in the age group 6-14 under the non-formal system.

Teacher requirements in Elementary Education :

21.19. In the matter of enrolment of children care will be taken to enrol as many girls and children from the weaker sections of the community. For the proposed enrolment of 2 lakhs of pupils annually, 5,000 teachers will be additionally required or a total of 25,000 teachers for the five year period. The additional teachers will also serve the new elementary and higher elementary schools proposed to be opened in needy areas. The number of higher elementary schools will be increased from the present 5,700 by another 3,000 taking care to establish viable units in target areas. In addition to the 25,000 teachers required to meet the requirements of additional enrolment during 1978-83, another 24,000 teachers will be required to clear the backlog of requirements of teachers to reduce the teacher pupil ratio to a reasonably manageable level. Thus the total requirements of additional posts for the Plan period will be 49,000. Since 3,200 Tamil Pandits are proposed to be created in higher elementary schools and 2,800 posts of B.T. teachers will be created as Headmasters in these schools (to improve the standards) the needs of 6,000 out of the said 49,000 posts will be met. The remaining 43,000 posts will be required as Secondary grade. Taking into account the overall financial outlay, it is proposed to fix the requirements of secondary grade teachers at 13,000 posts during the plan period at the rate of 1,000 already created in 1978-79 and 3,000 to be created every year from 1979-80 onwards. In addition, 1,500 Physical Education teachers and 1,200 craft instructors will also be created in a phased programme in the higher elementary schools in order to promote physical education, sports and games and socially

useful productive work in schools. The Table 21.2 below gives the details of the additional requirements of teachers for universalising ele-

mentary education, for bringing down teacher pupil ratio to manageable levels and for qualitative improvement.

TABLE 21.2.

Category of teachers.	Plan period.					Total. (Rupees in lakhs).
	1978-1979.	1979-1980.	1980-1981.	1981-1982.	1982-1983.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
For Elementary and Higher Elementary Schools.						
Secondary Grade Teachers (for additional enrolment in age group 6-11 and 11-14)						
Outlay (Rupees in lakhs)	446	105	225	354	485	1,615
Number of posts	1,000	3,000	3,000	3,000	3,000	..
For Higher Elementary Schools.						
Tamil pandits—						
Outlay (Rs. in lakhs)	20	35	80	110	135	380
Number of posts	200	800	800	700	700	..
B.T. Headmasters —						
Outlay (Rs. in lakhs) .. .. .	..	30	75	105	140	350
Number of posts .. .. .	..	700	700	700	700	..
Physical Education Teachers —						
Outlay (Rs. in lakhs)	15	12	27	44	57	155
Number of posts	100	350	350	350	350	..
Craft teachers—						
Outlay (Rs. in lakhs)	39	8	18	29	37	131
Number of posts .. .. .	..	300	300	300	300	..
Total outlay (Rs. in lakhs)	520	190	425	642	854	2,631 or 26.31 crores.
Number of posts of (All categories)	1,300	9,000	9,000	9,000	9,000	..

21.20. The intake of various teachers' training institutions has been drastically reduced in view of the unemployment of trained teachers. However, there will be output of trained teachers and these will be set off against the normal retirement vacancies at one and a half per cent of the existing teaching strength of two and a half lakhs of teachers. The backlog of unemployed trained teachers will, therefore, be adequate to meet the requirements of additional posts of teachers as detailed above for the plan period.

Non-formal Education :

21.21. As stated earlier 17 lakhs of pupils in the age group 6-14 will have to be enrolled in 587C-6-40

1978-83 under non-formal education. However, suitable programmes will be drawn up to enrol only about 10 lakhs of pupils during the plan period. New Centres will be opened particularly in areas of concentration of scheduled castes and scheduled tribes. The programme will include schemes for continuing education, purchase of audio visual aids, publicity and requirements of teachers. The total cost of the scheme will be Rs. 4.00 crores. A provision of Rs. 40 lakhs has been made for Adult Education and Non-formal Education in 1978-79. There will be four additional centres of non-formal education for the age group 6-14 in rural areas in each of the 374 Panchayat Unions in the State. In addition,

there will be 1,400 centres of adult education and non-formal education functioning with Central assistance. The unit cost in elementary education will be considerably reduced because of the adoption of the programmes of part time and non-formal education envisaged.

21.22. *Incentive Programmes* :—(a) *Midday Meals*.—Provision of midday meals in all elementary schools has a major role in promoting and retaining enrolment in the schools. At the end of 1977-78, about 20.25 lakhs of pupils in Standards I to VIII of elementary and higher elementary schools received midday-meals including the 1.65 lakhs of pupils fed in Harijan Welfare Schools. Ninety-seven Central Kitchens are functioning in three districts, established with CARE assistance at a total cost of about Rs. 2.00 crores. They are serving about 4 lakhs of pupils in these districts. The scheme aims to cover one-third of the total number of pupils studying in the Primary and Upper Primary Schools. But there has been a shortfall by 1.75 lakhs annually in the attainment of the target. One-third of the targeted additional enrolment of 2 lakhs of pupils from 1979-80 onwards will be 66,000 pupils and assuming that the additional coverage under midday-meals due to additional enrolment will be about 2.5 lakhs, the total coverage will be 4.25 lakhs, i.e., backlog of 1.75 lakhs of pupils plus 2.5 lakhs due to additional enrolment in Standards I to VIII. Provision has been made in the Plan for the coverage of 25,000 pupils during 1978-79 and the expenditure for additional coverage will be made in the non-plan side from 1979-80 onwards, since this is a commitment approved by Government as early as in 1957.

Petrol vans gifted by CARE for transporting the food from the Central Kitchen to the schools in three districts need to be replaced by diesel vans as and when they wear out. A sum of Rs. 70 lakhs is provided in the Plan for the replacement of the existing vans by diesel vans in a phased manner. It will be worthwhile to extend the Central Kitchen Scheme to two more districts, viz., Ramanathapuram and Dharmapuri where a number of taluks have been declared as backward. The CARE organisation is expected to bear up to two-third or even more of the non-recurring cost on buildings, kitchen equipments and vehicles. A provision of Rs. 84 lakhs has been earmarked for this scheme.

(b) *Free Books and Slates*.—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 lakhs is met from the Tamil Nadu Text Book Society funds. In the 1,028 schools run by the Harijan Welfare Department, text books, note books and slates are distributed free of cost to students studying in these schools. During 1977-78 1,49,925 students benefited under the scheme. The scheme for supply of free books and slates now confined to the poor pupils studying in standards I to III will be extended to about one-third of the pupils studying in Standard IV and Standard V, i.e., 6 lakhs of pupils. The Tamil Nadu Text Book Society will be approached for extension of this programme. The total cost of the scheme will be Rs. 30 lakhs per annum.

(c) *Free Uniforms*.—The scheme envisages the extension of this benefit to the Elementary Schools with a large number of Scheduled Castes and Scheduled Tribes. It is proposed to supply free uniforms to 4 lakhs of pupils additionally from 1979-80 onwards at a cost of Rs. 20 per year, per student. The total cost of this scheme will be Rs. 3.20 crores at the rate of Rs. 80 lakhs per annum.

Elementary School Buildings:

21.23. Provision for building grants to 19,900 Elementary and 3,100 Higher Elementary Schools run by Panchayat Union Councils in Tamil Nadu is made under the Community Development sector. The total provision made was between Rs. 50.75 lakhs every year during the Fifth Plan period. During the Plan, it is envisaged that the present provision on building grants might be stepped up by Rs. 1.50 crores annually in the Community Development Plan. In respect of the elementary school buildings in Non-Panchayat Union areas, a total provision of Rs. 1.75 crores for building grants at the rate of Rs. 40 lakhs per annum, from 1979-80 onwards, has been made in the plan.

Qualitative Programmes :

21.24. For the purpose of improvement of science education in elementary schools, grants are given for purchase of science equipments and teaching aids. Till 1977-78, 12,620 elementary schools and 3,834 higher elementary schools have been benefited under this scheme. During the plan 950 elementary schools will

be covered under this programme at the rate of 150 in 1978-79 and 200 each from 1979-80 to 1982-83. The total cost of the scheme will be Rs. 10 lakhs. The programme for improving the qualifications and motivation of teachers and providing in-service training to teachers in the form of deputation of B.T. Assistants for M. Ed. courses, training in English teaching and UNICEF and health education programmes are all committed schemes and will be continued under the non-plan provision.

Secondary Education :

21.25. The number of High Schools in Tamil Nadu including Matriculation and Central Schools increased from 2,823 in 1973-74 to 3,058 at the end of 1977-78. During 1977-78, 28 High Schools (21 Government schools and 7 aided schools) were newly opened. The number of teachers in position increased from 65,959 in 1973-74 to 73,039 at the end of 1977-78. There were 18.31 lakh pupils in the High Schools in the State during 1977-78.

21.26. *Expansion of facilities*:— The average additional enrolment under the age group 14-17 was 20,000 every year in the past. In order to keep pace with the anticipated tempo of enrolment in the age group 6-14 it is proposed to double the additional enrolment in the age group 14-17 and fix the target at 40,000 pupils per annum during the plan period. To sustain this target, the minimum requirements of teachers including B.T. grade, Tamil Pandits, Physical Education teachers and craft instructors will be 500 additional posts every year from 1979-80 onwards as shown below :—

Year.	Outlay.	Number of teachers required.
(1)	(2)	(3)
	(RS. IN LAKHS).	
1978-79	201	500
1979-80	24	500
1980-81	45	500
1981-82	80	500
1982-83	110	500
Total ..	460	2,000
	or	
	4.60 crores.	

21.27. In the enrolment of pupils, importance will be given for enrolment of girls particularly from the Scheduled Castes and Tribes. Facilities for continuing education for drop-outs has been made in the Adult and Non-formal Education Centres functioning in Tamil Nadu

21.28. Under the scheme for assistance to non-Government Schools, grants are given for building and science equipment. Each school receives a grant of Rs. 40,200 out of which Rs. 18,000 is for equipment and the balance of Rs. 22,200 is for laboratory building. By 1977-78, 943 High Schools have been covered under this scheme. The outlay for the scheme is Rs. 20 lakhs in 1978-79, including provision for spillover expenditure. Twenty-five more schools will be covered in 1978-79. From 1979-80 onwards, it is proposed to cover 60 High Schools every year additionally at a cost of Rs. 30 lakhs per annum.

Higher Secondary Education :

21.29. 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 about 900 have been upgraded as Higher Secondary Schools from 1978-79. It has been so planned that one school is available as far as possible in each panchayat union area. The Higher Secondary Schools will offer at least one vocational course out of a total of 50 approved subjects. These 900 schools had in 1978-79 a strength of 1 lakh of pupils in the first year of the higher secondary course. The Government have directed that Tamil shall be the medium of instruction in Higher Secondary Schools in both the 11th and 12th standards. No tuition fees will be charged from those who study in Tamil medium. However, those who wish to study in English medium are permitted to do so on payment of tuition fees. The Polytechnics and Engineering Colleges have to provide all the support and goodwill if the Higher Secondary Course is to reach a measure of success. A cash endowment of Rs. 25,000 has been prescribed for each aided or municipal high school selected. Similarly for Government institutions the local public have to contribute Rs. 25,000 in cash. The total requirements for Higher Secondary Education during the plan period will be as follows :—

Items.	1978-79	1979-80	1980-81	1981-82	1982-83	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN CRORES.)					
Staff .. ..	..	1	1	1	1	4
Equipment .. ..	..	1	2	2	2	9
Buildings .. ..	..	3	1	1	1	7
Total ..	4	4	4	4	4	20

21.30. Post-graduate teachers with the required experience have been appointed to the various teaching posts at the higher secondary stage, to the extent possible. The curriculum and syllabi for the higher secondary course have been drawn up and books have been published by the Tamil Nadu Text Book Society.

High School Buildings :

21.31. An outlay of Rs. 2.66 crores has been provided in the plan for high school buildings including construction and maintenance. During 1978-79, a sum of Rs. 66 lakhs has been provided, of which Rs. 42 lakhs represents the spill over works and Rs. 24 lakhs are for new works. From 1979-80 onwards the provision made for each year is Rs. 50 lakhs.

Improvement programmes in High Schools:

21.32. Besides equipping high schools with science laboratories, mobile science laboratory vans are also provided to cater to the needs of science teaching in rural high schools where the laboratory facilities are still to be provided. So far 42 mobile science laboratory vans have been provided in 42 Educational districts. But the cost of running these vans is considerably high and, therefore, the Government is considering not to extend the scheme to other districts.

21.33. Books for high schools libraries are being supplied now. It is proposed to increase the provision for purchase of books to Rs. 2 lakhs per annum at the rate of Rs. 1,000 per school. Every year, 200 high schools will be covered. The total cost of this improvement will be Rs. 10 lakhs for the plan period.

21.34. To improve the audio-visual educational facilities in schools, schemes for purchase and supply of television sets to selected high schools and provision of 16 mm sound projectors, strengthening the State Film Library and conduct of script writers' course will be formulated during the plan period at a total cost of Rs. 5 lakhs.

Other Programmes of Education:

21.35. For effective inspection of elementary schools 601 Inspecting Officers are required. There are now 522 Deputy Inspectors and Junior Deputy Inspectors in charge of inspection work. Additional posts of inspecting staff are required. There is also need for creation of Chief Educational Officers in two districts, and one more District

Educational Officer for Madras city with the necessary supporting staff. The creation of these posts will improve the efficiency of the Directorate of School Education. The total cost of providing these services during the plan period will be Rs. 61 lakhs.

21.36. 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. It is engaged in conducting result-oriented seminars, training courses and workshops and has adopted 50 school villages. Under the plan, teachers are trained to participate in rural development activities. These programmes will be vigorously pursued, and a provision of Rs. 14 lakhs is made in the Plan in addition to possible redeployment of funds for SCERT under non-plan outlay.

21.37. For effecting improvements in the conduct of Government Examinations and for strengthening the Directorate of Government Examinations suitable schemes have been drawn up at a total cost of Rs. 20 lakhs.

University Education:

21.38. The number of Arts, Science and Commerce Colleges increased from 178 in 1973-74 to 188 at the end of 1977-78. The number of students in these Colleges also increased from 1.95 lakhs in 1973-74 to 2.09 lakhs in 1977-78. The number of teachers increased from 10,059 in 1973-74 to 12,206 in 1977-78. The needs of the State in the matter of Colleges of Art and Sciences seem to have been almost met. While there is pressure for admissions in a few selected Colleges in urban areas, there is surplus in the capacity in Colleges in rural areas. During 1977-78, 9,000 seats in the Pre-University classes and 11,000 seats in the degree classes were vacant in the Colleges in the State.

21.39. In respect of University Education, it is essential to ensure the following :—

(i) Strengthening of the existing areas of specialisation ; Universities to meet the intellectual challenges at home and abroad ;

(ii) Funding on a long term basis the production of reference works like Dictionaries, Encyclopaedia and Research publications, books and periodicals ;

(iii) Assuring improvement in quality of research towards encouraging academic exchange

socio-economic research and applied scientific results relevant to the State and the country

(iv) Continuity of emphasis on English and Tamil as media of Higher Education for general functional and other intra-State and international purposes ;

(v) Development of new institutions and universities to meet the gaps in the areas of higher learning and to encourage new specialities.

21.40. During the Plan 1978-83, it is proposed to establish two new universities of the affiliating type, one at Tiruchirappalli and the other at Coimbatore. A lumpsum provision of Rs. 1 crore has been made for the new Universities.

21.41. Tamil Nadu which has a student population of about 2.5 lakhs in Colleges has only 3 Universities while certain other States have 10 Universities for student population of 1.81 lakhs, 11 Universities for student population of 2.68 lakhs and 8 Universities for 1.75 lakh student population and so on.

21.42. The decision of the Government to open two new Universities is in the line of recommendations of the Committee on Universities that an University should not have more than 30 or 40 Colleges affiliated to it. At present, 110 Colleges are affiliated to Madras University, 77 Colleges to Madurai Kamaraj University and one to the Annamalai University.

Grants to Universities :

21.43. The Madras, the Madurai Kamaraj and the Annamalai Universities are getting grants in 1978-79 to the tune of 1.50 crores under non-plan and Rs. 50 lakhs under Plan. From 1979-80, the plan grant of Rs. 50 lakhs will get merged under non-plan, which would total up to Rs. 2.00 crores. On this basis, there will be a total provision of Rs. 9.50 crores under non-plan during the years 1978-83. For new Development schemes of the three universities during the plan period 1978-83, a lumpsum provision of Rs. 148 lakhs has been made. A total provision of Rs. 3.00 crores for grants to universities and Plan for the universities has been made in the starting new Five-Year period.

21.44. Besides the aforesaid funds of Rs. 3.00 crores directly earmarked for higher education for all the Universities, it is both logical and feasible to obtain a substantial share of Rs. 4.00

crores made available, under Adult and Non formal Education Plan of the State Sector and Rs. 13.00 crores expected from the Government of India, for developing education and academic skills, publications, etc., for the age group 17 plus which is within the educational reach of the Universities in Tamil Nadu.

21.45. Higher education whether humanities or pure sciences or applied sciences should be encouraged at the highest University level of attainment. In this planning exercise the distinction between general purpose universities and Agricultural and Technological Universities varies for the purpose of accounting and Autonomy of University administration and several distinctive Universities and institutes of higher learning could be sustained. In this chapter, however, the plan regarding the Agricultural University (which is given under agricultural sector Plan) Anna Technological University (which is given under Technical Education Sector) and new Universities proposed are referred to. The plan for their development are worked out in consultation with the Government and authorities of these Universities.

Government Colleges :

21.46. The expenditure on buildings for Colleges hostels and other student amenities has averaged Rs. 50 lakhs per annum during the earlier years. It is proposed to make a provision of Rs. 1.80 crores for the five year period from 1978-79 to 1982-83. Priority will be given for providing student amenities like canteen sheds, tiffin sheds, cycle sheds, libraries, sanitary facilities, laboratories auditorium, gymnasium or sports pavilion, non-residential student centres, staff quarters, maintenance of play ground and supply of drinking water to colleges and hostels. Provision for building grants to aided Colleges will be accommodated within this outlay. Future proposals for sanction of new buildings for Colleges or hostels will be carefully scrutinised on account of the surplus accommodation that will be available in all Colleges from 1979-80 when the P.U.C. class will be abolished.

21.47. *Improvement programmes in University Education.*—(a) No new college is proposed to be opened in Tamil Nadu. The main emphasis will be on maximising the existing facilities and improving the quality of education in the colleges. It is proposed to open five new degree courses in

humanities and five new courses in science during the plan period at a total cost of Rs. 1.06 crores. Normally Rs. 60,000 is required to open one humanities course and Rs. 1.20 lakhs for one science degree course. To meet the increase in the number of degree courses in the colleges sufficient number of post graduate courses will be opened during the period 1979-83 in order to provide students with facilities for pursuing higher studies. It is also proposed to start new post graduate courses in Government Colleges during the period 1979-80 to 1982-83. For this purpose a sum of Rs. 36 lakhs has been provided.

(b) Most of the Government Colleges started in recent years in the rural areas lack adequate library and laboratory facilities and it is proposed to spend Rs. 6 lakhs for this scheme in 1978-79 and Rs. 7 lakhs every year during the remaining four years.

(c) 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, the scheme of experts and visiting professors and deputation of staff on study leave. These programmes will be vigorously pursued. An outlay of Rs. 25 lakhs has been provided for the five year period.

(d) It is proposed to upgrade the Presidency College and the Queen Mary's College as institutions for Research and post Graduate Studies. It is also proposed to strengthen the faculty, library and other facilities for P.G. courses in the private and Government Colleges. The recommendations of Sir C. V. Raman Committee's Report would be pursued in this context. For this purpose, an outlay of Rs. 40 lakhs has been provided in the Plan.

Research and Development :

(e) Tamil Nadu is more densely populated and this contributes valuable human resources because of the high degree of literacy, respect for learning and proven records of attainment of the people of Tamil Nadu, both within and outside the country. However, in recent decades due to inadequate investment in Research and Development, especially in post-graduate colleges and universities, we have not been able to keep pace with the best universities in India. A sum of Rs. 52 lakhs has been provided for redeployment for encouraging social and historical sciences, fine arts and culture which are of great interest for

the people of Tamil Nadu and also to make substantial funds available for natural and physical sciences. The Research and Development Fund would also support institutions for Research and Advanced learning and provide seed capital for the proposed Tamil Nadu Council of Historical and Social Science Research, Tamil Nadu Council of Industrial and Scientific Research and Tamil Nadu Universities publication and other common academic programmes for Research and Development. It is proper that considerable voluntary donations and funds from Institutions should be available because of hundred per cent tax exemption to which donations to such purposes are entitled. The students and teachers of colleges and Universities in Tamil Nadu have not been provided with adequate research and training facilities in keeping with the demands on them at the post-graduate and Research level. There is need to identifying talented scholars and young staff members and to offer them fellowship, research funds and other facilities for advanced studies and research. It is proposed to establish autonomous bodies like the Tamil Nadu Council of Historical and Social Science Research, Tamil Nadu University Grants Council, etc., to ensure University autonomy consistent with overall policies of the State and the felt needs of the people. The All India and other funding agencies could also use these agencies for the purposes of equitable and just distribution of research funds available with them for specific purposes. A sum of Rs. 52 lakhs has been earmarked for this purpose.

(f) The Directorate of Collegiate Education is now administering the affairs of 235 educational institutions of higher education. The Directorate and the Government Colleges will be suitably strengthened with the necessary clerical staff in order to improve their administrative efficiency. An outlay of Rs. 15 lakhs has been provided for this purpose for the plan period.

(g) The existing facilities for continuing education like evening colleges and correspondence courses will be continued during the plan period and new courses will be introduced. Adult education and continuing education programmes at the Collegiate and University level could be initiated.

Adult Education:

21.48 The literacy percentage in Tamil Nadu according to 1971 census was 39.39 per cent (51.38 per cent—men and 26.83 per cent—women). Out of

utilised more effectively to render valuable service in promoting sports and games among the students and the public. A sum of Rs. 26 lakhs per annum is provided under non-Plan for this purpose.

21.54. The Tamil Nadu Scout Association had a total strength of 1,25,000 boy scouts and girl guides in 1977-78. The strength of the National Cadet Corps in Tamil Nadu in the 48 Senior Division Units is 22,000 cadets and in the 675 Junior Division Troops is 67,000 cadets. These include five senior divisions with a strength of about 3,000 senior division girls and 53 junior divisions with a strength of 5,300 cadets. The State Scout and Guide Movement will be strengthened with additional enrolment of 7,000 students as scouts during 1978-79 and 7,000 additional students as scouts and guides every year from 1979-80 to 1982-83. The cost of the scheme will be Rs. 9 lakhs. In addition, there will be a non-Plan expenditure of Rs. 4 lakhs per annum under this head.

21.55. At the end of 1977-78, about 40,000 students participated in Social Service under the National Service Scheme. The students organise special camps to do rural development work in villages including adult education.

21.56. The seven Nehru Youth Centres functioning in seven districts are organising out of school education activities with emphasis on the development of creative abilities through cultural programmes and sports activities.

21.57. The existing programmes for development of physical education, games and sports and youth services will be continued under non-Plan. For promoting excellence in the field of games and sports it will be desirable to set up one or two sports schools. Pupils showing talent in sports and games will be selected and admitted to these schools for special attention. Adequate incentives and facilities will be given to them to improve their skills under competent and qualified coaches. For this purpose, either new schools will be started or well established schools situated near any of the three physical education colleges in the State can be identified for being developed as a Sports School by providing the required amenities. A lumpsum provision of Rs. 16 lakhs has been earmarked in the plan for the development of the Sports Schools.

ART AND CULTURE.

21.58. 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. And cultural investment is an end in itself, because it sustains rare attainments and ethos of the people which in Tamil Nadu span thousands of years.

REVIEW OF THE PROGRESS DURING 1974-78.

Cultural Programmes :

21.59. The Tamil Nadu Iyal, Isai, Nataka Manram is doing valuable work in fostering the arts of dance, drama and music. During the last 16 years, the Manram has given awards to about 425 artistes in music, dance, drama, film and folk arts. The Tamil Nadu Oviyum Nunkalai Kuzhu fosters the development of the visual and plastic arts. The Tamil Nadu Government College of Music, Madras, has a strength of about 246 regular and 250 part-time students.

Archives :

21.60. Efforts have been made to modernise the working of the Tamil Nadu Archives. Improvements like vacuum fumigation and machine lamination have been introduced.

Libraries :

21.61. The Connemara Public Library, Madras, which is the State Central Library, has 3 lakhs of books on its stock and has 10,000 members. There are now 14 Districts Central libraries, one for each Revenue district except for Pudukkottai and Kanyakumari and 1,441 branch libraries. The total number of books on stock in all these libraries is about 61 lakhs. The number of persons who have enrolled themselves as members of these libraries is 7 lakhs.

Development of Tamil Culture :

21.62. 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 in all aspects of Tamil Studies and allied fields with the active co-operation of international scholars interested in such studies.

21-63. The expenditure under Art and Culture during the Fifth Five-Year Plan period is given below:—

Sector.	Tentative V Plan outlay suggested by Tamil Nadu in September 1973.	V Plan outlay approved by Union Planning Commission in October 1976.	Actual Expenditure.				Total for four years.	Proposed for 1978-79.
			1974-75 (Actuals).	1975-1976 (Actuals).	1976-77 (Actuals).	1977-78. B.E.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN CRORES.)								
Art and Culture ..	2.30	1.43	(—) 0.09	0.19	0.15	0.26	0.51	0.31

The Plan for 1978-83 :

The Objectives :

21-64. In many social services sectors the non-Plan outlay is already considerable. Hence during the plan period 1978-83 efficient utilisation of the total non-plan funds and plan funds would be the main objective. The policy instruments have to be so revised as to ensure adequate social and cultural returns from the over-all plan. The emphasis for the plan period 1978-83 will be on conservation and promotion of the cultural heritage and the preservation of monuments, repositories of manuscripts, and art objects.

The Plan Outlay :

21-65. The outlay on Art and Culture in the Budget Estimate 1978-79 is Rs. 2.17 crores as detailed below :—

(1)	Non-Plan.	Plan.	Total.
	(2)	(3)	(4)
(RUPEES IN LAKHS.)			
Public Libraries ..	130	2	132
Archives	10	3	13
Museums	18	1	19
Archaeology	6	8	14
Iyal, Isai, Nataka Manram and Ovium Nunkalai Kuzhu.	..	7	7
Cultural Activities ..	2	3	5
Indigent artistes ..	4	3	7
Fine Arts education ..	16	4	20
Total ..	186	31	217

21-66. The total Plan outlay under Art and Culture for 1978-83 has been stepped up to Rs. 2 crores. The break up for each head is indicated below:—

Serial number.	Subjects.	Year.					Total.
		1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
1.	Public Libraries	2	13	20	20	25	80
2.	Archives	3	3	3	3	3	15
3.	Museums	1	2	3	2	2	10
4.	Archaeology	8	3	4	5	5	25
5.	Iyal, Isai, Nataka Manram, Ovium Nunkalai Kuzhu and promotion of cultural activities, etc.	14	6	6	6	8	40
6.	Extension of pension to more indigent artistes.	3	1	2	2	2	10
7.	Development of Tamil Culture.	..	5	5	5	5	20
Total ..		31	33	43	43	50	200 or 2.00 crores.

(The existing level of Plan expenditure on grants to Iyal, Isai, Nataka Manram, Ovium Nunkalai Kuzhu and on pension to indigent artistes will be merged under Non-Plan from 1979-80 onwards.)

Programmes:

The Plan proposals are given below:—

Public Libraries :

21.67. The Connemara Public Library is an institution of immense possibilities for scholastic and research services. The usefulness and time liness of services are proposed to be adequately increased. In view of vast deposit of periodicals, newspapers, reports (both national and international) and books at almost zero cost, the outlay proposed for storage, retrieval and reading facilities would significantly help the citizens to keep pace with the flow of knowledge contained in valuable materials. A separate sub-plan for improving and developing this library has been drawn up for this purpose. During the Plan, the emphasis will be to make improvements to the Connemara Public Library, its campus development and expansion of rural libraries from the present 1,441 to 1,461 by the end of 1982-83. An outlay of Rs. 80 lakhs is provided in the Plan for the five-year period.

Museums :

21.68. The establishment of district museums and modernisation of the existing ones at Madras and Pudukkottai are the main programmes contemplated during the plan. A Branch Museum is proposed to be established at Salem during 1978-79.

Archaeology :

21.69. Conservation and maintenance of monuments, excavations, collection of loose sculptures and establishing archaeological site museums are the main activities proposed for the Plan. The Department of Archaeology, Government of India, is already engaged in several developmental activities. The role of the Tamil Nadu Government is to assess the work so far done by several agencies to supplement and to gradually intensify the State's responsibilities in terms of archaeology.

Archives :

21.70. Schemes for provision of additional accommodation and modernisation of Archives, for development of reprographical facilities and for reorganising the Archives Library are proposed for implementation during 1978-83. Tamil Nadu Archives is one of the rare repositories of India and in the matter of cultural and socio-economic

research its role merits attention. Some of the prestigious archival materials of the world are to be found in Tamil Nadu. Nevertheless, the attention to the input of specialised services for archives consultation and reference work in collaboration of scholars within India and abroad has been rather limited. Additional fund has to be provided. We have prepared sub-plans, specific projects and an overall plan for the development of archives over the next 15 years as a part of the perspective plan. The provision during the plan is confined to certain basic and indispensable current requirements of socio-economic archives. The scheme of encouraging scholars of Indian origin who are abroad and other research workers under the historical research council proposed may be expanded to include other social services as has been proposed elsewhere in the Plan for a Tamil Nadu Council of Social Sciences Research, including historical research. This agency would co-ordinate Social and Human Services Research in Tamil Nadu and rationalise the use of funds.

Cultural Programmes :

21.71. Strengthening and diversification of the various activities of the Iyal, Isai, Nataka Manram and Ovium Nunkalai Kuzhu with an accent on rural areas are proposed for implementation during 1978-83. In addition, schemes for preservation of traditional Village arts will be formulated.

21.72. From the stand point of socio-economic development, the development of institutions like Iyal, Isai, Nataka Manram would also be encouraged for which an overall provision for research and development has been made elsewhere.

21.73. The work of the Tamil Nadu Ovium Nunkalai Kuzhu as well as the interest and aspirations of the people of Tamil Nadu to develop music, painting, dance, drama, film, folk arts, etc., resulted in valuable Services during the plan period. A stage has come when the standard of these institutions and their attainments in relation to the objectives before them awaits evaluation with a view to upgrade these institutions to the degree or post graduate levels of attainment and to make them colleges or institutions of higher learning affiliated to one of the universities in Tamil Nadu. This is essential because the attainment in Karnatic music or Bharatha

Natya is by no means less important than the attainment in physical sciences if only we take care to apply to these disciplines relevant criteria. However, superficial attention to these arts and crafts of knowledge in the past has resulted in poor incomes and unemployment as well as stagnation of the condition of living of those engaged in these valuable occupations of culture. The Sub Plans and project reports on the subject require the proposed outlay.

Development of Tamil Culture :

21.74. The term Tamil Nadu Culture viewed in its broad context will include migration, immigration, exchange of knowledge between countries and abroad view of ethnic, sociological, religious and cultural activities. An appraisal of the work of institutions engaged in the promotion of Tamil Nadu Culture is also contemplated

to ensure identification of specific functional responsibilities.

21.75. Already the Government have instituted in January 1978 a scheme for giving pension at Rs. 100 p.m. each to Tamil Scholars in indigent circumstances. Besides, the Government is also actively engaged in promoting the compilation of a Tamil Etymological Dictionary, for publishing valuable Tamil classics in other languages for promoting research work in Tamil and bringing out a bibliography of the Tamil books published from 1867.

21.76. During the 1978-83 plan period, one of the important schemes to be taken up is a Tamil Cultural Centre to be set up in honour of the memory of Tamil savants like Kambar and Vallalar. For this head—Development of Tamil Culture—a total plan provision of Rs. 20 lakhs has been provided for the five year period.

TABLE 21-I

TAMIL NADU DRAFT PLAN 1978-83—EDUCATION—SELECTED TARGETS AND ACHIEVEMENTS.

Serial number and item.	Unit.	Position 1977-78.	1978-79				
			Approved targets.	Phasing of targets.			
(1)	(2)	(3)	(4)	1979-80	1980-81	1981-82	1982-83
				(5)	(6)	(7)	(8)
A. ELEMENTARY EDUCATION :							
1. Classes I-V (age group 6-10)							
	(000)						
(i) Enrolment.							
(a) Boys		3,311	(60) 3,371	(60) 3,431	(60) 3,491	(60) 3,551	(60) 3,611
(b) Girls		2,674	(40) 2,714	(40) 2,754	(40) 2,794	(40) 2,834	(40) 2,874
(c) Total		5,985	(100) 6,085	(100) 6,185	(100) 6,285	(100) 6,385	(100) 6,486
(ii) Percentage to age group (per cent).							
(a) Boys		102.23	101.84	101.42	100.98	100.51	100.00
(b) Girls		84.42	83.82	83.23	82.61	82.00	91.37
(c) Total		93.42	92.93	92.42	91.90	91.40	90.79
(iii) Enrolment of Scheduled Castes.							
	(000)						
(a) Boys		651					N.A.
(b) Girls		496					
(c) Total		1,147					

TABLE 21.1—cont.

TAMIL NADU DRAFT PLAN 1978-83—EDUCATION—SELECTED TARGETS AND ACHIEVEMENTS—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(iv) Percentage of age group (per cent).							
(a) Boys		110.8			Not available.		
(b) Girls		85.8					
(c) Total		98.4					
(v) Enrolment of Scheduled Tribes.							
	(000)						
(a) Boys		15			Not available.		
(b) Girls		10					
(c) Total		25					
(vi) Percentage to age group (per cent).							
(a) Boys		60.4			Not available.		
(b) Girls		41.1					
(c) Total		50.9					
(vii) Average attendance (000)							
<i>Classes I to V.</i>							
(a) Boys					Not available.		
(b) Girls							
(c) Total							
(viii) Enrolment in Class I (000)							
(a) Boys		870			Not available.		
(b) Girls		759					
(c) Total		1,629					
(ix) Enrolment in Class V (000)							
(a) Boys		485			Not available.		
(b) Girls		349					
(c) Total		834					
2. Classes VI—VIII (age group 11—14)							
(i) Enrolment (000)							
(a) Boys		1,026 (30)	1,056 (67)	1,123 (67)	1,190 (68)	1,258 (68)	1,326
(b) Girls		612 (20)	632 (45)	677 (45)	722 (45)	767 (45)	811
(c) Total		1,638 (50)	1,688 (112)	1,800 (112)	1,912 (113)	2,025 (113)	2,137
(ii) Percentage to age group (per cent).							
(a) Boys		70.41	70.87	73.74	76.43	79.07	81.55
(b) Girls		42.93	43.41	45.50	47.50	49.36	51.13
(c) Total		56.82	57.30	59.78	62.13	64.39	66.82
(iii) Enrolment of Scheduled Castes. (000)							
(a) Boys		155			Not available.		
(b) Girls		82					
(c) Total		237					

TABLE 21·I—cont.

TAMIL NADU DRAFT PLAN 1978-83—EDUCATION—SELECTED TARGETS AND ACHIEVEMENTS—c cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(iv) Percentage of age group (per cent).							
(a) Boys		58·6			Not available.		
(b) Girls		31·5					
(c) Total		45·2					
(v) Enrolment of Scheduled Tribes. (000)							
(a) Boys		3			Not available.		
(b) Girls		1					
(c) Total		4					
(vi) Percentage of age group (per cent)							
(a) Boys		22·8					
(b) Girls		11·6			Not Available.		
(c) Total		17·3					
(vii) Average attendance (Classes VI—VIII).							
(a) Boys					
(b) Girls			Not Available.		
(c) Total					
(viii) Enrolment in Class VI. (000)							
(a) Boys		427					
(b) Girls		255			Not Available.		
(c) Total		682					
(ix) Enrolment in Class VIII. (000)							
(a) Boys		268					
(b) Girls		157			Not Available.		
(c) Total		425					

B. SECONDARY EDUCATION :**Classes IX-X (age group 14-15) IX-XI (000)****(i) Enrolment—**

(a) Boys	524 (12)	536 (24)	560 (24)	584 (24)	608 (24)	632
(b) Girls	269 (8)	277 (16)	293 (16)	309 (16)	325 (16)	341
(c) Total	793 (20)	813 (40)	853 (40)	893 (40)	933 (40)	973

(ii) Percentage to age group—

(a) Boys	43·56	43·61	44·58	45·48	46·34	47·12
(b) Girls	22·90	23·02	23·84	24·60	25·31	25·99
(c) Total	33·35	33·42	34·32	35·16	35·94	36·67

2. Classes XI-XII (age group 16-17)**(i) Enrolment in General Education—**

(a) Boys (Numbers)	1,05,000					
(b) Girls .. .. .	..				Not Available.	

TABLE 21-I—cont.

TAMIL NADU DRAFT PLAN 1978-83—EDUCATION—SELECTED TARGETS AND ACHIEVEMENTS—cont.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
C. ENROLMENT IN VOCATIONAL COURSES * :							
(a) Post-elementary stage ..	(Numbers)						Not available.
(b) Post-High school stage ..	(Numbers)		23,000				
D. ENROLMENT IN PART-TIME/CONTINUATION COURSES:							
(i) Age group 6-10 ..	Numbers..						
(ii) Age group 11-13 ..	Numbers..						
(iii) Age group 14-15 ..	Numbers..			....		
(iv) Age group 16-17 ..	Numbers..						
(v) Total ..	Numbers..						
E. TEACHERS :							
A. Primary Schools ..		1,11,184	1,81,378	1,86,528	1,91,678	1,96,828	2,01,978
B. Middle Schools ..		68,794	(1,400)	(5,150)	(5,150)	(5,150)	(5,150)
C. High/Higher Secondary Schools ..		73,039	..	73,539 (500)	74,039 (500)	74,539 (500)	75,039 (500)
F. ADULT EDUCATION :							
(a) Number of participants 15-35 Years	(in lakhs)	0.369	1.50	14.00	17.00	17.00	17.00
	Government	..	..	7.00	12.00	12.00	13.00
(b) Number of Centres ..	(Numbers) —						
(i) Central ..		930	3,880	..	..	..	..
(ii) State ..		300	1,900	46,500	57,000	57,000	57,000
G. LIBRARIES :							
(i) District Libraries ..		14	14	1	..	..	..
(ii) Block Libraries ..							
(iii) Village Libraries ..		1,441	1,441	5	5	5	5
(iv) Mobile Libraries ..		6	6	..	3	3	5
H. UNIVERSITY EDUCATION :							
(Excluding Correspondence Courses):							
(i) Enrolment—							
(a) Pre-degree level ..		91,390	91,000@	2,000@	2,000@	2,000@	2,000@
(b) First-degree level ..		1,15,723	1,15,800@	1,15,800@	1,15,800@	1,15,800@	1,15,800@
(c) Post-graduate level ..		7,556	7,600@	7,600@	7,600@	7,600@	7,600@
(ii) Enrolment in Correspondence Courses—							
(a) Pre-degree level ‡ ..		6,800	7,100	..	..	..	..
(b) First-degree level ..		13,500	13,800	14,200	14,700	15,300	15,500
(c) Post-graduate level ..		6,000	6,800	7,100	7,500	7,900	8,200

@Figures given are approximate.

*Since the Pre-University course is to be withdrawn from Colleges from 1979-80 onwards the figures shown for the years 1979-80 to 1982-83 relate only to Pre-degree courses in other than Arts and Science Colleges.

‡Consequent on the introduction of 10+2+3 pattern, the plus two courses are attached with the Higher Secondary Schools in the State and therefore there will not be any Pre-degree courses in the University from 1979-80 onwards.

Chapter 22

TECHNICAL EDUCATION

22.0. Technical Education is one of the key sectors catering to the scientific and technological manpower 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 1977-78—

22.1. There was no expansion in the number of engineering and other technical institutions during the Fifth Plan period. The number of Colleges, Polytechnics and Technical High Schools in the State at the end of 1977-78 are given in the table 22.1 below :—

TABLE 22.1.

<i>Institutions.</i>	<i>Year.</i>	
	1973-74	1977-78
(1)	(2)	(3)
I. Engineering Colleges—		
(i) Government ..	4	4
(ii) Aided	3	3
(iii) Autonomous ..	5	5
Total ..	12	12

TABLE 22.1—cont.

<i>Institutions.</i>	<i>Year.</i>	
	1973-74	1977-78
(1)	(2)	(3)
II. Polytechnics—		
(i) Government ..	19	19
(ii) Aided	19	19
(iii) Autonomous ..	1	1
Total ..	39	39
III. Technical High Schools—		
(i) Government ..	11	11
(ii) Aided	3	3
Total ..	14	14

22.2. The admission capacity of the technical institutions in the State is given in the table 22.2 below :—

<i>Institutions.</i>	1970	1971	1972	1973	1974	1975	1976	1977
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(IN NUMBERS.)								
1 Engineering Colleges (B.E./B. Tech.)	1,000	1,100	1,190	1,190	1,190	1,290	1,305	1,322
2 Polytechnics	3,899	4,529	4,804	4,879	4,876	5,826	5,826	5,846
3 Technical High Schools	900	900	900	900	840	840	840	840

The annual intake capacity in the degree and diploma levels in the State had increased from 1973 onwards. However, admission to Technical High Schools has been restricted to 840 seats at the end of 1977. The total strength of students in these Technical Institutions was 24,164 at the end of 1977-78.

22.3. There are now in Engineering Colleges 15 degree courses, 31 post-graduate degree courses and 8 post-graduate diploma courses, and in Polytechnics, 37 diploma courses, 18 post diploma courses and 17 certificate courses.

Quality Improvement:

22.4. The establishment of Perarignar Anna University of Technology is a step in the direction of qualitative advancement in Technical education. The main stress in the Fifth Plan has been on consolidation and improvement of the quality of technical education.

Research and Development activities :

22.5. The engineering colleges have undertaken in all 148 testing and consultancy services so far. Research projects numbering 140 were also undertaken in 7 colleges. To strengthen these efforts and to unfold new opportunities a substantial provision for Research and Development is made in the Plan for 1978-83.

22.6. New job-oriented and diversified courses have been introduced in order to provide more employment opportunities to students and to supply industry with the required manpower in newly emerging areas and fields.

Women's Polytechnics:

22.7. There has been a significant increase in the number of girl students aspiring for Polytechnic admission over the years. The pattern

of admission into Women's Polytechnics during the year 1975-77 is given in the table 22.3 below :—

1975		1976		1977	
<i>Number applied.</i>	<i>Number admitted.</i>	<i>Number applied.</i>	<i>Number admitted.</i>	<i>Number applied.</i>	<i>Number admitted.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1,395	443	1,914	445	2,211	430

There is a clear case to increase admission strength in Women's Polytechnics. Besides new courses have to be opened.

22.8. The overall financial outlay on technical institutions in Tamil Nadu increased from Rs. 4.93 crores in 1973-74 to Rs. 8.83 crores at the end of 1977-78.

Approach to the Plan, 1978-83 :

22.9. An assessment of the gains and short-falls of the development during previous five-year plans and charting out fresh directions of growth consistent with the prevailing climate and the goals for the future is necessary.

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 and Development activities ; and

(ii) Technology suitable for direct and immediate application in the villages to raise their standards.

The Plan Programmes for 1978-83 :

22.10. The outlay proposed for the various programmes for technical education is given below :—

TABLE 22.4.

Serial number and programmes.	Years.					Total.
	1978-79	1979-80	1980-81	1981-82	1982-83	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
1 Consolidation and Stabilisation	52.00	167	207	167	92	615.00 +70.00*
2 Expansion and Development	60.00	50	55	200	25	290.00 +100.00*
3 Programmes to meet changing needs and role of Technical Educational Institutions	10.00	11	13	11	14	59.00
4 Extension Services	7.00	15	10	10	8	50.00
5 State level facilities	6.00	64	60	25	25	130.00 +50.00*
6 Research and Development (220 lakhs)** .. .. .	..	..	..	..	..	..
Total	135.00	307.00	345.00	413.00	164.00	1,364.00 or 13.64 Crores.

(* These amounts are totalled and shown as a total outlay for Research and Development in column—Serial No. 6**.)

22.11. The main stress in the Plan 1978-83 will continue to be on the consolidation and improvement of the quality of the technical education system. The facilities available in technical institutions for experimentation, development, design and testing in the field of science and technology as well as in terms of qualified engineers and scientists on their faculty will be effectively utilised not merely to carry on the traditional functions of teaching and research but also to deal with the new tasks in continuing education, extension of engineering services and regional development.

Consolidation and stabilisation :

22.12. The quality improvement programmes comprising faculty development, curriculum reforms and preparation of institutional materials will be extended. The workshops 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 the study of industrial organisation, human relationship, and man management. Materials planning and industrial safety will also be incorporated as part of the diploma courses. The Central facilities created already will be strengthened and

auditorium with gallery halls equipped with cinema projection and audio facilities will be newly created. '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. Provision has been made to depute 25 staff members to acquire doctoral degree in the latest areas of technological development every year outside the country. For the benefit of senior level teachers, facilities to acquire post-graduate qualification will be created on a selective basis. Schemes for post doctoral research abroad for working in well known centres of learning have been formulated. 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 programme, a sum of Rs. 6.15 lakhs has been provided in the Plan for the period 1978-83.

Expansion and Development :

22.13. It is proposed to foster and expansion 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 last ten years. Considering the increasing number of applicants seeking admission into Engineering Colleges there is a strong case for establishing one more Engineering College in Tamil Nadu. However, there is no proposal to start a new college during the plan, due to financial constraints. 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 each in Dharmapuri, Nilgiris and Pudukkottai districts. Similarly, in order to encourage women's education and to meet the increasing demand for admission, it is proposed to establish two new Polytechnics exclusively for women at Tiruchirappalli, Salem or Tirunelveli and also open Women's Wings in five existing men's Polytechnics. The courses of study in Polytechnics will be reorganised. This will include diversification of programmes into several technological specialities needed for industrial growth and organisation of specific technician education courses in association with industry. 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. It is also proposed to introduce innovation in teaching methods at various levels, from the technical high school level right upto the post graduate level, by procuring sophisticated teaching aids designed to improve the quality of technical education. The cost of the above programmes will be Rs. 290 lakhs for the period 1978-1983.

Programmes to meet the changed role of Technical Institutions :

22.14. The need for expansion on selective basis, depending on manpower needs of the country, multiple entry system, emphasising management education, rational staff selection training and promotion and student participation in academic bodies, administrative autonomy, academic autonomy, evaluation and accreditation and integration of training programmes and financing technical education in collaboration with industry, user departments and direct Central assistance 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 is proposed to be given to engineering colleges, while the financial and administrative control will be vested with the newly opened Arignar Anna Technological University' in 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 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. For this purpose, an increased provision has been made. An outlay of Rs. 59 lakh has been provided in the plan for these programmes for the five year period.

Extension Services :

22.15. 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 Engineering Environmental Centre to collect data, evolve treatment procedure and prescribe limits of safety in respect of environmental pollution. An outlay of Rs. 50 lakhs has been earmarked for these programmes for the period 1978-83.

State-level facilities :

22.16. While the programmes mentioned above will help develop the State 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 during the Plan period 2 Science Museums and one computerised Planetarium in Madras with a view, inter alia, to develop scientific attitude and temper

among the people to supplement science education in schools and colleges and to identify, encourage and nurture creative science talent specially among children. Project reports for the Planetarium and Museums have been commissioned for this purpose. A sum of Rs. 80 lakhs has been earmarked for this programme for 5 years. It is also proposed to establish one Computer Centre to aid Research and Development Programmes which need large frame computer, at a total cost of Rs. 50 lakhs. This facility is not available at present with any of the State Government Departments.

Research and development :

22.17. It is proposed to invest Rs. 220 lakhs for strengthening and expanding research and develop-

ment efforts. This amount will be utilised for research in Post-graduate institutions, in-service training and research by the faculty and their collaborators in industry, consultancy services, common publications programmes and creation of a revolving fund for sustaining long-term research projects. The engineering and technological challenges in the way of expanding industries and international trade which Tamil Nadu faces are substantial, but the human resources are more than adequate to meet these challenges provided research facilities are tailored to meet these urgent needs and a continuous appraisal of the efforts is made. The State Planning Commission would co-ordinate these Research and Development efforts.

TABLE 22.1.

Draft Plan 1978-83—Selected Targets and Achievements—
Technical Education.

Serial number and item.	Unit.	Position 1977-78.	1978-79. Approved targets.	Phasing of targets.			
				1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(nos.)						
<i>Technical Education—</i>							
<i>(Annual intake.)</i>							
(a) Diploma Courses		4,876	5,851	The intake level as in 1978-79 will be maintained.			
(b) Degree Courses		1,422	1,500	Do.			

Chapter 23

MEDICAL, PUBLIC HEALTH AND FAMILY WELFARE.

23.0. Delivery of health care and promotion of health facilities to the entire population of the State are among the most important goals of a socio-economic plan. Investment in the preservation and improvement of the health of the people has direct returns in terms of efficiency, longevity, quality of work and innovations. Family welfare is important, particularly in India where the individual is taken care of by the biological and extended families to an extent to which very few North American and European societies can claim today. In the absence of universal health insurance or family pension programmes or unemployment insurance measures, it is the family which is the bulwark of the individual's social, psychological and economic security. The parents have to sacrifice many things for the benefit of the children, and many elder children in turn strive hard to take care of the youngsters. These are invaluable services which cannot be quantified and hence our economic calculations tend to ignore them. The human resources of our country are rich and substantial because of our cultural heritage and attachment to family life and welfare ideals.

23.1. In this sector of planning we consider Health, Nutrition and Family Welfare as related areas of investment. Tamil Nadu has the background for effective planning in this sector. We need an assessment of our achievements, areas of

success and areas of concern. In terms of achievements, infant mortality has declined over a period of years, the average expectancy of life has increased and the health of expectant mothers, lactating mothers, school children and adults has improved. The quality and style of life has also improved. But these achievements are confined to a few classes of people and to few areas which are, mainly urban and rich rural tracts. At all stages, especially in the paediatric and geriatric phases we have considerably expanded. Training of medical personnel has been substantial, particularly, doctors with the M.B.B.S. qualification. Nevertheless, the supply of highly specialised post-graduates, M.S., M.Ch., etc., and those who have taken higher specialities has not been adequate. Even where such highly trained persons are available their number is not sufficiently large to reach the district headquarters and thereafter the sub-centres and the villages. In respect of medical services, though the capability of service is large in the cities, urban and rural poor could not afford them except by resorting to the Government Hospitals and private practitioners. The services rendered by the Corporation Health Department could be very much strengthened. In respect of rural medical and health services, the dependance on unorganised and partially organised indigenous medical men, who practise Unani, Siddha or Ayurveda seems to be considerable. Modern health facilities have not been increased

in rural areas. There is need to provide qualified men in adequate numbers for research and formulation of policies and implementation by clear strategies for development of rural health services.

23.2. The total concern of the Government is to provide not only health and nutrition but also other social amenities by way of providing water-supply, sanitation, etc., along with family welfare measures. These are inter-related spheres of social development planning and though for budgetary provisions, they are given in separate heads, for planning purposes, education or a few related sectors and departments of planning are proposed to be involved with a view to provide inter-related and inter-active health services. In the sections that follow the plan provision under various items of health care are given. To obtain a proper planning perspective, these categories will have to be re-aligned and their inter-relationship and co-ordinated functioning clearly provided for. However, the provision for Research and Development to take care of continuous preparations of plans, sub-plans, programmes and projects, their identification, choice of instruments for implementation, continuous renewal, etc., is necessary.

23.3. One of the salient features of plan exercises for urban facilities in all sectors, more particularly in respect of social services, health and education pertains to the viewing of the non-plan and plan expenditure as a totality of development outlay.

23.4. An assessment of health services delivered by private practitioners and the cost borne by citizens in obtaining non-governmental health services is necessary. Planning for the whole society and for the State Government as a major agency for the care of health, nutrition and family welfare of the people would have to be in terms of the increasing and effective roles of the Government, quasi-governmental bodies and voluntary and private agencies. These plan exercises would give an idea of the services generated and supplied, demanded and distributed. For these purposes, provision has to be made to get a fuller appraisal of quas-governmental and private sector health services, especially by voluntary associations and institutions of excellence which bring together skills and knowledge within the country, across the country and from all parts of the world. Health plan is viewed in this totality. However,

the central running thread throughout the planning strategy is the appraisal of health care with greater emphasis for the rural people, especially the poor.

23.5. Nutrition programmes are indispensable for proper health care. Health is very largely a problem of lack of nutrition. The consumption of food and nutrients is so low in our country that the basic problem of health cannot be solved without attacking it from the stand point of nutrition. Next comes the care of preventive health services.

HEALTH

Review of Past Performance :

23.6. Considerable improvements have taken place in the health indices during the last decade. The mortality rate has declined from 10.5 per 1,000 in the year 1965 to 8.3 per 1,000 in 1975. Infant mortality rate has dropped to 46.6 from 66.0 per 1,000 live births in the same period. The birth rate in 1976 was 30.4 per 1,000 and the death rate in the same year was 14.6 per 1,000.

23.7. According to the socio-economic indicators of Tamil Nadu 1975-76 (provisional) published by the Director of Statistics, there was one hospital and 2 dispensaries in Tamil Nadu at the end of 1975-76 for every lakh of population. There were 85 beds per lakh of population in Government Hospitals. One Family Welfare Centre was available per lakh of population. The number of hospitals and dispensaries increased from 1281 in 1967 to 1514 in 1976. The hospital beds also increased from 35325 in 1967 to 47973 in 1976 registering an increase of 35.8 per cent. The number of inpatients and out-patients treated in Government institutions increased from 27.97 and 328.47 lakhs in 1966-67 to 29.48 and 425.63 lakhs respectively in 1976-77. The number of doctors and nurses in Government institutions increased from 1285 and 3916 in 1967 to 6095 and 5109 respectively in 1976. Eight Medical Colleges with an annual admission capacity of 1015 are now functioning in Tamil Nadu. The outturn of M.B.B.S. students during the Fifth Plan period was 4077.

23.8. As against the approved outlay of Rs. 11.83 crores for the Fifth Plan period, a sum of Rs. 12.07 crores has been spent on Health Services in Tamil Nadu during the period 1974-78

Approach to the Plan 1978-83 :

23.9. Though the Government of Tamil Nadu were committed to improving the health status of the poor people in Tamil Nadu during the earlier plans and schemes were drawn up for providing better facilities in the rural areas, these facilities have not reached the rural people due to lack of adequate physical infrastructure and also due to the non-utilisation of the health care services available by the rural people, due to various reasons. There was also need to integrate the curative programmes on health with the programmes for water-supply, drainage and environmental sanitation and for this purpose an integrated water-supply project envisaging an outlay of Rs. 140 crores is proposed to be implemented during the plan.

23.10. The main objective of the plan for 1978-1983 is therefore to move quickly to correct the known imbalances in the structure of the State's medical and health care services through strengthening of the physical infrastructure in rural areas and by initiation of the community health workers scheme.

The Plan Programme for 1978-83 :

23.11. With the aforesaid objectives in view, schemes for a total outlay of Rs. 44.22 crores have been formulated for implementation during 1978-83. The Table 23.1 below gives details of the Plan outlay proposed for the various programmes :

TABLE 23.1.

Programmes.	1978-79 (Approved Outlay).	Outlay for				Total.
		1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
1 Rural Health Programmes	2,17.36	1,98.84	2,72.20	2,61.14	2,51.51	12,01.05
2 Hospitals and Dispensaries	2,54.19	2,49.25	3,50.16	5,80.70	7,10.01	21,44.31
3 Medical Education and Research	5.77	90.00	1,00.00	1,50.00	1,28.48	4,74.25
4 Training Programmes .. .. .	..	45.00	54.00	34.60	..	1,33.60
5 Indigenous system of medicine and homeo- pathy.	17.49	96.20	1,91.51	1,07.59	1,21.56	4,34.35
6 Other programmes	1.00	6.00	6.00	20.43	1.00	34.43
Total ..	4,95.81	6,85.29	8,73.87	11,54.46	12,12.56	44,21.99 (or) 44.22 crores.

The estimated committed expenditure (non-plan) as on 1st April 1978 is of the order of Rs. 83.89 crores.

<i>Centrally Sponsored Schemes.</i>	<i>Outlay for 1978-83.</i>
(1)	(2)
	(RUPEES IN LAKHS.)
(i) Control of communicable diseases.	1,883.66
(ii) Hospitals and Dispensaries ..	79.74
(iii) Family Welfare Programmes ..	6,181.57

Total ..	8,144.97
	or 81.45
	crores.

Rural Health Programmes :

23-12. In Tamil Nadu, Primary Health Centres are available at the rate of one per block and the sub-centres attached to them at a rate of one for 10,000 population. At the end of the Fifth Five-Year Plan (1977-78) there were 383 Primary Health Centres in 374 Panchayat Unions. Each of these Primary Health Centres has two Medical Officers. In 120 Primary Health Centres a third Medical Officer is in position. There are 2,831 Sub-Centres each covering a population of 10,000. Mobile Medical Teams have been provided in 24 selected Primary Health Centres where the services of a third Medical Officer is available for the purpose of delivery of intensive health care service in rural areas. The annual provision for drugs to each Primary Health Centre has been increased from Rs. 12,000 to Rs. 14,000 per annum from 1977-78 onwards. The Mobile Medical Teams are provided with drugs amounting to Rs. 10,000 per annum. Mini Health Centres have been organised on a co-operative basis with the object of providing preventive and curative services for a population of 5,000 in the rural and urban areas. During 1977-78, 48 Mini Health Centres have been opened at a cost of Rs. 4.86 lakhs. On the recommendations of the Government of India, a scheme for community health workers in rural areas has been implemented in five districts, viz., Chengalpattu, South Arcot, Madurai, Salem and Kanyakumari covering 1,050 sub-centres in the first phase. Under the scheme one set of one male and one female health worker will deliver comprehensive health care services to a population of 5,000 besides, treating any minor ailments among the population under

their care. Under the tribal development programme, six dispensaries are functioning and looking after the health needs of the tribal population of the areas. Under the Hill Area Development Programme, 4 dispensaries, one mobile medical unit and one ambulance van have been provided in Nilgiris district for the benefit of the tribal people.

23-13. The above programmes are continued during 1978-79 and in order to improve further the delivery of health care services to the rural areas the physical infrastructure will be strengthened from 1979-80 onwards. The following are some of the important measures contemplated for improving the health services in the rural areas.

23-14. Considering the massive demand for Public Health Services, the training facilities for public health personnel, the levels of teaching personnel and intake of students has to be considerably augmented. We need almost doubling of the public health personnel every three years. The importance of public health requirements as recommended by the Shrivatsava Committee should be recognised in the plan period.

23-15. The cost of per capita drug availability is 0.20 paise for rural people and Rs. 1.25 for urban people. Taking into account that urban purchasing power is higher than rural purchasing power, the position as it obtains now requires urgent attention. Each of the Primary Health Centres was provided with drugs to the value of Rs. 10,000 up to 1973-74 and the expenditure was met from non-plan funds. The annual provision of drugs to each Primary Health Centre has been increased from Rs. 12,000 to Rs. 14,000 per annum from 1977-78 onwards. The additional provision required over and above non-plan outlay was provided in the plan programmes. Out of the approved plan outlay of Rs. 30.71 lakhs for 1978-79 under the head Primary Health Centres, a sum of Rs. 15.24 lakhs has been provided towards cost of medicines for 383 Primary Health Centres. The entire programme will be continued as non-plan from 1979-80 onwards. The overall plan outlay for this programme is Rs. 114.71 lakhs.

Drugs for additional Sub-centres to be established under the Multi Purpose Health Workers' Scheme :

23-16. Under the Multi Purpose Health Workers' Scheme, additional sub-centres covering a population of 5,000 each are proposed to be opened

Drugs amounting to Rs. 1,200 are now sanctioned to each of the 1,050 sub-centres already created. In addition, Rs. 800 to each of the sub-centre is provided in the rural development budget towards drugs. As this Centrally sponsored scheme will terminate by the end of 1978-79, it is proposed to continue this beneficial programme as State Plan from 1979-80 onwards.

Minimum Needs Programme :

23.17. Under the Minimum Needs Programme, it is proposed to take up construction of dispensary buildings and staff quarters in a phased programme. One hundred and eighteen Primary Health Centres need dispensary buildings and staff quarters and 77 need staff quarters. During the plan, it is proposed to take up construction of hospital buildings in 20 select centres in 1979-80 and 1980-81. The provision of staff quarters is necessary in order to provide accommodation to doctors near the Primary Health Centres. This programme will be taken up subsequently depending on resource availability. The total cost of the scheme works out to Rs. 87.63 lakhs.

Mobile Health Teams :

23.18. In addition to the 24 mobile Medical Teams created already 100 such teams will be created during 1978-79, 125 in 1979-80 and 134 in 1980-81. Therefore by the end of the plan period, there will be one Mobile Medical Team in all the 383 Primary Health Centres in Tamil Nadu. The cost of the scheme works out to Rs. 731.37 lakhs of which Rs. 643.77 lakhs will be recurring.

Mini Health Services :

23.19. Normally, Mini Health Centres are located in villages, where no other health care facilities are available. Each Centre is manned by a part-time Medical Officer, one male health worker and one female health worker. The 48 Mini Health Centres created so far, cover a population of 2,40,000. 50 Mini Health Centres are proposed during 1978-79 covering a rural population of 2 lakhs. From 1979-80 onwards, it is proposed to open 25 centres every year so that there will be 100 additional centres before 1982-83. The expenditure on the scheme will be shared equally by the Voluntary Organisations and Government. The share of Government will be Rs. 9,000 per centre. The total expenditure for opening 100 new centres will be Rs. 66.10 lakhs.

School Medical Inspection in Rural areas :

23.20. In the rural areas the Medical Officers of Primary Health Centres carry out Health appraisal of 2,000 school children per annum in the age group 6-11, while in the urban areas each Municipality covers 10,000 school children in a year. At the end of 1977-78, the scheme was in operation in 53 Primary Health Centres and Municipalities. The cost of extending this facility to 90 additional Primary Health Centres during 1978-83 will be Rs. 22.90 lakhs.

Expansion of Immunisation Programme :

23.21. Under the scheme, children below 5 years of age are immunised with 'Triple vaccine' against the three diseases of whooping cough, diphtheria and tetanus through the agency of the Primary Health Centres. The special D.P.T. immunisation programme is in operation in 85 Primary Health Centres at present and the scheme will be continued as non-plan programme from 1979-80 onwards. It is proposed to expand the programme to 100 Primary Health Centres during the next 5 years in a phased manner starting from 1978-79. The total cost of the scheme works out to Rs. 24.82 lakhs.

Nutrition Education and other Programmes :

23.22. The other programmes for improving rural health care include programmes for expansion of Nutrition training and education of Medical Officers of Primary Health Centres, Municipal Health Officers, Women Medical Officers of local bodies, para medical workers, personnel working under A.N.P., purchase of equipments and educational aids, nutritional educational kits to multi purpose workers, establishment of 3 additional health education teachers training units, strengthening of drug testing laboratory and reorganisation of public health administration in the districts through setting up of seven regional organisations.

Control of Communicable diseases.

23.23. The district of North Arcot, South Arcot Tiruchirappalli and Coimbatore are endemic for cholera and anti-cholera measures are taken in these areas. Tamil Nadu is completely free from plague infection, since 1965. However, preventive measures are continued in North Arcot, Dharmapuri and Coimbatore districts. During the Fifth Plan period 1974-78 the State-wide National Small Pox Eradication Programme was continued

under maintenance phase. In 1974, intensive surveillance activities were introduced. The small pox units have been converted to Epidemiological and Immunisation Units since March, 1978. The long range objective would be to develop an effective surveillance system by utilising the retrained erstwhile NSEP staff in the district and Primary Health Centre level. The ultimate objective of the programme is to ensure that all the new born children in Tamil Nadu are immunised with the prescribed doses of the triple antigen, B.C.G. and oral polio vaccine by integrating the delivery of the services. Tamil Nadu is implementing the National Malaria Eradication Programme from 1958-59. From 1977-78, the modified plan of National Malaria Eradication Programme has been implemented in the State. Under this Plan, the former phasing units have been abolished and each district functions as an unit under Malaria Programme. During the period 1974-78, there has been resurgence of malaria in Tamil Nadu State as in other parts of the country. Rural malaria is more or less confined to certain areas in each district though 4 of the 14 districts, viz., North Arcot, South Arcot, Dharmapuri and Ramanathapuram contribute to majority of rural malaria cases. During 1978-79, it is proposed to provide spray coverage to about 22 lakhs of population in different districts. Towards combating urban malaria problem, a Centrally sponsored urban malaria scheme is implemented in 7 towns. During 1978-79, the scheme will be extended to 2 more towns. National Filariasis Control Programme is a Centrally sponsored scheme and is being implemented in areas identified as filarial. Tamil Nadu is highly endemic for leprosy. The average prevalence rate of leprosy varies from 10 to 40 per 1,000. The Leprosy Control Programme implemented in this State is on the pattern of the National Leprosy Control Programmes. In each district in the State there is a district tuberculosis centre which co-ordinates the Tuberculosis Control Programme in all the Government Hospitals, dispensaries and Primary Health Centres and maintains the supply of anti-T.B. drugs. The Tuberculosis Control Programme is being implemented through 937 medical institutions.

23.24. In the Plan for 1978-83 the Programme for control and eradication of communicable diseases would become fully integrated with other health care programmes and made available to the common man through a net work of Multi-

purpose Health Workers. The outlay for communicable diseases are not included in the plan as most of the programmes are Centrally sponsored and the requirements are therefore based on the targets specified by Government of India for the period 1979-80 to 1982-83.

Provision of Hospital beds in rural areas :

23.25. At present many areas do not have institutional care within a distance of 30 to 40 k.m. It is therefore proposed to create facilities for institutional care within a distance of 15 kilometres in underdeveloped areas and areas declared as backward. In the selection of areas for location of these hospitals, priority will be given for the backward areas in the districts of Ramanathapuram, Dharmapuri, North Arcot, South Arcot, Chengalpattu, Tirunelveli, Pudukkottai, Tiruchirappalli and Madurai. It is proposed to convert 100 dispensaries into hospitals each with 20 beds and open 50 new small hospitals with 1,000 beds during the plan period, creating in all 3,000 additional beds in the rural hospitals for the benefit of the people. These hospitals will be used as a referral hospital by the Primary Health Centre and Panchayat Union and Government dispensaries. A provision of Rs. 3.00 crores has been made towards construction of buildings and purchase of equipment and Rs. 3.35 crores towards requirements of medical and para medical staff, laboratory equipment, etc., for these hospitals.

Upgrading of Taluk Hospitals as District Hospitals :

23.26. In order to have better control on the various institutions in the district and also to provide higher speciality within the easy reach of the rural people, it is proposed to bifurcate 10 districts into two viable areas and the hospital to which the head quarters is going to be attached will be upgraded to District headquarters status as referral centre for higher speciality or investigation by taluk, non-taluk and rural hospitals. Each hospital to be upgraded will be provided with a minimum of 100 beds initially with provision for further expansion later along with provision of services of all specialities like Dental, Paediatrics, Blood Bank, X-ray, etc., and provision of laboratory equipment for Bio-chemical analysis. The expansion of the new centres as District Centres will take the medical care still nearer to the rural population. The cost of this scheme will be Rs. 2.77 crores.

Strengthening the District Headquarters Hospitals :

23-27. There are 14 district head quarters hospitals at present with a total bed strength of 4,094 beds. These hospitals are now serving as major referral hospitals to the entire districts and these are generally crowded. It is now proposed to make these hospitals as independent hospitals under the control of a Superintendent of the hospital under specialist category. Provision is made for creation of specialists in Surgery, Medicine, Obstetrics and Gynaecology and Paediatrics. The total recurring cost of the scheme will be Rs. 18 lakhs.

Provision of specialist service in District Headquarters hospitals and taluk hospitals :

23-28. On the basis of the recommendations of the Expert Committee for specialised services constituted by the Government during 1971-72, provision of specialised treatment such as E.N.T., Orthopaedic, STD, Paediatric, Ophthalmic, Dental and Blood Bank has been undertaken in a phased programme in Tamil Nadu. During the plan period, it is proposed to create 81 Blood Banks, 10 Dental Clinics and 80 Paediatric units in the taluk hospitals, where these facilities are not available now. The cost of the scheme works out to Rs. 1.36 crores.

Peripheral Hospitals :

23-29. At the end of the Fifth Five-Year Plan, 26 teaching hospitals have been established throughout the State with a total bed strength of 13,627. Of these, 11 hospitals with the bed strength of 8,069 are functioning in Madras city while the rest are located in districts. With a view to relieve congestion in the existing city hospitals and afford medical facilities in the city area, the Government have taken a decision to open 5, hundred bedded peripheral hospitals (500 beds) attached to the Medical Colleges in Madras city during the Fifth Plan period. Already one hospital at K.K. Nagar in Madras City and one hospital in Madurai city at Balarangapuram have been established. Two more hospitals one at Tondiarpet and the other at Arignar Anna Nagar with 100 beds each will be opened shortly. During the plan 1978-83, two peripheral hospitals at Coimbatore city, one more at Madurai city and one at Thanjavur city are proposed to be opened at a total cost of Rs. 1.92 crores.

Conversion of District Headquarters Hospitals into Teaching hospitals :

23-30. Under this programme, compulsory rotatory internees, senior house surgeons and candidates for M.A.M.S. examinations are to be trained at district headquarters hospitals. It is essential that the compulsory rotatory internees and senior house surgeons should be made residential and therefore quarters have to be built for both men and women doctors. For obtaining recognition of University and Medical Council of India, the staff in the hospitals have to be upgraded to the standard of teaching staff in Medical Colleges. The cost of the scheme will be Rs. 60 lakhs.

Upgrading of teaching hospitals :

23-31. It has been decided to convert all the teaching hospitals into post-graduate institutions. At present, all the medical colleges are not equally provided with speciality departments. It is therefore, proposed to provide departments of neuro surgery, cardio-thoracic surgery, plastic surgery, cardiology, clinical hematology, etc. to some of the teaching hospitals during the plan period at a cost of Rs. 55 lakhs. It is also proposed to construct a post-graduate block in Dental Wing of the Madras Medical College to accommodate about 50 students at a time at a cost of Rs. 25 lakhs.

Scheme for raising of nurse-bed ratio :

23-32. It has been decided to raise the nurse-bed ratio from 1:8 to 1:5 immediately and 1:3 ultimately. It is therefore necessary to increase the number of nurses so as to provide better nursing facilities. Necessary provision has been made in the plan to increase the intake of nurses every year for the next four years so as to bring the nurse-bed ratio to 1:5. The cost of the scheme will be Rs. 1.00 crore.

Improvements to teaching hospitals :

23-33. The programmes include provision of additional blocks, wards, equipment, staff, etc., to teaching hospitals at a cost of Rs. 3.34 crores over a period of five years.

Among the Programmes mentioned above the important are : (i) provision of Emergency Accident Relief Units in the Tirunelveli, Thanjavur, Chengalpattu, Kilpauk and Stanley Medical College Hospitals at a total cost of Rs. 14.51 lakhs

and (ii) establishment of Medical Records Departments in the twelve Government hospitals in cities at a total cost of Rs. 32.00 lakhs.

Other Programmes for improvement of hospitals and dispensaries:

23.34. The other programmes include proposals for creation of Regional level Directorate of Medical Services to exercise effective control and supervision, provincialisation of Panchayat Union dispensaries, improvements to non-taluk hospitals through provision of ambulance and mortuary vans to hospitals, etc. Schemes like opening of Medical Record Department and Emergency Unit in all district headquarters hospitals and provision of orthopaedic units in district and taluk units are also to be considered during the plan period.

Medical Education and Research :

Attaching Primary Health Centres to each Medical College :

23.35. It is proposed to attach a few Primary Health Centres to each Medical College. In the Plan, therefore, 24 Primary Health Centres will be upgraded with more beds, equipments and instruments for investigation. Provision has been made for buildings, purchase of equipment and salary for staff at a total cost of Rs. 91 lakhs.

Improvements to Medical Colleges :

23.36. A sum of Rs. 84 lakhs has been provided for general improvements to Medical colleges towards construction of buildings, purchase of equipments and sanction of staff, etc.

Research in Medical Sciences :

23.37. The main areas of research pertain to higher specialities, formulation of research projects in terms of health services of children in the age group 0-10, collection of data and maintenance of health cards for all children in the age group 0-10 on a compulsory basis, encouragement of scope for alternatives in health and preparation of medical records for both research and feed back, improvement in the quality of publications, creation of a Common Library Complex in each of the Centres where medical colleges are functioning, the identification of benefits for cost effectiveness study, the encouragement of indigenous production of medical equipments and instrumentation, the

assessment of the role of voluntary agencies in the competitive improvement of the delivery of health care and re-distribution of available expenditure on Government account, the introduction of new courses in higher specialities like hospital management and hospital administration, rural medical services and organisation and method studies. In keeping with the broad perspective of de-centralisation of welfare functions, health plans at the block and district levels have to be strengthened.

23.38. The provision for Research at present is very small. It is proposed to strengthen the research activities carried on in the clinical and non-clinical departments in Medical Colleges and under the Tamil Nadu State Research Scheme and through creation of a Central Library, Central laboratory for drug testing, quality control, etc., constitution of college research committee and upgrading 24 Primary Health Centres for field research, employing 100 unemployed medical graduates in 10 specialities for a period of 2 years in 8 colleges, strengthening of the medical college libraries, creation of animal houses and creation of Central Photographic-cum-Visual Unit. The year-wise break up of expenditure will be Rs. 50 lakhs each during 1979-80 and 1980-81 and Rs. 100 lakhs each during 1981-1982 and 1982-83, accounting in all a total provision of Rs. 3 crores for research in Medical Science. It is also proposed to constitute a Tamil Nadu Council of Medical Research to guide and co-ordinate research activities.

King Institute, Guindy :

23.39. During the plan, it is proposed to make improvements to the King Institute, Guindy, the major Public Health Institution manufacturing various vaccines and teaching and research centre in the east. A sum of Rs. 25.43 lakhs has been provided in the plan for improving this institute.

Other Programmes :

23.40. The Directorate of Medical Education is proposed to be strengthened through employment of additional staff at a total cost of Rs. 4 lakhs during the period 1979-80 to 1982-83.

Training Programmes :

Training of Nurses :

23.41. The intake of nurses in the training centres has been increased from 200 to 250 from 1977. It is estimated that about 2,800 additiona

nurses would be required to reach the norm of 1:5 for 24 hours in General Departments and 1:2 for 24 hours in Special Departments and to the following departments at the ratio of 1:1—(a) I.C.C. Unit, (b) I.M.C. unit, etc. It would take 12 more years to fulfil the above requirements if the present intake continues. It is therefore, proposed to start 3 more training centres (where no training facilities exist now) in the Tirunelveli, Kilpauk and Chengalpattu Medical Colleges. A sum of Rs. 99 lakhs has been provided in the plan for this purpose and a total of 200 candidates will be trained every year.

Training of Pharmacists :

23.42. It is proposed to construct separate Pharmaceutical Science Block at Madras and Madurai Colleges as the existing facilities for conducting the B. Pharm. and D. Pharm. courses are not adequate. The cost of providing a separate pharmaceutical science block at these places will be Rs. 35 lakhs.

Indian System of Medicine :

23.43. A separate department of Indian Systems of Medicine has been formed with effect from 1st July 1970. A Government College for Indian Medicine at Palayamcottai was started in 1964 and the Arignar Anna Government Hospital of Indian Medicine was started at Madras in 1970. In the past, the development of Indian System of Medicine has tended to concentrate in urban and semi-urban areas. Therefore, in the Plan for 1978—83 it is proposed to provide the Indian Systems of medicine at cheap cost to the remotest rural areas. Some of the important schemes envisaged are :

(a) *Opening of Government rural dispensaries.*—It is proposed to open rural dispensaries of Indian Systems of Medicine at the rate of 40 per year in remote and hill areas to serve the rural people. The cost of the scheme will be Rs. 20 lakhs.

(b) *Siddha Wing in taluk and non-taluk hospitals.*—So far, 63 Siddha Wings are functioning in taluk and non-taluk hospitals. Ten more wings will be added during 1978—79. During the period 1979—80 to 1982—83, it is proposed to open 100 new Siddha Wings in the taluk and non-taluk hospitals, where this facility is not available, at the rate of 25 per year. The cost of providing these facilities will be Rs. 78 lakhs.

(c) *Provincialisation of Panchayat Union Dispensaries.*—In order to relieve the Panchayat Unions of the burden of running the dispensaries and in order to provide better services it is proposed to take over 5 dispensaries per year under Indian System of Medicine from 1979—80 onwards. The cost of taking over 20 such dispensaries during the period 1979—80 to 1982—83 will be Rs. 17 lakhs.

(d) *Siddha Wings in District Headquarters Hospitals.*—Siddha Wings are at present accommodated in the District Headquarters Hospital buildings. In order to promote the growth of this system and to build up a separate identity, Siddha Wings are proposed to be located in separate buildings in the District Headquarters Hospitals with provision to accommodate 15 beds additionally and outpatient blocks at a total cost of Rs. 30 lakhs.

(e) The other important programmes envisaged are :—

(i) Strengthening of Research facilities and creation of a planning and development section in the Directorate of Indian Medicine; (ii) Grant in aid to private Indian Medicine Hospitals; (iii) Mechanisation of Pharmacy, provision of library, and provision of 25 additional beds in the Arignar Anna Government Hospital of Indian Medicine; (iv) opening of five Government Indian Systems of Medicine Dispensaries in Madras City per year; (v) Construction of an anatomy block, construction of hospital for men and women, construction of quarters for interneers and improvements to Government College of Indian System of Medicine, Palayamcottai for implementing B.S.M. and S. Syllabus; (vi) Development of Medicinal Farm at Madras, establishment of medicinal farm at Madurai and at Kolli hills; (vii) Provision of full fledged clinical, pathological, Bio-chemistry laboratories and X-ray departments in the Government Hospitals of Indian Medicine, Madras; (viii) Opening of Medical College (Unani); (ix) Grants for the development of private Ayurvedic institutions and (x) Promotion of Naturopathy and Yoga, etc.

Homeopathy.—

23.44. A Homeopathy Medical College with 25 bedded hospital is functioning at Madras. The College is not located in a suitable building. Hence it is proposed to shift the College to a

new location. Provision (Rs. 5.09 lakhs) has been made in the plan for construction of the buildings and for the expansion of the Homeopathy System of Medicine. A sum of Rs. 2.06 lakhs has been provided additionally under capital account.

FAMILY WELFARE.

Review of past performance :

23-45. All the schemes under post partum programmes, Maternal and Child Health Programme, Training and Mass Education, etc., have been carried on vigorously with the intention of bringing down the birth rate in the State to the expected level of 30 per thousand during 1974-78. The achievements under sterilisation, I.U.D. and conventional contraceptive has been impressive. Against the target of 12,50,700 sterilisations, the achievement was 11,37,089. In all the years except 1977-78, the achievements under sterilisation have exceeded the targets. The set back during that year was mainly due to belated starting of intensive drives and due to natural calamities like heavy rains and floods in many parts of the State. At the end of 1977-78, there were 374 rural family welfare centres, 1,533 sub-centres, 134 urban family welfare centres and 13 District Family Welfare Bureaus, functioning in the State.

Approach to Plan 1978-83 :

23-46. The Family Welfare Programme in Tamil Nadu will be pursued vigorously as in the past with the overall objective of bringing down the birth rate to 30 per 1,000. The birth rate at the end of the year 1976 was only 30.4 per thousand in Tamil Nadu indicating that the National objective of reducing the birth rate to the level of 30 per 1,000 has been nearly achieved in this State. In the plan period it is proposed to conduct intensive and special drives and give wide publicity to the programmes.

Plan Proposals for 1978-83 :

23-47. The important programmes to be implemented are :

(a) Provision of ten bedded wards under post partum programme in 48 taluk hospitals at a cost of Rs. 1.45 crores ; (b) Expansion of sterilisation facilities in rural and semi-rural areas by providing 40 additional six bedded wards (240 additional beds) in non-taluk hospitals at a cost of Rs. 57 lakhs ; (c) Training 3,000 DAs at a cost of Rs. 11.25 lakhs ; (d) Provision of 109 additional sterilisation beds in voluntary institutions in the State at a total cost of Rs. 7.85 lakhs ; (e) Opening of 170 additional rural family welfare centres in order to have one for every 60,000 population and 161 more Primary Health Centres to accommodate the additional rural welfare centres in a phased programme, at a total cost of Rs. 3.08 crores ; (f) Opening of 850 additional, sub-centres, at the rate of 5 sub-centres for every new family welfare centre each to serve a population of 10,000 and construction of buildings for 1,137 sub-centres (287 existing and 850 additions) at a cost of Rs. 5.94 crores ; and (g) Construction of 2 annexes for Primary Health Centres at a cost of Rs. 3.50 lakhs and establishment of one District Family Welfare Bureau at a cost of Rs. 6.57 lakhs.

23-48. The requirements for implementing the above schemes will be of the order of Rs. 61.81 crores. An increase of 8 per cent has been added in respect of existing schemes to accommodate the normal increase due to incremental factors, increase in the cost of articles, etc. In respect of compensation the requirements have been worked out on the basis of the targets fixed for each year. With regard to Mass Education, the allotments made by the Government of India have been shown for all the years.

23-49. The requirements for Family Welfare Programmes will be met from Government of India funds as all the programmes will be accommodated as Centrally sponsored schemes.

TABLE
FIVE-YEAR PLAN (1978-1983) FINANCIAL

Serial number and Programme.	Plan period 1974-78.		1978-1983.			Capital.		
	Approved Outlays.	Expenditure.	Spillover.	New.	Total.	New Works.	Continuing works	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Rural Health Programmes	153.84	111.90	90.59	1,110.46	1,201.05	82.00	6.07	88.07
2 Control of Communicable Diseases ..	124.74	388.68	..	484.95	484.95	..	..	..
3 Hospitals and Dispensaries	608.57	893.92	97.12	2,047.19	2,144.31	843.53	97.12	940.65
4 Medical Education and Research ..	181.99	82.41	5.00	469.25	474.25	394.66	5.00	399.66
5 Training Programmes .. .. .	..	..	..	133.60	133.60	93.91	..	93.91
6 Indigenous Systems of Medicine and Homeopathy.	119.71	86.64	5.09	429.26	434.35	112.11	5.09	117.20
7 Other Programmes	120.12	32.58	5.00	29.43	34.43	1.41	5.00	6.41
Total (excluding Serial No. 2)	1,184.23	1,207.45	202.80	4,219.19	4,421.99	1,527.62	118.28	1,645.90

TABLE

I. Rural Health Programmes :

1 Primary Health Centres	79.44	91.09	5.63	196.71	202.34	82.00	5.63	87.63
2 Mini Primary Health Centres ..	4.86	1.41	..	66.10	66.10	..	..	..
3 Health Services in Rural areas ..	9.54	1.64	..	731.37	731.37	..	..	..
4 School Medical Inspection ..	10.00	4.76	..	22.90	22.90	..	..	..
5 Opening of Dispensary, PHCs., etc. in the Nilgiris District under H.A.D. Programme.	..	..	1.67	..	1.67	..	..	..
6 Direction and Administration ..	..	..	1.79	..	1.79	..	..	..
7 Moffusil Administration .. ..	..	..	2.86	..	2.86	..	..	..
8 Reorganisation of PH Administration in the District.	..	..	..	28.00	28.00	..	..	..
9 Filariasis Control .. .. .	..	..	29.36	..	29.36	..	..	..
10 Smallpox Eradication Programme	..	..	32.35	..	32.35	..	..	..
11 Cholera Control Programme ..	..	..	6.99	..	6.99	..	..	..
12 Extension of Scheme of School health Checkup (Urban).	..	..	0.98	..	0.98	..	..	..
13 Immunisation of Pre-school children.	50.00	13.00	..	24.52	24.52	..	..	..
14 Eradication of Yaws in South Arcot and Salem.	..	..	0.24	..	0.24	..	..	..
15 Additional Expenditure in Food Laboratory at Madurai and Thanjavur.	..	..	3.50	..	3.50	..	..	..
16 District Food Analysis Laboratory, Palayamkottai and Salem.	..	..	1.69	..	1.69	..	..	..
17 Expansion of Nutrition Training and Education Programme.	..	..	..	0.39	0.39	..	..	..
18 Provision of Nutrition Education Kit.	..	..	..	5.88	5.88	..	..	..
19 Establishment of Drug Testing Laboratory.	..	..	1.45	..	1.45	..	0.44	0.44

23-I

OUTLAYS—HEALTH PROGRAMME.

APP. I (H)

Revenue.				Phasing of Outlays for					Percentage
Staff.	Equipment.	Contingen- cies.	Total.	1978-79 approved outlays.	1979-80.	1980-81.	1981-82.	1982-83.	to total Outlay.
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(RUPEES IN LAKHS.)									
424.39	107.68	580.91	1,112.98	217.36	198.84	272.20	261.14	251.51	27.3
1,294.16	9.76	579.74	1,883.66	320.71	335.26	372.33	408.22	447.14	..
696.93	228.08	278.65	1,203.66	254.19	249.25	350.16	580.70	710.01	48.7
51.28	23.31	..	74.59	5.77	90.00	100.00	150.00	128.48	10.8
24.96	14.73	..	39.69	..	45.00	54.00	34.60	..	3.2
172.85	20.84	123.46	317.15	17.49	96.20	91.51	107.59	121.56	9.9
5.20	22.82	..	28.02	1.00	6.00	6.00	20.43	1.00	0.1
1,375.61	417.46	983.02	2,776.09	495.81	685.29	873.87	1,154.46	1,212.56	..

23-II

HLH-15

APP. II (H)

..	..	114.71	114.71	36.34	31.00	51.00	51.00	33.00	..
..	..	66.10	66.10	6.16	11.61	13.86	16.11	18.36	..
276.69	87.60	367.08	731.37	79.35	137.46	182.57	162.76	169.22	..
15.13	2.71	5.06	22.90	3.07	2.62	4.08	5.73	7.40	..
1.05	..	0.62	1.67	1.67	..	(Committed Expenditure)	..	..	..
1.67	..	0.12	1.79	1.79	..	(Committed Expenditure)	..	..	..
2.49	..	0.37	2.86	2.86	..	(Committed Expenditure)	..	..	..
17.10	..	10.30	28.00	..	1.00	9.00	9.00	9.00	..
27.35	..	2.01	29.36	29.36	..	(Committed Expenditure)	..	..	..
29.41	..	2.94	32.35	32.35	..	(Committed Expenditure)	..	..	..
6.76	..	0.23	6.99	6.99	..	(Committed Expenditure)	..	..	..
0.76	..	0.22	0.98	0.98	..	(Committed Expenditure)	..	..	..
21.65	..	2.87	24.52	7.92	2.42	3.71	4.80	5.67	..
0.13	..	0.11	0.24	0.24	..	(Committed Expenditure)	..	..	..
1.45	1.75	0.30	3.50	3.50	..	(Committed Expenditure)	..	..	..
1.63	..	0.06	1.69	1.69	..	(Committed Expenditure)	..	..	..
..	..	0.39	0.39	..	0.15	0.08	0.08	0.08	..
..	5.88	..	5.88	..	2.20	..	2.56	1.12	..
0.99	..	0.02	1.01	1.01	7.73	4.03	4.03	4.03	..

TABLE
FIVE-YEAR PLAN (1978-1983) FINANCIAL

Serial number.	programme.	Plan period 1974-78.		1978-83.			Capital.		
		Approved Outlays.	Expenditure.	Spillover.	New.	Total.	New works.	Continuing works.	Total.
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20.	Drug Control Admn. (Lab.) ..	..	..	..	19.38	19.38	..	..	..
21.	Strengthening of Media Unit (HEB)	..	..	1.00	..	1.00	..	..	..
22.	Establishment of Health Education and Teachers Training Units.	..	..	..	15.21	15.21	..	..	..
23.	Development of P. H. Laboratory Services.	..	..	1.08	..	1.08	..	..	..
II. Control of Communicable Diseases :									
<i>Public Health Department :</i>									
1.	Smallpox Eradication Programme Expanded Programme of Immunisation.	..	110.08	..	..	..	..	..	..
2.	National Malaria Eradication Programme.	..	..	..	..	..	..	..	..
3.	Urban Malaria Programme ..	..	..	..	..	..	..	..	..
4.	Cholera Combat Teams .. ..	..	..	..	..	..	..	..	..
5.	Training and Employment of Multi-Purpose Health Workers' Scheme.	..	..	..	..	..	..	..	..
6.	Food Testing Laboratories ..	..	..	..	..	..	..	..	..
7.	National Filaria Control Programme	..	81.25	..	..	..	..	..	..
<i>Medical Service Department :</i>									
8.	Control of Disease-I TB-I Opening.	10.27	17.69	..	19.51	19.51	..	..	..
9.	Training (i) Opening Training Centre for Para-Medical Workers.	2.15	1.29	..	6.51	6.51	..	..	..
10.	Training Centre at CLTRI ..	0.33	0.32	..	0.06	0.06	..	..	..
11.	Control of Disease (5) LCUs ..	11.99	178.05	..	458.87	458.87	..	..	..
III. Hospitals and Dispensaries :									
<i>Medical Education Department :</i>									
	Teaching Hospitals	252.00	629.52	60.00	797.72	857.72	463.98	60.00	523.98
<i>Medical Services Department :</i>									
	Non-Teaching Hospitals	356.57	264.40	37.12	1,249.47	1,286.59	379.55	37.12	416.67
IV. Medical Education :									
(i)	Improvements to Medical Colleges	181.99	82.41	5.00	169.25	174.25	94.66	5.00	99.66
(ii)	Research .. .. .	..	..	..	300.00	300.00	300.00	..	300.00
V. Training Programmes									
VI. Indigenous Systems of Medicines ..									
	Homeopathy	12.65	10.03	5.09	8.32	13.41	2.06	5.09	7.15
VII. Other Programmes									
	.. .. .	120.12	32.58	5.00	29.43	34.43	1.41	5.00	6.41
Total (excluding S. No. 2) ..		1,184.23	1,207.45	202.80	4,219.19	4,421.99	1,527.62	118.28	1,645.90

23-II—cont.

OUTLAYS—HEALTH PROGRAMME—cont.

HLH-15

APP. II (H).

Percent
age to
total
outlay.

Revenue.

Phasing of outlays for

Staff.	Revenue.			Phasing of outlays for					Percent age to total outlay.
	Equipment.	Contingencies.	Total.	1978-79 Approved Outlays.	1979-80.	1980-81.	1981-82.	1982-83.	
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
11-68	5.70	2.00	19.38	..	..	(RUPEES IN LAKHS.)			..
0.61	0.20	0.19	1.00	1.00	..	(Committed Expenditure)			..
6.21	3.84	5.16	15.21	..	2.65	3.86	5.07	3.63	..
1.03	..	0.05	1.08	1.08	..	(Committed Expenditure)			..
235.88	..	11.43	267.31	43.78	48.16	52.98	58.28	64.11	..
141.02	Free supply From G. O. I.	17.50	158.52	26.56	29.20	31.46	34.30	37.00	..
2.50	Do.	32.50	35.00	7.00	7.00	7.00	7.00	7.00	..
3.66	2.00	5.95	11.61	..	2.39	3.74	2.74	2.74	..
344.90	1.78	270.51	617.19	85.27	110.43	125.11	140.47	155.91	..
..
171.73	0.98	136.37	309.08	50.45	56.77	62.61	67.07	72.18	..
17.40	..	2.11	19.51	3.20	3.52	3.87	4.25	4.67	..
6.51	..	..	6.51	1.08	1.18	1.29	1.41	1.55	..
0.06	..	..	0.06	0.01	0.01	0.01	0.01	0.02	..
350.00	5.00	103.37	458.87	103.36	76.60	84.26	92.69	101.96	..
212.06	121.68	..	333.74	30.98	126.25	150.00	253.57	296.92	..
484.87	106.40	278.65	869.92	223.21	123.00	200.16	327.13	413.09	..
51.28	23.31	..	74.59	5.77	40.00	50.00	50.00	28.48	..
	(Lumpsum provision).	..	..	..	50.00	50.00	100.00	100.00	..
24.96	14.73	..	39.69	..	45.00	54.00	34.60	..	..
168.48	20.54	121.87	310.89	6.74	93.99	91.36	107.44	121.41	..
4.37	0.30	1.59	6.26	10.75	2.21	0.15	0.15	0.15	..
5.00	22.82	..	28.02	1.00	6.00	6.00	20.43	1.00	..
1,375.61	417.46	983.02	2,776.09	495.81	685.29	873.87	1,154.46	1,212.66	..

587C-6-44

TABLE 23: IV—cont.

Health Programmes—Targets and Achievements—cont.

APPENDIX IV-H—cont.

Serial number and Programme.	Unit.	Achievements of Physical Targets (cumulative as on 1973-74).	Positions at the end of Fifth Plan i.e. position obtaining in 1977-78.	Target fixed for the Plan 1978-83.	1978-83 Target fixed.	Likely achievement	Phasing for 1979-83	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
VI. Hospitals and dispensaries:											
Medical Services Departments—											
1	District Hospitals ..	13	14	38	..	..	18	6	..	..
2	Sub-Divisional/Taluku ..	198	219	245	..	..	13	13	13	11
3	Dispensaries]										
	(i) Rural	110	157	157	..	..	..	..	..	..
	(ii) Urban .. ..	..	..	..	..	..	..	..	..	..
Medical Education Department											
Dispensaries :											
	(i) Rural				Not contemplated.						
	(ii) Urban	6	10	..	..	..	..	..	..	..
4	General Hospitals Teaching Hospitals.	Nos. 23	28	4+1 (Peripheral Hospital—4; Kariapet Hospital-1).	1	1	1	1	1	1	
VII. Medical education :											
1	Medical Colleges ..	Nos. 8	8	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.	
2	Annual Admission ..	No. 1,015	1,015	1,015	1,015	1,015	Increase in Admission not contemplated.				
3	Annual out-turn ..	No. 1,044	1,053	No. target fixed.	Nil.	Nil.	Increase in out-turn not contemplated.				
4	Number of post graduate Departments.	No. 21	28	Do.	Nil.	Nil.	1	1	1	1	
5	Number of Annual Admission in Post-graduate Department	No. 420	478	478 each year.	478	478	Increase in Admission not contemplated.				
6	Annual outturn of post-graduate departments.	No. ..	..	..	..	..	Nil.	Nil.	Nil.	Nil.
7	Number of Dental Colleges (Existing).	No. 1	1	Nil.	Nil.	Nil.	Increases in not contemplated —No increase—				
8	Number of Annual Admission to Dental Colleges	No. 35	35	35	Nil.	Nil.	Increase not contemplated.				
9	Annual out turn of-Dentists	No. 54	45	No addition is expected			Do.				
VIII. Training Programmes (Nurses) :											
(a)	Number of Institutions	No. 6	6	3 (New institutions)	Nil.	Nil.	1	1	1	1	
(b)	Annual Admissions ..	.. 150	150	250+200 (Now proposed)	250	250	200 Additional Nurses training proposed.			
(c)	Annual out-turn ..	.. 150	200	450	250	250	..	350	450	..

TABLE 23—IV—cont.
Health Programmes—Targets and Achievements—cont.

APPENDIX IV—H—cont.

Serial number and Programme.	Unit:	Achievements of Physical Targets (cumulative as on 1973-74)	Position at the end of Fifth Plan i.e. position obtaining in 1977-78	Target fixed for the Plan 1978-83	1978-79		Phasing for 1979-83				
					Target fixed	Likely achievement	1979-80	1980-81	1981-82	1982-83	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
V. Manpower position:											
Medical Education Department—											
1	Doctors (in service) ..	Nos	1,838	2,046	100 (Additional number expected.)	20	20	20	20	20	20
2	Dentists (in service) ..	..	55	58	Nil.	Nil.	Nil.	Nil.	No increase is expected.		
3	Nurses .. .. .	..	2,045	2,400	500	100	100	..	..	..	..
4	Auxiliary Nurse Midwives ..	..	47	47	Nil.	Nil.	Nil.	..	..	..	..
5	Lady Health Visitor ..	..	39	39	Nil.	Nil.	Nil.	..	..	..	..
6	Social Workers .. ..	..	84	88	..	..	..	..	..	..	..
Medical Services Department—											
1	Doctors .. .. .	..	1,056	1,347	289	26	26	..	53	97	113
2	Dentists .. .. .	..	79	87	..	..	..	..	127	2	..
3	Nurses .. .. .	..	2,254	4,734	539	54	54	..	100	165	220
4	A. N. Ms. .. .. .	..	79	102	224	..	..	..	70	70	84
VI. Indigenous System of Medicine:											
1	Number of Colleges/Institutions College.	Nos.	1	1	1(a)	..	..	..	..	..	1
Institutions—											
(i)	Hospitals (Major)	Nos.	2	2	3(b)	..	..	..	2	1	..
(ii)	Hospitals, Siddha Wings at District/ Taluk/Non-taluk Hospitals.	Nos.	23	63	110(c)	10	10	25	25	25	25
(iii)	Siddha Wings at Primary Health Centres.	Nos.	..	..	49(d)	..	..	10	10	10	10
(iv)	Dispensaries	Nos.	11	13	200(e)	..	..	50	50	50	50
(b) Homoeopathy—											
1	Colleges/Institutions ..	..	..	1	..	..	..	..	..	..	..
2	Hospitals .. .. .	..	..	1	..	..	..	..	..	..	..
3	Dispensaries .. .. .	..	..	1	1	1	1	..	..	..	..
VII. Other Programmes:											
Medical Education Department—											
	Number of Psychiatric clinics (Centrally sponsored).	..	Nil.	..	..	1	1	Nil.	Nil.	Nil.	Nil.
	Number of Medical Rehabilitation Centre.	..	4	4	Nil.	4	4	Nil.	Nil.	Nil.	Nil.
Medical Services Department—											
	Number of Psychiatric clinics.	..	2	5	6	..	..	..	..	..	..

TABLE 23—IV—cont.

Serial number and Programme	Unit	Achievements of physical Targets (Cumulative) as on 1973-74.	Position at the end of Fifth Plan i.e. position obtaining in 1977-78	Target fixed for the Plan 1978-83	1978-83		APP V. (H). Phasing for 1979-83			
					Target fixed	Likely achieve- ment.	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Public Health Department.	Number of Drugs and Food Analytical Laboratories.	One Number.	Construction of Ground floor, 1st and 2nd floor have been completed, purchased equipments and furnitures to ground floor. Certain minor works such as external water-supply and air-conditioning are to be executed. Staff to be appointed. Key posts such as Government Analyst will be filled up on receipt of instructions from Government.	Completion of construction of drugs testing Laboratory 5,000 samples per year.	Analysis of 900 samples.	This could be achieved after appointing staff.	Strengthening of the office of the Drugs Controller and Continuance of Drugs Testing Laboratory.	Opening of 4 Regional Offices and continuance of Drugs Testing Laboratory.	Provision of refrigerator and reference books, Inspectors and Drug Inspectors and continuance of Drugs Testing Laboratory.	Strengthening of Drugs Testing Laboratory (Chemical, Microbiology and Pharmacology sections) and continuance of Drugs Testing Laboratory.

HEALTH PROGRAMMES—TARGETS AND ACHIEVEMENTS.

Serial number and Programme.	Unit.	Position at the end of fifth Plan, i.e., position obtaining in 1977-78.	Targets fixed for the Plan, 1978-83.	1978-83	
				Target fixed.	Likely Achievements.
(1)	(2)	(3)	(4)	(5)	(6)
1. National Malaria Eradication Programme :					
(a) Rural Units as per Modified Plan of action.	No.	xxx	..	..	..
(b) Urban Towns covered	No.	7	10	2	2
2. Leprosy Control Programme :					
(i) Control Units	No.	59	..	..	..
(ii) Sub-centre	No.	132	..	..	..
(iii) Urban Leprosy Centre	No.	48	..	..	..
(iv) Reconstructive Survey Units ..	No.	9	..	..	..
(v) (a) Training Centres for Medical Officers.	No.				
(b) Number trained	No.				
(vi) Temporary hospitalisation wards.	No.	25	..	..
(vii) Number of Control units upgraded.	No.	15	..	..
3. Smallpox and expanded programme immunisation.					
(i) Primary Vaccination Million ..		11.60	The target was 4 per cent of total population for each year.	Annually (subject to availability of vaccine). P.V. 3.2 Percent of total population annually. DPT (Primary) 9 lakhs (Booster) 8 lakhs D.T. 7 lakhs.	P.V. 3.2 per cent of total population annually. DPT (Primary) 9 lakhs (Booster) 8 lakhs. DT 7 lakhs.
(ii) Revaccination Million ..		18.47	The target was fixed due to periodic intensive searches surveillance activities, etc.	Do.	Do.
4. Tuberculosis:					
(i) District T.B. Centre	No.	14	..	..	..
(ii) T.B. Isolation beds	No.	1,192	..	..	..
(iii) BCG Vaccine supplied		Quantity 40 lakhs doses supplied during 1977-78.			
5. Cholera:					
Cholera Combat Teams	No.	3	2	Nil.	Nil.
Construction of Isolation sheds in Primary Health Centres.	No.	10	50	Nil.	Nil.
6. V.D.:					
<i>Medical Education Department.</i>					
(1) V.D. Clinics		1	Nil.	Nil.	Nil.
(2) V.D. Reference Laboratories.					

TABLE 23—V—cont.

HEALTH PROGRAMMES—TARGETS AND ACHIEVEMENTS—cont.						
Serial number and programme	Unit	Position at the end of fifth Plan, i.e. position obtaining in 1977-78.	Targets fixed for the Plan 1978-83.	1978-89		
				Target fixed	Likely Achievements.	
(1)	(2)	(3)	(4)	(5)	(6)	
6. V.D.—cont.						
<i>Medical Services Department—</i>						
(1) V.D. Clinics	No.	14	..	..	..
2) V.D. Reference Laboratories.	No.	..	..	..	..
(3) Survey Teams	No.	..	..	..	..
7. Filæria :						
Control Units		13 Control Units.	19 Filæria Control units.	2 Control Units.	2 Control Units.	
		3 Filæria Clinics.	68 Filæria Clinics.	10 Filæria Clinics.	10 Filæria Clinics.	
		1 Filæria Survey Unit.	Strengthening of Headquarters unit.	..	..
8. Training and Employment of Multi-purpose Health Workers:						
(i) Number of districts covered .. No.		5	5	9	9	
(ii) Number of trainees trained .. No.		3	604	1,350	75	
(iii) Number of workers trained at lower levels. No.		5	1,521	13,717	2,500	
(iv) Number of ANM employed (Please specify in remarks column the population ANM ratio existing and anticipated step up of the ratio.) No.		5	319	2,220	300	
9. Post-graduate Departments. in In Systems of Medicine:						
(i) Number of existing Post-graduate Departments assisted. No.		2	(a)1	..	..
(ii) Number of Post-graduate upgraded. No.		..	..	..	..
10. Indigenous Systems of Medicine, Pharmacies:						
Number of Pharmacies-cum-Drug Testing Laboratories assisted. Nos.		..	(b)1	..	..
11. School Health Programme:						
(i) School Health Kits supplies .. No.		Nil.	60	60	60	
(ii) Number of Schools benefited .. No.		Nil.	60	60	60	
(iii) Medical education material supplied (value and nature). No.		Nil.	60	60	60	
12. Combined Food and Drug Testing Laboratories and Regional Food Laboratories:						
(i) Number of Food and Drug Testing Laboratories set up. No.		..	..	..	..
(ii) Regional Laboratories assisted. No.		..	..	..	..

Phasing of Targets for 1978-83.

1979-80. (7)	1980-81. (8)	1981-82. (9)	1982-83. (10)	Remarks. (11)
..
..
..
4	4	4	5	The activities of the NFPC is confined to urban areas as per the pattern and guidelines laid down by the Government of India.
20	20	10	8	
Strengthening of the existing Headquarters unit.				
9	9	9	9	The training programme to start in all the remaining 9 districts simultaneously from 1978-79.
375	375	375	150	Do.
3,000	3,000	3,000	2,217	Do.
420	420	420	660	One ANM for 5,000 population. This ratio to continue.
..	1	..	..
..	
..	..	..	1	
Nil.	Nil.	Nil.	Nil.	The scheme will be completed during 1978-79 itself.
Nil.	Nil.	Nil.	Nil.	
Nil.	Nil.	Nil.	Nil.	
..
..

TABLE 28-
Health Programmes-

Serial number and programme.	Unit.	Position at the end of fifth Plan, i.e., position obtaining in 1977-78.	Targets fixed for the Plan, 1978-83.	1978-83.	
				Targets fixed.	Likely Achievement.
(1)	(2)	(3)	(4)	(5)	(6)
13. Establishment of Psychiatric Clinics:					
<i>Medical Education Departments—</i>					
(i) Number of Clinics set up under Central Programme.	No.	1	Nil.	Nil.	Nil.
(ii) Additional Number expected to be started.	No.	..	Nil.	..	..
(iii) Number of clinics already existing.	No.	1	Nil.	Nil.	Nil.
<i>Medical Service Department—</i>					
(i) Number of new clinics set up under Central Programme.	No.	5	6	6	6
14. Prevention of Blindness including Trachoma Control Programme:					
(i) Mobile Units set up		..	..	..	..
(ii) Number of patients treated by mobile units.		..	..	..	..
(iii) PHCs assisted	..	..	..	..	..
(iv) Additional number of patients treated at PHCs.	No.	..	..	..	..
(v) Patients treated at District Hospitals.	No.	..	..	..	..
(vi) Ophthalmic Departments in Medical Colleges upgraded.	No.	..	..	..	..
(vii) Patients benefited by upgrading of Ophthalmic Units.	No.	..	..	..	..
(viii) District Hospitals assisted.	No.	..	..	..	..

* For the Districts of Chengalpattu
 ** For the Primary Health Centres
 *** I. Phasing of Units under NME

Attack Phase—Nil.

Maintenance Phase—28.40 units.

Consolidation Phase—3.05 units.

II. From 1977-78 phasing of units has been abolished under Modified Plan of Operation of NME
 III. All the 14 districts have been covered under the modified Plan.

v—contd.

Targets and Achievements—cont.

Phasing of Targets for 1978-83.

1979-80.	1980-81.	1981-82.	1982-83.	Remarks.
(7)	(8)	(9)	(10)	(11)
	Increase not contemplated			
..
	Increase not contemplated.			
..
..
..
..
..
..
..
..

and Madurai.
in Cholera Endemic Blocks of the Endemic Districts.
prior to Implementation of Modified Plan of Operation till 1976-7.—

Each district comprise a unit under the Modified Plan.

TABLE 23.—VI.
Details Relating to Hospital Beds.

Agency/Nature of beds.	General Beds.		T. B. Beds.		Leprosy Beds		Others.		Total of all beds.	Patient days (in 1000)		Number of deaths among patients.	Beds Position ratio.		Remarks.
	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.		In-patients.	Out-patients.		As on 1977-78.	Target 1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Medical Education Department—															
At State Headquarters.	6,047	..	222	..	..	..	1,800 (Mental)	..	8,069	663.3	5,290	..	This has to be determined at the State level.		
District level ..	4,548	..	932	..	..	..	78	..	5,558	827.0	4,554.9	..	..	..
Medical Services Department—															
At State Headquarters.	..	..	39	..	40	..	..	..	79	..	..	..	..	..
District level ..	3,846	..	248	..	180	..	..	..	4,274	..	..	..	3330:1	2832:1	
Taluk level ..	5,502	2,972	173	732	260	415	..	..	10,054	..	..	..	..	..
Others (those run by Municipal Corporations and Corporate Bodies)	683	39	..	..	..	..	..	..	732	..	..	..	..	..
Private Agencies	10,411	..	884	..	..	..	..	..	11,295	..	..	..	..	..
Indian Medicine Department—															
1. At State Headquarters Hospitals.	..	..	..	..	..	..	150	..	150	36	380	..	150	24	
2. District level—															
(i) Teaching Hospitals.	..	..	..	..	..	..	208	..	208	34	146	..	208	..	
(ii) Siddha Wings at District Headquarters Hospitals.	..	..	..	..	..	..	146	..	146	2	708	..	146	255	

Taluk level—

3. Siddha Wings at Taluk and Non-Taluk Hospitals.	..	..	..	..	..	..	..	245	245	..	558	..	245	550
4. Others (those run by Municipal Corporations and Corporations and Corporate bodies.)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5. Private Agencies	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Statement showing extent of estimated employment generation and plan of benefits to

Scheme.	Estimated Employment											
	1974-78				1978-79				1979-80			
	M	PM	T	NT	M	PM	T	NT	M	PM	T	NT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<i>Public Health Department—</i>												
Mini Health Centres.	48	..	240	..	56	..	280	..	25	..	125	..
Health Services in Rural areas.	..	..	248	..	230	..	..	..	153	..	..	..
School Medical Inspection.	3	..	6	3	..	..	..	..	2	..	4	2
Reorganisation of Public Health Administration in the Districts.	..	..	..	..	..	..	..	..	..	..	11	34
Immunisation of Pre-school Children.	..	..	98	1	..	..	25	..	..	..	45	..
<i>Medical Education .. Department.</i>	..	..	..	..	..	..	..	..	8	338	35	..
<i>Medical Services Department—</i>												
(i) Hospitals and Dispensaries.	559	2,265	768	1,525	26	34	3	22	..	..	50	370
(ii) Homoeopathy ..	21	8	1	22	1	2	..	..	..	..	..	..
<i>Indian Medicine Department</i>	..	..	..	..	10	10	..	10	88	35	11	120

M=Medical.

PM=Paramedical.

VII.

weaker sections of the population.

Generation.

1980-81				1981-82				1982-83				Flow of benefits to			
M	PM	T	NT	M	PM	T	NT	M	PM	T	NT	Schedule Castes.	Scheduled Tribes.	Other Backward Classes.	
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	
								Scheduled Castes				Scheduled Tribes.			
25	..	125	..	25	..	125	..	25	..	125	..	The post will be filled up according to the Norms fixed by Government from time to time.			
..	..	100	..	..	..	100	..	..	..	100	..			
4	..	8	4	6	..	12	6	..	..	16	8			
..				
..	..	65	..	..	..	85	..	..	..	100	..			
3	338	35	..	8	338	35	..	8	338	35	..	18 per cent. 31 per cent.			
53	170	111	550	97	235	100	580	113	304	123	531	629	1 601		
..				
94	43	53	128	100	38	31	97	80	38	10	79	18 per cent	31 per cent.		

T=Technical.

NT=Non-technical.

TABLE 23.—VIII.

Basic Statistics.

APP. I (FVV)

Population (1971)—							
Rural	..	..	..	..	..	..	28,734,000
Urban	..	..	..	..	..	..	12,465,000
Total	..	..	..	..	..	..	41,199,000
(Sq. Km.)	..	..	..	..	..	..	129,901 Sq. Kms.

Density of population (1971 Census) 317 persons/Sq. Km.
 Number of Districts—14 (excluding) Madras City.
 Estimated births, deaths and growth rates (SRS Estimated).

	Year.	Birth Rate.	Death Rate.	Growth Rate.	
	1974	29.2	13.9	15.3	
	1975	30.7	15.0	15.7	
	1976	30.4	14.6	15.8	
Number of couples in the reproductive age group (wife age 15-44) in December 1977	..	..	..	..	78,45,000
Number of couples effectively protected up to March 1978	..	..	..	..	23,63,325
Number of couples protected during the year 1977-78	..	..	..	..	1,17,925

TABLE 23—IX-A.

Allocation and expenditure during the Fifth Plan for Family Welfare Programme.

APP. II (FVV)

	1974-75.	1975-76.	1976-77.	1977-78
				(RUPEES IN LAKHS).
1. Allocation	641.62	541.83	635.10	914.90
2. Provisional payment	450.87	480.33	1,007.66	554.36
3. Actual Expenditure	567.76	631.10	1,237.78	558.59

TABLE 23—IX-B.

Proposed outlay for the plan, 1978—83 and Annual Break-up.

(RS. IN LAKHS).

Year.	Revenue.	Annual break up expenditure.	Capital.
(1)	(2)	(3)	(4)
1978-79	3.26	1,007.09	8.50
1979-80	3.60	928.68	197.30
1980-81	3.65	1,028.17	198.30
1981-82	3.70	1,143.77	198.30
1982-83	3.80	1,263.24	205.61

TABLE : 23-X.

APP. III (FW)

Physical achievements—Fifth Plan.

Year.	Voluntary Sterilisations.		I.U.Ds.		Conventional Contraceptives and Oral Pill.		
	Expectation of performance.	Achievement.	Expectation of performance.	Achievement.	Expectation of performance.	Achievement.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1974-75	189,400	197,760	37,000	26,209	87,400	139,756
1975-76	211,300	270,691	29,700	26,790	144,600	112,477
1976-77	500,000	567,037	35,500	32,505	147,500	134,181
1977-78	350,000	101,604	35,500	21,743	221,800	87,690

Expectation of performance—Plan 1978-83.

Year.	Voluntary Sterilisation.	I.U.Ds.	Conventional Contraceptives and Oral Pill Users.
(1)	(2)	(3)	(4)
1978-79	276,700	41,700	140,200
1979-80	311,300	55,600	157,700
1980-81	345,900	69,500	175,300
1981-82	380,500	83,400	192,800
1982-83	415,000	97,300	210,300

TABLE : 23.-XI.

APP. IV (FW)

Maternal and Child Health Schemes.

Scheme.	Total target, 1974-78.	Achievement.	Target for 1978-83.	Outlay proposed.
(1)	(2)	(3)	(4)	(5)
I. Immunisation of :				
(a) Expectant mothers with T.T.	1,430,000	692,112	2,000,000	Vide Note below.
(b) Children with D.P.T. vaccine (0-2)	1,800,000	1,530,396	2,850,000	..
(c) Children with D.T. vaccine (3-6)	..	..	..	(Till 1977-78 the administration of D.P.T. vaccine was for children in the age group of 0-5 years. During 1978-79, the Government of India revised the strategy by prescribing the beneficiary in D.P.T. for children in the age group of 0-3 years and for D.T. 3-6 years. Hence the figures under item is Nil.)
(d) Children in Primary School :				
(i) D.T.	1,900,000	1,076,969	3,500,000	..
(ii) Typhoid	..	..	..	Not being implemented under Family Welfare Programme.
(e) Children (0-6) with Polio vaccine	..	..	..	Not being implemented under Family Welfare Programme.
(f) Children with Measles vaccine	..	..	..	Do.
(a) Prophylaxis against Nutritional anaemia :				
(i) Mothers	1,100,000	2,054,968	3,500,000	..
(ii) Children	1,100,000	1,460,383	3,500,000	..
(b) Prophylaxis against blindness among children caused by Vitamin A deficiency.	4,300,000	3,110,477	9,500,000	..

(NOTE.—The above items are supplied by Government of India in kind. The cost will be known only on receipt of adjustment particulars from the Government of India.)

TABLE : 23-XII,
Building Plan (1978-83).

Item.						APP. V (FW)			
						Achievement as on 1-4-1978.	In progress on 1-4-1978.	Target for 1978-83.	Outlay proposed
(1)						(2)	(3)	(4)	(5)
1 Rural Family Welfare Centres—						(RS. IN LAKHS.)			
(i) Main Centres						349	4	191	368-00
(ii) Staff Quarters						349	4		
2 Rural Sub-centres—									
(i) Health						Not coming under Family Welfare Programme.			
(ii) Family Welfare						1,230	16	1,137	594-00
(iii) Minimum Needs Programme .. .. .						..	..	..	..
3 Training Schools (Multi Purpose Workers) .. .. .						..	..	..	..
4 Training Schools Supervisors Promotional training .. .. .						..	..	..	..
5 Regional Health and Family Welfare Training Centres						3	..	..	..

TABLE : 23-XIII.

Scheme and category of staff.	APP. VI (FW)				
	Staff position.	Number of posts as per pattern.	Number of posts likely to be sanctioned on 1-4-1978.	Posts likely to be filled as on 1-4-1978.	Training status.
(1)	(2)	(3)	(4)	(5)	
I. (A) Rural Family Welfare Centres (No. 374)—					Vide note below
1 Medical Officers	374	Nil.	..	..	..
2 Extension Educators	374	..	..	..	..
3 Auxiliary Nurse Midwife	374	..	..	..	..
4 Lady Health Visitors	374	..	..	..	..
5 Computers	374	..	..	..	..
6 Family Welfare Health Inspectors	1,508	..	..	..	..
7 Store Keeper-cum-Clerk	374	..	..	..	..
8 Drivers	374	..	..	..	..
9 Voluntary Workers .. .. .	..	..	..	..	..
(B) Rural sub-centres—					
1 Auxiliary Nurse Midwife	1,533	..	..	..	..
2 Voluntary Workers .. .. .	..	..	..	..	..
II. Urban Family Welfare Centres (run by State Government)—					
(A) Type I :					
(i) Auxiliary Nurse Midwife	66	..	..	..	..
(ii) Family Welfare Field Worker (Male)	66	..	..	..	..
(B) Type II :					
(i) Family Welfare Extension Educators/Lady Health Visitors.	33	..	..	..	..
(ii) Auxiliary Nurse Midwife	33	..	..	..	..
(iii) Family Welfare Field Worker (Male)	33	..	..	..	..

TABLE : 23-XIII—cont.

Staff position.—cont.

Scheme and category of staff.	Number of posts as per pattern.	Number of posts likely to be sanctioned on 1-4-1978.	Posts likely to be filled as on 1-4-1978.	Training status.
(1)	(2)	(3)	(4)	(5)

II. Urban Family Welfare Centres (run by State Government)—cont.**(C) Type III :**

(i) Medical Officer	35	..	..	..
(ii) Lady Health Visitors	35	..	..	..
(iii) Extension Educator .. .. .	..	..	..	..
(iv) Auxiliary Nurse Midwives	70	..	..	..
(v) Family Welfare Field Worker (Male)	35	..	..	..
(vi) Store Keeper-cum-Clerk	35	..	..	..

III. Post Partum (run by State Government)—**(A) Post Partum Centres in teaching hospitals—**

(i) Assistant Professor/Reader	9	..	..	..
(ii) Lecturer in Health Education and Family Welfare (Non-Medical).	8	..	..	..
(iii) Lecturer in Paediatrics	8	..	..	..
(iv) Lecturer in Statistics and Demography	8	..	..	..
(v) Anaesthetist/Registrar	9	..	..	..
(vi) Projectionist	9	..	..	..
(vii) Medical Officer	9	..	..	..
(viii) Extension Educator .. .. .	..	..	..	..
(ix) Lady Health Visitor .. .. .	..	..	..	..
(x) Auxiliary Nurse Midwife .. .. .	..	..	..	..
(xi) Family Welfare Field Worker (Male) .. .. .	..	..	..	..
(xii) Steno-typist	9	..	..	..
(xiii) L.D.C.	9	..	..	..
(xiv) Store Keeper-cum-Clerk .. .. .	..	..	..	..
(xv) Driver	9	..	..	..
(xvi) Peon	9	..	..	..

(B) Post Partum Centres—Non-Teaching Hospitals—**Type A :**

1 Senior Medical Officer	4	..	..	..
2 Anaesthetist	4	..	..	..
3 Projectionist	4	..	..	..
4 Medical Officers	4	..	..	..
5 Extension Educators .. .. .	..	..	..	..
6 Lady Health Visitor/Public Health Nurse .. .. .	..	..	..	..
7 Auxiliary Nurse Midwife .. .. .	..	..	..	..
8 Family Welfare Field Worker (Male) .. .. .	..	..	..	..
9 Steno-typist .. .. .	..	..	..	..

TABLE : 23-XIII—cont.

Staff position—cont.

Scheme and category of staff.	Number of posts as per pattern.	Number of posts likely to be sanctioned on 1-4-1978.	Posts likely to be filled as on 1-4-1978.	Training status.
(1)	(2)	(3)	(4)	(5)
III. Post Partum (run by State Government)—cont.				
(B) Post Partum Centres—Non-Teaching Hospitals—cont.				
<i>Type A—cont.</i>				
10 L.D.C.	4	..	..	..
11 Store Keeper-cum-Clerk .. .. .	..	..	..	..
12 Driver .. .. .	..	..	..	..
13 Peon	4	..	..	..
<i>Type B:</i>				
1 Medical Officer	7	..	..	..
2 Extension Educators .. .. .	..	..	..	..
3 Lady Health Visitors .. .. .	..	..	..	..
4 Auxiliary Nurse Midwife .. .. .	..	..	..	..
5 Family Welfare Field Worker (Male) .. .. .	..	..	..	..
6 Store Keeper-cum-Clerk .. .. .	..	..	..	..
7 Anaesthetist	7	..	..	..
<i>Type C:</i>				
1 Medical Officer .. .. .	..	..	..	..
2 Extension Educator .. .. .	..	..	..	..
3 Lady Health Visitor .. .. .	..	..	..	..
4 Auxiliary Nurse Midwife .. .. .	..	..	..	..
5 Family Welfare Field Worker (Male) .. .. .	..	..	..	..
6 Store Keeper-cum-Clerk .. .. .	..	..	..	..
7 Anaesthetist .. .. .	..	..	..	..
IV. National Health and Family Welfare Training Centres—				
1 Principal	2	..	..	..
2 Medical Lecturer-cum-Demonstrator	2	..	..	..
3 Health Education Instructor	2	..	..	..
4 Social Science Instructor	2	..	..	..
5 Public Health Nurse Instructor	2	..	..	..
6 Health Education Extension Officer	8	..	..	..
7 Statistician	2	..	..	..
8 Office Superintendent	2	..	..	..
9 Projectionist	2	..	..	..
10 Computer	2	..	..	..
11 Artist-cum-Draftsman	2	..	..	..
12 Clerk-cum-Typist	2	..	..	..
13 Steno-typist	2	..	..	..
14 Clerk-cum-Accountant-cum-Store Keeper	2	..	..	..
15 Driver-cum-Mechanic	6	..	..	..
16 Cleaner/Sweeper/Chowkidar Mali/Peon	10	..	..	..

TABLE : 23-XIII—cont.

Staff position—cont.							
Scheme and category of staff.							
Number of posts as per pattern.							
Number of posts likely to be sanctioned on 1-4-1978.							
Posts likely to be filled as on 1-4-1978.							
Training status.							
(1)	(2)	(3)	(4)	(5)			
VI. State Family Welfare Bureau—cont.							
14	Exhibition/Out-door Publicity Officer .. .. .	..	..	..	..	..	..
15	Editor	1	..	..	..	..	..
16	Assistant Editor	1	Nil.	Nil.	Nil.	Nil.	Nil.
17	Senior Artist/Technical Assistant .. .. .	..	Nil.	Nil.	Nil.	Nil.	Nil.
18	Artist-cum-Photographer	1	Nil.	Nil.	Nil.	Nil.	Nil.
19	Steno-typist	4	Nil.	Nil.	Nil.	Nil.	Nil.
20	S. A. S. Accountant	2	Nil.	Nil.	Nil.	Nil.	Nil.
21	Lower Division Clerk-cum-Typist/Typists	8	Nil.	Nil.	Nil.	Nil.	Nil.
22	Demographer	1	..	..	..	..	..
23	Social Scientist .. .. .	..	..	..	..	..	..
24	Statistician	1	..	..	..	..	..
25	Investigators/Computers	8	..	..	..	..	..
26	Statistical Assistant	1	..	..	..	..	..
27	Drivers	4	..	..	..	..	..
28	Packers (Record Clerks)	2	..	..	..	..	..
29	Peons/Cleaners/Night Guard	8	..	..	..	..	..
State Secretariat Cell—							
30	Deputy Under/Asst. Secretary	1	..	..	..	..	..
31	U. D. Assistant	1	..	..	..	..	..
32	Steno-typist	1	..	..	..	..	..
33	Peon	1	..	..	..	..	..
Construction Cell—							
1	Executive Engineer	1	..	..	..	..	..
2	Steno-typist	1	..	..	..	..	..
Offset Printing Press—							
1	Production Manager	1	..	..	..	..	..
2	Steno-typist	1	..	..	..	..	..
3	Peon	1	..	..	..	..	..
4	Offset Section Superintendent	1	..	..	..	..	..
5	Assistants	2	..	..	..	..	..
6	Junior Assistants	2	..	..	..	..	..
7	Typist	1	..	..	..	..	..
8	Peon	1	..	..	..	..	..
9	Store Keeper	1	..	..	..	..	..
10	Asst. Store-keeper	1	..	..	..	..	..
11	Mazdoors	3	..	..	..	..	..

TABLE : 23-XIII—cont.

Staff position—cont.

Scheme and category of staff.		Number of posts as per pattern.	Number of posts likely to be sanctioned on 1-4-1978.	Posts likely to be filled as on 1-4-1978!	Training status.
(1)		(2)	(3)	(4)	(5)
<i>Technical Section—</i>					
12	Junior Foreman	1	..	..	..
13	Top Senior Foreman	1	..	..	..
14	Senior Reader	1	..	..	..
15	Junior Reader	1	..	..	..
16	Compositor-cum-Imposer	1	..	..	..
17	Cameraman-cum-Platemaker	1	..	..	..
18	Retoucher (Plate)-cum-Artist	1	..	..	..
19	Plate Grainer	1	..	..	..
20	Offset Machine Operator	1	..	..	..
21	Assistant Machine Operator	1	..	..	..
22	Top Senior Binder	1	..	..	..
23	Junior Binder	1	..	..	..
24	Senior Machine Minder	1	..	..	..
25	Junior Machine Minder	1	..	..	..
26	Assistant	1	..	..	..
27	Junior Assistant	1	..	..	..

[NOTE.—(1) Training to the staff working in the Medical Department is given in the three Regional Family Welfare Training Centres in Batches]

TABLE : 23-XIV.

Training Statistics Under Family Welfare.

(Up to 31st March 1978 since Inspection).

Category.	Number trained.
1 Medical Officers (Male)	730
2 Medical Officers (Female)	548
(a) I. U. D. and O. P.	358
(b) Oral Contraception	73
3 Urban Extension Educators	46
4 Block Extension Educators (Short-term 30 days)	468
5 Block Extension Educators (Long-term 90 days)	141
6 Health Inspectors (Family Welfare)	1,282
7 Health Visitors	778
8 Auxiliary Nurse Midwife	310
9 Maternity Assistants	245
10 Nurses	136
11 Family Welfare Workers (Urban)	77
12 Computers	98
13 Mass Education and Information Officers	6
14 Health Officers deputed to B. S. SC. Course	11

TABLE : 23-XV.

APP. VII (FW)

Rural and Urban Family Welfare Centres.

A. Rural Family Welfare Centres and Sub-Centres—

1. Number of C.D. Blocks	.. .. .	..	374
2. Number of P.H.Cs functioning as on 1st April 1978	..	..	383
3. Number of Rural Family Welfare Centres functioning on 1st April 1978	..	..	374
4. Number of Rural Family Welfare Centres located in their own buildings as on 1st April 1978.	.. .. .	..	349
5. Target for New Rural Family Welfare Centres in Plan	..	..	170
6. Number of sub-centres functioning on 1st April 1978—			
(i) Under health	.. .. .	..	Not coming under family welfare programme.
(ii) Under Family Welfare	.. .. .	..	1,533
(iii) Under Minimum Needs Programme	.. .. .	..	..

B. Under Family Welfare Centres—

	Urban Centres.	Functioning as on 1st April 1978.	Target 1978-1983
Type I	} Government of India have not lifted the ban.
Type II	
Type III	

C. District Family Welfare Bureau—

1. Number functioning on 1st April 1978	..	13
2. Target for Plan 1978-1983	..	1 (Since sanctioned by Government of India).

TABLE : 23-XVI.

APP. VII (FW)

Position of Sterilisation Beds (Under Sterilisation Beds, Post Partum and Voluntary Sterilisation) Facilities in Rural and Semi-Urban Areas.

(1)	Number of Sterilisation beds position on 1st April 1978— Number of beds.	Number of Sterilisations performed in 1977-78.	Targets for additional beds
(1)	(2)	(3)	(4)
1. Sterilisation Bed Scheme	.. .. . 97	18,499	109 beds.
2. Post Partum	.. .. . 350	45,170	480 "
3. Provision of sterilisation facilities in rural and semi urban areas.	90	Operations are to be done from 1978-79 onwards.	240 beds.
Total	.. 537	63,669	740 beds.

TABLE : 23-XVII.

APP. IX (FW)

Training Facilities.

*Position on 1st April 1978.**Additional targets 1978-83.***1. Multi-purpose Workers Training Schools—**

(i) Number of schools	..	..	..	..	Nil
(ii) Number of seats	..	..	..	..	Nil

2. Multi-purpose Workers Supervisors Promotional Training Schools—

(i) Number of schools	..	—	—	..	Nil
(ii) Number of seats	..	..	..	..	Nil

The total capacity of the three Regional Family Welfare Training Centres functioning in the State is 96 at a time. Assuming that Training for a particular batch will last for one month, 12 batches can be trained in these centres with the result that 1,152 persons will be given training in a year. At present training for the Multipurpose Workers were given in the Health and Family Welfare Training Centres in batches as the scheme is being implemented only in a phased manner in the State. Since the requirement of training is not in excess of the capacity of three Training Centres, no additional Training Centres are proposed.

3. Regional Health and Family Welfare Training Centres—

(i) Number of centres	..	..	..	..	3
(ii) Number of seats	32 x 3	..	..	..	96

Volume 3

Chapter 24

WATER SUPPLY AND SEWERAGE

Urban Water Supply

24.0. The first two water supply schemes in Tamil Nadu were in Madras city and Ootacamund, and they were completed almost at the same time in 1874. By 1900, Water Supply Schemes were provided 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 Corporate cities, 90 municipalities, 5 municipal towns, 8 panchayat townships and 99 town panchayats. In almost all the water supply schemes, the supply has become inadequate for the present population. The population served by piped water supply is 10.43 millions or 65 per cent of urban population.

24.2. New Water Supply Schemes are under construction in 4 municipalities and forty-six town panchayats. The population covered by these schemes are 6.7 lakhs. Out of the remaining 486 local bodies (population 4.40 millions) investigations are in progress in 138 local bodies (4 municipalities, 3 municipal townships, 1 panchayat township and 130 town panchayats). Project reports covering 58 of these towns (population 7.09 lakhs) and costing Rs. 138 millions have been completed.

24.3. Improvements to existing water supply schemes are under execution in both the Corporations, 35 Municipal towns, 1 municipal township, 1 panchayat township and 5 town panchayats. Investigations for improvements to existing water supply systems are in progress in 29 towns.

Urban Sewerage Systems

24.4. Sewerage schemes are in operation in both the Corporations, 6 municipalities, 1 municipal township, 2 Panchayat Townships and one town panchayat. Sewerage schemes cover only limited areas. The population served by drainage/sewerage schemes is 3.79 millions or 25 per cent of urban population.

24.5. New underground sewerage schemes are under construction in 7 municipalities only and are under investigation in 16 municipalities, 2 municipal townships, 1 Panchayat township and 5 town panchayats. Improvements to existing schemes are under construction in both Corporations and 1 municipal town. They are under investigation in both Corporations, 2 municipalities, 1 Municipal township and 1 Panchayat township. They are yet to be taken up for the remaining 697 local bodies.

Proposals for Plan, 1978—'83

24.6. The Plan 1978—'83 will cover the execution of 324 out of 486 new water supply schemes and 6 new sewerage schemes only. Updating of water supply schemes is programmed to be carried out in 45 towns. The population to be served by new water supply schemes will be 4.46 millions and by sewerage schemes 10.06 millions only.

Rural Water Supply

24.7. The number of rural habitations in the State were surveyed and classified into six types based on the sources and nature of potable water. The details are given below :

Types of Rural Settlements	
Classification	Description
(1)	(2)
Type 1	Habitations with no source within the habitations.
Type 2	Habitations where the sources yield only non-potable water.
Type 3	Habitations where water is potable but source is not perennial.
Type 4	Habitations where water is potable and perennial but the source is either privately owned or un-protected.
Type 5	Habitations where there is no good source within the habitations, but an alternative good source is available within 1 km.
Type 6	Habitations where there is a good source available.

NOTE.—1. For the habitations under type 1 to 4 mentioned above there is no alternative good source within 1 km.

2. The habitations under Town Panchayats have been excluded in the above statement.

The rough cost for providing drinking water supply to habitations that do not have any supply and for providing improvements to the existing water supply arrangements in respect of

the habitations that have supply of water, have been worked out as Rs. 73.60 crores for the whole programme. The norms adopted for each village is given in Table 24.1.

24.8. The State Government have decided that provision of drinking water facilities on a permanent basis should be given to all habitations having no source of water within the habitation or where the source does not yield potable water, within a period of one year. It is proposed to cover all such habitations under these types during 1978-'79. The whole scheme will be completed by 1983.

Water Supply in Madras Metropolitan Area

24.9. The water supply system designed in 1916 for the Madras city provided for an anticipated population of 0.66 million in 1961 at the rate of 25 gpcd. No provision was made for seasonal variations in demand. The distribution system was designed for a peak flow of 2.5 times average flow. Service storage was provided for one-third of the daily supply.

24.10. The net supply available from the existing sources is of the order of 52 mgd only. Out of this quantity 3.90 mgd has to be supplied to established non-domestic consumers in the City such as Basin Bridge Power Station, Port Trust, the B. & C. Mills and the Railways, leaving only 48 mgd for domestic consumption. The source is unreliable besides being inadequate. The present capacity of the rapid gravity filters is effectively 40 mgd only which is less than the available flows in the system. The system is designed for a supply of 25 gpcd against the normal requirement of 40 to 60 gpcd for a city like Madras.

Sewerage System of Madras City

24.11. The Madeley scheme of sewerage disposal (1910—1920) was designed for a population of 0.65 million, anticipated in 1961, with a sewerage flow of 25 gpcd. The sewerage system was designed on the partially separate basis, i.e., on the assumption that storm water could not be completely excluded from the sewers.

24.12. The sewage flow has increased to about 40 mgd and as a result, the street sewers are overloaded and there is overflow of sewage into the storm water drains even during periods of dry

weather. The pumping plants have also become overloaded with inadequate capacity of pumps and pumping mains. As a result, there is overflow of sewage at almost all the pumping stations. When the sea disposal was provided originally at Kasimode at the northern end of the City, the area was practically undeveloped. Now the area near the disposal point has developed and strong public objection has arisen to the sea disposal arrangements. The sea disposal has also led to intermittent complaints of sludge deposition in the harbour area.

24-13. Certain immediate works have to be taken up to reduce the leakage and wastage of water in the Madras City and to improve the sewerage system. In view of the need for immediate augmentation of water supply to Madras, Government are studying the relative cost of carrying water from Krishna—Pennar as well as from Cauvery. Any augmentation of water supply, whatever the source be calls for corresponding improvements to the water distribution and sewerage system. A pilot 40 mld plant should be set up to treat the water derived from Kodungaiyur sewage treatment plant now under construction to make it fit for industrial use. Besides, investigations have to be carried out regarding (1) availability of ground water in Palar basin; (2) conjunctive use of water in the Kortalliar basin; and (3) Krishna-Pennar Project.

Financing the Schemes

Urban Schemes

24-14. The current programme for 1978-79 and the programme proposed for World Bank Assistance for the years 1979-80 to 1982-83 is taken as the period of Sixth Five-Year Plan Programme for the loan schemes excepting for Madras Metropolitan area. As per this programme (1) spill-over schemes (23 new water supply, 10 improvements schemes and 10 drainage schemes) costing Rs. 16.9 crores; (2) Updating water-supply systems in 45 out of 72 towns at a cost of Rs. 16.5 crores; (3) new water supply schemes for 292 local bodies out of 486 at a cost of Rs. 44.3 crores and (6) sewerage schemes out of 9 costing Rs. 23.2 crores will be completed during the Sixth Five-Year Plan period. The total cost of this programme is Rs. 100.9 crores. Of this, the Government of Tamil Nadu is expected to put in Rs. 23.38 crores,

and the Life Insurance Corporation of India, Rs. 45.57 crores. The Government of India assistance based on World Bank assistance is expected to be Rs. 31.95 crores.

Rural Schemes

24-15. Regarding rural schemes, the objective of the plan is to provide good water supply with a public distribution system in all the villages of Tamil Nadu. The cost of this programme for all the 47,073 habitations covering a population of 31.6 millions is expected to be Rs. 73.60 crores. During 1977-78, a sum of Rs. 4.93 crores has been spent covering 746 habitations. Hence a provision of Rs. 68.67 crores is made in the Sixth Five-Year Plan to complete this programme. Of this, the contribution from the local bodies is expected to be Rs. 11.50 crores and the contribution of Government of Tamil Nadu will be Rs. 37.17 crores. A sum of Rs. 20 crores is expected as Central assistance.

Madras Metropolitan Area

24-16. Regarding Madras Metropolitan area, it is proposed to invest Rs. 9.54 crores towards immediate improvements to the existing system, Rs. 150 crores will be provided for execution of conveyance of water from outside, Sewage Reclamation Project and for improvements to the distribution and sewerage systems. These two schemes will be executed with the assistance of the World Bank. A sum of Rs. 5 crores will be required for investigation of other projects during the Sixth Five-Year Plan. Of this Rs. 164.54 crores, the State will provide for Rs. 116.20 crores while a sum of Rs. 48.34 crores will be available as Central assistance based on a World Bank Loan.

24-17. For this Plan the source of finance are proposed as follows :—

	RUPEES IN CRORES.
1 Government of India assistance based on World Bank assistance.	80.23
2 Government of India assistance for Centrally sponsored schemes.	20.00
3 Government of Tamil Nadu	176.75
4 Life Insurance Corporation ..	45.57
5 Local contributions	11.45
Total ..	334.00

Employment potential

24-18. Based on these assumptions, it is calculated that the plan for the Tamil Nadu (other than the Madras Metropolitan Plan), will need, on the average, every year services of about 3,500 skilled persons and 50,000 unskilled persons. 2,482 skilled personnel are available with the Board. Hence about 1,000 skilled personnel have to be drafted during the plan period. Also employment opportunities could be provided for about 50,000 labourers (unskilled per day) during the plan period, which will mostly benefit the poorer sections in rural areas.

24-19. Regarding the plan for Madras Metropolitan area, the employment requirements of the number of skilled persons needed is 2,750 and the number of unskilled persons is 46,500. The number of skilled persons required to be recruited during the Plan 1978—1983 is about 1,800.

- (c) For habitation with population of 750 to 1,500. One deep bore well with a power pump and an RCC overhead tank of 5,000 litres capacity with a staging height of 5 metres.
- (d) For habitations with a population of 1,500 to 3,000. One deep bore well with power pump and an RCC overhead tank of 10,000 litres capacity with a staging height of 5 metres.
- (e) For habitation with population of more than 3,000. One deep bore well with a power pump and an RCC overhead tank of capacity of 15,000 litres with a staging height of 5 metres.

TABLE 24-I.

**Norms proposed to be adopted for Rural
Water Supply Schemes.**

- (a) For habitations with population less than 300. One deep bore well with a hand pump if the source is inside the habitation.
or
One bore well with a power pump and an ACC overhead tank of 2,500 litres capacity with a staging height of 5 metres if the source is outside the habitation.
- (b) For habitations with population of 300 to 750. Two deep bore wells with hand pumps (if the yield is limited)
or
One deep bore well with a power pump and an overhead tank of 2,500 litres capacity if the source is inside or outside the habitations, provided the yield is sufficient.

TABLE 24. II.

WATER SUPPLY AND SEWERAGE SCHEMES.
(EXCLUDING MADRAS METROPOLITAN AREA).

Provision and expenditure in the Fifth Five-Year Plan and Outlay for the Five-Year Plan, 1978—1983.

(RUPEES IN LAKHS)

Scheme.	Fifth Five- Year Plan, 1974—79 provision.	1974—78.		Five-Year Plan 1978—83.									
		App. Outlay.	Exp.	Outlay.			Phasing of outlays.						
				Spill over commit- ment.	New Outlay.	Total.	1978—79.		1979—80.	1980—81.	1981—82.	1982—83	
							App. Outlay.	Anti. Exp.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
I Urban													
(a) Water Supply	4,600.00	2,800.00	2,703.00	97.00	7,336.00	7,433.00	763.00	763.00	2,068.00	1,762.00	1,430.00	1,410.00	
(b) Sewerage and Drainage	700.00	500.00	400.00	100.00	2,551.00	2,651.00	201.00	201.00	730.00	600.00	580.00	540.00	
(c) Others .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
Total	5,300.00	3,300.00	3,103.00	197.00	9,887.00	10,084.00	964.00	964.00	2,798.00	2,362.00	2,010.00	1,950.00	
II. A. Rural (Minimum Needs Programme)—													
(a) Piped Water-Supply													
(b) Wells													
(c) Hand Pumps													
(d) Drilled Wells													
Others													
Total—Rural (MNP)	2,500	2,780	2,392.69	387.31	5,428.69	5,816.00	600	1,200	1,530	1,304	1,191	1,191	
B. Rural Other than MNP :—													
(a) Piped Water-Supply													
(b) Wells													
(c) Hand Pumps													
(d) Drilled wells													
Total—Rural Other than MNP													

TABLE 24. II—cont.

(RUPEES IN LAKHS)

Scheme.	1974-78.		Five Year Plan, 1978-83.										
	Fifth Five- Year Plan, 1974-79 provision.	App. Outlay.	Exp.	Outlay.			Phasing of outlays.						
				Spill over commit- ment.	New Outlay.	Total.	1978-79.		1979-80.	1980-81.	1981-82.	1982-83.	
							App. Outlay.	Anti. Exp.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
III. OTHERS—													
(a) Tools and Plants	}	Not available.											
(b) Conversion of dry latrines into wet latrines.													
(c) Direction and Administration													
Total—Others.													
TOTAL ..	7,800.00	6,080.00	6,095.69	584.31	15,315.69	15,900.00*	1,564.00	2,164.00	4,328.00	3,666.00	63,201.00	3,141.00	

*Out of Rs. 159 crores the State Government's Commitment is only Rs. 23.38 crores for urban schemes and Rs. 37.17 crores for rural water-supply schemes.

TABLE 24. III.

WATER-SUPPLY AND SEWERAGE
(EXCLUDING MADRAS METROPOLITAN AREA)

Physical Targets and Achievements in the Fifth Five-Year Plan and Targets for the Five-Year Plan, 1978-1983.

Programme.	Unit.	Cumulative Achievement up to 31st March 1974.	1974-78		Target. 1978-83.	Phasing of Targets					
			Target.	Achievement.		1978-79		1979-80	1980-81.	1981-82.	1982-83.
						Target.	Likely Achievement.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I. URBAN—											
(a) Water-Supply	Towns	171	82	64	381(*)	37	37	60	77	93	114
(b) Sewerage and Drainage	Do.	10 (including partial)	6	2	19	1	1	3	4	5	6
Total—Urban ..		181	88	66	400	38	38	63	81	98	120

(*) Includes also old ones which need improvement.

II. A. Rural-Minimum Needs Programme—

- (a) Piped Water Supply
- (b) Wells
- (c) Hand-Pumps
- (d) Drilled wells
- Total—Rural-Minimum Needs Programme**

B. Rural other than Minimum Needs Programme—	}	Habitations	959	15,411	15,411	45,890*	4,600	4,600	5,720	5,720	11,628	18,222
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- (a) Piped Water Supply
- (b) Wells
- (c) Hand Pumps
- (d) Drilled wells
- Total—Rural other than Minimum Needs Programme.**

(*) Includes also old ones which need improvement.

III. Others—

- (a) Tools and Plants
- (b) Conversion of dry latrines
into wet latrines
- (c) Direction and Administration ..

Not available.

Total—Others
---------------------	----	----	----	----	----	----	----	----	----	----	----	----

Grand Total :
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TABLE 24. IV.
WATER SUPPLY AND SEWERAGE.
(EXCLUDING MADRAS METROPOLITAN AREA.)

Estimate of Employment generated in the Fifth Five-Year Plan and Estimate of Employment potential during Five-Year Plan, 1978—83.

Programme.	Unit.	Estimated Employment potential during Five-Year Plan, 1978—'83.													
		Estimated Employment Generation, 1974-78.		1978-79.		1979-80.		1980-81.		1981-82.		1982-83.			
		Skilled.	Unskilled.	Skilled.	Unskilled.	Skilled.	Unskilled.	Skilled.	Unskilled.	Skilled.	Unskilled.	Skilled.	Unskilled.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
I. Urban—															
(a) Water-Supply	Jobs per year.	8,000	1,20,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000
(b) Sewerage and Drainage															
(c) Others															
Total—Urban		8,000	1,20,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000	2,000	30,000
II. A. Rural-Minimum Needs Programme—															
(a) Piped Water Supply	Jobs per year.	6,000	80,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000
(b) Wells															
(c) Hand pumps															
(d) Drilled wells															
Total—Rural Minimum Needs Programme		6,000	80,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000	1,500	20,000
B. Rural other than Minimum Needs Programme—															
(a) Piped Water Supply															
(b) Wells															
(c) Hand pumps															
(d) Drilled wells															
Total—Rural other than Minimum Needs Programme.															

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III. Others.—

- (a) Tools and Plants }
- (b) Conversion of dry latrines into wet latrines. }
- (c) Direction and Administration .. }

Not available

Total—Others

Grand Total

14,000	2,00,000	3,500	50,000	3,500	50,000	3,500	50,000	3,500	50,000	3,500	50,000	3,500	50,000
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Chapter 25

HOUSING

25.0. Housing constitutes one of the basic needs of the people next only in importance to food and clothing. Nevertheless, among economic planners there was for a long time, a prejudice against housing investment under the mistaken concept that it is an unproductive investment. Human capital cannot be conserved, and human resources cannot be strengthened unless the basic amenity of housing is provided to all the citizens. Further, unless housing activity is encouraged, innumerable industries and activities connected with the manufacture of goods and services which are used in the housing industries, would suffer and bring about a decline in economic growth. Thirdly, housing for industrial workers and weaker sections, in both rural and urban areas, cannot be obtained by them out of their own meagre savings. Hence, the State Plan has to take note of the need to fill this gap in social investment as a part of Social Development Planning.

25.1. The plan for housing in sections 25.11 to 25.27 below, refers to specific categories of investment under the Medium-Term Five-Year Plan 1978-'83. The planning approach to housing may broadly be presented in both quantitative and qualitative aspects. For instance, if the housing materials which are available in the districts or blocks concerned are used, there will not only be rapid and timely house construction but, it will

also ensure a healthy economic cycle of employment, income, savings and consumption, and stimulate similar cycles of economic activity and growth. Secondly, if local materials and manpower are to be used, it is possible also to ensure increased savings for the construction of community buildings like schools, halls, play-grounds and other buildings meant for the encouragement of healthy sports and leisure-time activities.

25.2. The net rate of interest obtained on investments made in banks and other industrial and trading enterprises is much higher than the net return of rent obtained by landlords. As a consequence, there is a tendency on the part of house owners to dispose of their housing property and to acquire housing from Housing Boards and other subsidising agencies. This results in withdrawing an element of capital from the supply side, and thus increasing the quantum of demand to be made by public housing authorities.

25.3. The houses built by Housing Board, which are in need of repairs or maintenance have not been adequately taken care of because, it takes a revolving fund for maintenance.

25.4. It is suggested that, the sale of improved plots and the formation of Housing Co-operatives and provision of fiscal concessions like exemption from house tax for the first few years of

the occupancy of a building, be considered to encourage the construction of houses by individuals or Co-operative housing agencies in addition to the State activity. The estimates of such quantitative aspects of housing in Tamil Nadu are necessary to assess the magnitude of housing supply.

25.5. In respect of Rural Housing, the models and designs which are suitable to urban areas are found both expensive and difficult to construct in rural areas. In earlier study of Rural Housing in Tamil Nadu for the Perspective Plan it was pointed out that the district and other industrial centres could be encouraged to produce on a sufficient scale of economy certain standard components of rural houses like windows, doors, kitchen and bathroom equipments, etc., so that the cost per unit could be reduced and the quality could also be taken care of. This strategy of common production of basic items will bring down the unit cost of construction and go a long way in increasing the total quality of rural housing.

25.6. The following criteria may have to be met in any Public Housing programme :—

- (i) Safety;
- (ii) Protection against fire;
- (iii) Adequate provision of ventilation and lighting;
- (iv) Proximity to Social over-head facilities like roads, piped water supply, sanitation, etc., and
- (v) Economy in terms of total purchase price or hire-purchase instalments.

25.7. The supply of housing according to some of these criteria, has been taken up in Tamil Nadu by the agencies like the Tamil Nadu Housing Board. Nevertheless, all these criteria should be followed, by all the agencies engaged in housing activities in the public sector. Similar conditions in private sector housing should also be enforced.

25.8. The supply of building materials has also been improved by Cellular Concrete Plant, modernised brick kilns, etc. The new District Industries Centres that have been launched have also the responsibility of providing standardised and inexpensively manufactured building materials.

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25.9. Housing for special categories like repatriates, the houseless in hill stations, etc., not already covered by their plan schemes should also be taken note of during the Plan period.

25.10. It would appear that the choice of techniques as well as materials for house construction is crucial for bringing about economy in housing investment. Further besides traditional housing for families, we have to branch out new areas of construction activities like school buildings and library buildings under the housing plans. The training of brick layers and intermediate building technicians is also necessary to improve the quality of construction and for effecting economy in housing. These efforts necessitate a provision for Research and Development in the Plan.

Features of Housing in the State

25.11. 85.93 lakhs of household that constitute the total of forty one million and odd population of Tamil Nadu (1971), live in 77.08 lakhs census houses. In the investigation of Housing in Tamil Nadu carried out by the Census of India in 1971, the definition of house includes full or part of a structure. However, for the purposes of assessment of housing demand, they are assumed to be independent. The 77.08 lakhs census houses used for residential purposes are composed of 56.59 lakh units of Rural Houses and 20.49 lakh units of Urban houses.

25.12. An examination of the structural components of the buildings indicate that nearly 60 per cent (59.14 per cent) of the houses, in terms of materials of wall, and nearly the same percentage by nature of materials of roof are made of impermanent materials and hence need to be replaced. In 1971, the number of families in the State assuming the rate of 5 members per family, were 82.4 lakhs. Accepting the assumption mentioned earlier and deducting the available houses, the shortage in 1971 in housing stock can be assessed as 50.31 lakh units. If, as mentioned earlier, 60 per cent of the available housing composed of impermanent materials is to be replaced, 46.25 lakh units of houses have to be replaced. Thus to replenish the worn-out and temporary structures and also to meet the housing shortage due to growth of population, the housing stock required in 1971 was 51.57 lakh units.

25.13. The 28th round of National Sample Survey conducted in October 1973 to June 1974 gives the following break-ups of income groupings in urban and rural Tamil Nadu.

TABLE 25.1.

POPULATION CHARACTERISTICS

(Percentage of Population in each Income Group)

Income Group	Income Class in rupees	Rural	Income Class in rupees	Urban
(1)	(2)	(3)	(4)	(5)
Poor	(0-21)	4.83	(0-24)	2.42
Economically Weak Group I.	(21-55)	42.37	(24-55)	24.60
Economically Weak Group II.	(55-75)	37.65	(55-75)	42.07
Low Income Group	(75-100)	13.28	(75-150)	24.46
Middle and Higher Income Group	(150-200)	1.87	(150-200)	6.45

(Source.—Sarvekshana, Journal of the National Sample Survey Organisation, Volume I, No. 1, July 1977.)

Housing requirements in the Plan period 1978-'83

25.14. The State Planning Commission projection of population for 1978 is 49,901,100 or at the rate of five members per family, 99,80,220 family units. By 1983 the additional housing units required due to population growth alone will be (105,34,460 minus 82,39,834 = 22,94,626) 22.95 lakh units. At the present rate of rural urban distribution of housing as in 1971, the total housing requirement could be sub-divided as 16.52 lakh rural and 6.43 lakh urban units. Adding the 1961 deficit in the same rural-urban proportion, the housing demand to meet the additional needs in housing sector till 1983 will be 20.35 lakh units in rural sector and 7.32 lakhs in urban sector. This does not include any repair, re-construction, or replacement of depreciated housing stock. However, in the redeployment of non-plan outlays this should be taken note of.

Housing types

25.15. The proportion of owned and rented housing in 1971 was given as 90.5 per cent and 9.5 per cent in rural areas, 46.90 per cent and 53.10 per cent in urban areas. If it is assumed that the rental and owner proportion of the total housing requirements will be the same in the next five years (1978-83), then the rental housing alone will come to 1.93 lakh units in rural areas and 4.21 lakh units in urban areas, the "owned" housing amounting to 18.2 lakh units in rural areas and 3.43 lakh units in urban areas. The details are given in the Table 25.1

25.16. Owned housing is to be covered more by incentives and repayable loans and by own savings than by Governmental building. The demand for "rental" is a definite demand and should be taken as targets by suitable agencies concerned with the same.

Feasible expenditure and subsidy

25.17. The National Sample Survey conducted in 1973-'74 gives details of household expenditure for various income groups in Rural and Urban Tamil Nadu. The different income groups and the possibilities of their expenditure on housing are given in Table 25.II. The table also indicates the extent to which the poorer segments have to be subsidised. The income groups are such that the economically weaker families with an income of Rs. 350 and less per month constitute about eighty per cent and more. Hence the groupings were reclassified by dividing economically weaker sections into three, viz., Poor, Economically Weaker Section Group I and Economically Weaker Section Group II.

Salient features of Housing in the Five-Year Plan 1978-'83

25.18. The next medium-term plan extending from 1978-'83 envisages a greater emphasis on rural and social housing. The reclassification of Minimum-Needs Programme and emphasis on rural development are to be noted. In the field of rural housing provision of developed plots with minimum amenities to members of Scheduled Castes and Scheduled Tribes and agricultural labourers with cash assistance to the tune of

Rs. 500—750 for materials to build huts will be included. Construction of houses in rural areas is to be encouraged by necessary matching grants from HUDCO with a ceiling on the cost of house at Rs. 4,000.

25·19. Under social housing, provision of sites and services is contemplated with loan assistance for a structure to the tune of Rs. 3,000 repayable over a period of 20 to 25 years.

25·20. Besides under sectoral plans like those for industries, Handloom, Education, etc., provision has been made for new houses, and subsidies for own house construction. These have not been aggregated to avoid double counting and interim outlays.

25·21. Environmental improvement of slums in urban areas contemplate slum improvement involving an expenditure of Rs. 150 per capita.

25·22. There has to be an emphasis on rural housing. The Co-operative Societies are being organised to give a boost to rural housing and to handle this gigantic task, a separate Rural Housing Corporation is desirable. Therefore, the establishment of a Tamil Nadu Rural Housing Corporation is recommended.

Housing For Scheduled Castes and Scheduled Tribes

25·23. It is the avowed object of the Government to uplift the socio-economic life of the Scheduled Castes and Scheduled Tribes who suffer traditionally from very serious disabilities. Apart from providing facilities for raising the level of their earning, one sure way of making them feel that they are not second class citizens, is to provide them with decent houses.

25·24. The Harijan Housing and Development Corporation must also be put in charge of the minimum needs programme for house-sites for landless agricultural labour. The possibility of obtaining help to make up the defects of the plots already assigned to them but which have not been developed with minimum needs of water supply,

etc., and approach roads has also to be considered and sub-schemes formulated for that. Where such plots are in groups of thirty or forty, they may perhaps be recommended for assistance for constructing a well, etc. This work could also be tackled by the same agency.

Research and Development

25·25. Research and Development including research in materials, on design from both the Government and users points of view are essential. Housing has been very largely a private activity for a long time. The economic effects of taxes on house space and other levies on building materials have indirect effect on supply of housing. There are a number of appending agencies at State and National levels which render housing services. The functional justification and rationalisation of these require to be examined. Research and Development has to play a major role in ensuring that maximum cost effectiveness in housing investment is assured.

State Planning Commission would co-ordinate research on housing and inter-related aspects.

The Schemes

25·26. The details of schemes are given in Table 25·IV.

Financial outlay

25·27. The budget allocation for the schemes over the past five years are given in Table 25·III. Acquisition and development of house-sites should cover house-sites for houseless Harijans, provision of minimum requirements of water-supply, drainage, etc., Similarly Rural Housing can cover other segments of housing like Housing for Harijans.

25·28. A provision to the tune of Rs. 72·5 crores alone is suggested for the various housing schemes in the State Plan (*vide* Table 25·IV) and the concerned agencies should be able to obtain institutional and other finances.

TABLE 25.I.

Owned and Rented in Housing demand.

(In Lakhs of Housing Units.)

Income Group.	Rural.			Urban.		
	Total.	Owned.	Rented.	Total.	Owned.	Rented.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Poor	0.98	0.89	0.09	0.18	0.09	0.09
Economically Weaker Section—Group I	8.63	7.81	0.82	1.80	0.84	0.96
Economically Weaker Section—Group II	7.66	6.94	0.72	3.08	1.44	1.64
Low Income Group	2.70	2.44	0.26	1.79	0.84	0.95
Middle Income Group	0.38	0.34	0.04	0.47	0.22	0.25
Total	20.35	18.42	1.93	7.32	3.43	3.89

(Source : Census of India, 1971)

TABLE 25.II.

Income Group.	Mean value of Income.	Average income of a family of 5 members.	15 per cent rental value for first four and 20 per cent for rest (Rounded to next 50 paise.)	Payment for 20 years at monthly rate in column (4)
(1)	(2)	(3)	(4)	(5)
	Rs. P.	Rs. P.	Rs. P.	Rs. P.
0—13	6.50	32.50	4.88	1,200
13—15	14.50	70.00	10.50	2,520
15—18	16.50	82.50	12.38	3,000
18—21	19.50	97.50	14.63	3,600
21—24	22.50	112.50	16.88	4,080
24—28	26.00	130.00	26.00	6,240
28—34	31.00	155.00	31.00	7,440
34—43	38.50	192.50	43.00	10,320
43—55	49.00	245.00	49.00	11,760
55—75	65.00	325.00	65.00	15,600
75—100	87.50	437.50	87.50	21,000
100—150	125.00	625.00	125.00	30,000
150—200	175.00	875.00	175.00	42,000
200 +	200.00	1,000.00	200.00	48,000

Source : Derived from National Sample Survey, 28th round, October 1973—June 1974)

TABLE 25 III.

Plan provision for Housing in the past Five years

		(In Lakhs of Rupees)
Year.		Budget Provision
(1)		(2)
1974-75	.. .. .	906.37
1975-76	.. .. .	1,148.16
1976-77	.. .. .	1,061.86
1977-78	.. .. .	1,033.61
1978-79	.. .. .	925.58
Total	.. .. .	5,075.58
Plantation Labour Housing (Centrally Sponsored scheme)		
(1974-75 to 1978-79)	.. .. .	13.37
Total	.. .. .	5,088.95

(Source : Annual Plan 1978-79)
Government of Tamil Nadu.

TABLE 25-IV
Financial Outlay

(Rupees in lakhs.)

		1978-83.
Serial number and scheme.		State Plan Outlay (**)
(1)	(2)	(3)
1	Slum Improvement Scheme ..	20,00
2	Rural Housing Scheme ..	7,00
3	Harijan Housing Corporation ..	5,00
4	Fisherman Housing Scheme ..	3,00
5	Sites for the Houseless Harijans..	5,00
6	Housing Scheme for industrial workers in the organised sector.	2,00
7	Tamil Nadu Government Servants Rental Housing Scheme ..	10,00
8	Housing advance to Government employees	7,50
9	Police Housing Scheme	4,00
10	Weavers' Housing Scheme	3,00
11	(a) Land Acquisition and Development Scheme (Mofussil)..	2,00
	(b) Land Acquisition and Development Scheme (City).	3,00
12	Research and Development for Housing.. .. .	1,00
Total	.. .. .	72,50

(**) The amount indicated as State Plan outlay is exclusive of Market borrowings and institutional finance.

TABLE 25. V.

HOUSING.

Provision and Expenditure in the Fifth Five-Year Plan and outlay for the Five-Year Plan 1978-'83.

(Rupees in Lakhs).

Schemes	Fifth Five-Year Plan 1974-79 Provision.	1974-78.		Five-Year Plan 1978-83.								
		Approved outlay.	Expenditure.	Spillover commitment.	New outlay.	Total.	1978-79.		Phasing of outlay.			
							Approved outlay.	Anticipated expenditure.	1979-80.	1980-81.	1981-82.	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Rural Housing—												
(a) Rural house-sites scheme (Minimum Needs Programme).	..	..	..	..	..	..	}	NOT READILY AVAILABLE				
(b) Rural house-sites-cum-hut construction scheme (Minimum Needs Programme).	..	..	..	..	..	..
(c) Village housing projects scheme	500-00	500-00	141-19	8-00	..	..				
Total	500-00	500-00	141-19	8-00	..	..	..	..	..	..	..	..
2. Urban Housing (Schemes of Tamil Nadu Housing Board only)—												
(a) Subsidised Industrial Housing Scheme	110-00	8-50	0-19	..	..	200-00	..	20-00	50-00	45-00	40-00	45-00
(b) Low-Income Group Housing	300-00	16-00	936-48	..	..	..	..	..	..	..	..	..
(c) Middle Income Group Housing }	250-00	85-00	1215-41	..	..	..	..	..	..	..	..	..
(d) High Income Group Housing }												
(e) Slum Clearance/Improvement	400-00	200-00	194-93	..	..	2000-00	..	60-00*	100-00*	110-00*	115-00*	115-00*
(f) Land Acquisition and Development	500-00	125-00	1021-34	..	..	200-00 (Mofussil), 300-00 (City)	}	50-00 City	50-00	100-00	150-00	150-00
(g) Rental Housing (Tamil Nadu Government Rental Housing)	500-00	600-00	612-74	1000-00		..	200-00	250-00	200-00	200-00	150-00
(h) Police Housing .. .. .	..	..	..	..	..	400-00	..	50-00	100-00	100-00	75-00	75-00
(i) Other sites and service .. .. .	..	..	..	..	..	..	..	200-00	2 00-00	..	..	..
Total	2060-00	1034-50	3981-09	..	..	4100-00	..	580-00	750-00	555-00	580-00	535-00

* Represents Tamil Nadu Housing Board Provision only.

TABLE 25. VI.

HOUSING

Physical Targets and Achievements in the Fifth Five-Year Plan and Targets for the Five-Year Plan 1978-'83.

Programme.	Unit.	Cumulative Achievement upto 31-3-74	1974-78		Target 1978-83	1978-79		Phasing of Target.			
			Target.	Achievement.		Target.	Likely Achievement.	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Rural Housing—											
(a) Rural House-sites Scheme .. (Minimum Needs Programme)
(b) Rural House-sites-cum-hut Construction Scheme (Minimum Needs Programme)
(c) Village housing projects schemes	..	5,163	12,250	3,421	486	486	..	..	..	..	..
Total	5,163	12,250	3,421	486	486	..	..	..	..	..
2. Urban Development (Schemes of Tamil Nadu Housing Board(Only).											
(a) Subsidised industrial Housing Scheme	..	2,494	..	..	640	100	..	110	125	140	165
(b) Low Income Group Housing
(c) Middle Income Group Housing
(d) H.I.G.H.
(e) Slum Clearance/Improvement	..	12,468	..	1,606	3,100	600	..	650	600	600	650
(f) Land Acquisition and Development
(g) Rental Housing (Tamil Nadu.. Government Rental)	..	5,951	..	3,013	7,049	1,299	..	1,400	1,450	1,500	1,400
(h) House building advance to .. Government servants.
(i) Police Housing
(j) Others	288	550	50	..	100	150	150	100
Total	20,913	..	4,907	11,339	2,049	..	2,260	2,325	2,390	2,315

TABLE 25 · VII

HOUSING

Estimate of Employment Generated in the Fifth Five-Year Plan and Estimated Employment Potential during Five-Year Plan 1978-'83.

Programme.	Unit.	Estimated employment generation.												
		1974-78.		1978-79.		1979-80.		1980-81.		1981-82.		1982-83.		
		Skilled.	Un-skilled.	Skilled.	Un-skilled.	Skilled.	Un-skilled.	Skilled.	Un-skilled.	Skilled.	Un-skilled.	Skilled.	Un-skilled.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
1. Rural Housing														
(a) Rural House-sites Schemes (Minimum Needs Programme).
(b) Rural House-sites-cum-hut construction scheme (Rural Minimum Needs Programme.)
(c) Village housing projects scheme
Total
2. Urban Housing (Schemes of Tamil Nadu Housing Board only).														
(a) Subsidised Industrial housing scheme.
(b) Low Income Group Housing	80	126	200	315	180	284	169	252	180	284
(c) Middle Income Group Housing
(d) Higher Income Group Housing
(e) Slum Clearance Improvement	240	378	400	630	440	693	460	724	460	724
(f) Land Acquisition and Development	200	315	200	315	400	630	600	945	600	945
(g) Rental Housing	800	1,260	1,000	1,575	800	1,260	800	1,200	600	945
(h) House building advance to Government Servants.
(f) Police Housing	200	315	400	630	400	630	300	473	300	473
Total	1,520	2,394	2,200	3,465	2,220	3,497	2,320	3,654	2,140	3,371
Grand Total	1,520	2,394	2,200	3,465	2,220	3,497	2,320	3,654	2,140	3,371

Chapter 26

TOWN PLANNING AND URBAN DEVELOPMENT

26.0. Tamil Nadu is one of the most urbanised states in the country with 30.25 per cent of the population living in urban settlements. The urbanisation in the State however is spread over a large number of towns of varying sizes and hence is conducive to a healthy and planned urban growth. The immigration to urban areas is likely to continue for several decades to come, in view of the gap between rural and urban development.

26.1. It is necessary that urban planning helps to retain the ability of a settlement to grow and develop. Again, in a hierarchical development of settlement tiers, rural and urban development process become complementary and both rural and urban planning will have to be considered as parts of a total process of planning and development.

26.2. The Directorate of Town and Country Planning co-ordinates and monitors integrated urban development projects for Coimbatore and Madurai under I.U.D.P. The programme of work during the plan period of 1978-83 on the basis explained above, will be composed of the following schemes :—

(i) Initiate and undertake (and complete) 25 growth centre studies (Block level studies) with the primary objective of indicating, in addition,

location of activities, steps to prevent the decline of migration to urban areas, to assess the urbanisation trends in the region, provide infrastructure facilities at the urban sub-centre (Block head-quarters) level and also to suggest means to conserve, promote and develop desirable environmental quality and community relationship in rural areas.

(ii) The Town and Country Planning Act (1972) specifies that master plans, etc., have to be prepared by the Local Planning Authorities. It is proposed that loans may be given to the Local Planning Authorities for formulation of master plans for 20 urban centres. When, for want of staff and material, the Local Planning Authorities desire the department to carry out the work, the department may do so.

(iii) Traffic and Transportation studies is also contemplated for five major urban centres.

(iv) Formulation and co-ordination of integrated urban development projects for five major cities under I.U.D.P. schemes of Government of India.

(v) Loan facility for the formulation of 50 detailed development plans in different urban areas on behalf of the Local Planning Authorities and implementation by Local Planning Authorities.

(vi) Modernisation of the Department of Town and Country Planning to include facilities for aerial photogrammetry, map interpretations, establishment of operations research and computer programming service.

(vii) Establishment of an Institute of urban Studies to pursue action-oriented research in Urban and Regional Planning.

The financial allocations are indicated in Table 26.I appended.

Metropolitan Development

26.3. The Madras City and its environments have registered a phenomenal growth in recent times in population and area. To plan and co-ordinate the various activities of the area, the Madras Metropolitan Authority was constituted in 1971. A development plan has been prepared by this Authority and is in operation in the area. The development projects based on the plan and now being carried out at site, not only provide facilities and employment opportunities for poorer persons but also assure better housing, water supply and other facilities to them. In an integrated approach for the development of schemes such as slum improvement, housing for economically weaker sections, roads and bridges, health and nutrition, employment, water supply and sewerage, drainage, solid waste disposal, land development and parks and open spaces are brought together so that the balanced development of various sectors assures comprehensive, orderly and benefit-oriented results. The financing of the different projects will be covered by different sectors of allotment. The allotments made under the urban development sector alone are dealt with in this section. They are given in Table 26.II.

26.4. Total outlay for the period 1978-83

	(IN CRORES.)
Urban Development	7.00
Metropolitan Development	5.40
Total	12.40

TABLE 26.I.

URBAN DEVELOPMENT

Serial number and Programme/ Project.	(Rupees in Lakhs.)
(1)	Outlay 1978-83 State Government (2)
1 Regional Development Plans and Belock Level Studies.	5
2 Formulation of Master Plans Loan to L.P.A./Local Bodies.	15
3 Traffic and Transportation studies.	5
4 I.U.D.P. for the major agglomerations.	505
5 Detailed Development Plans Loan to L.P.A./Local Bodies.	150
6 Modernisation of Directorate of Town Planning.	10
7 Institute of Urban Studies.	10
Total	700

TABLE 26.II.

DEVELOPMENT OF MADRAS METROPOLITAN AREA.

Serial number and Sector/Project.	Continuing Projects.	New Projects.	Total.	Share of State Government 1978-83.
(1)	(2)	(3)	(4)	(5)
1 Technical Assistance to Madras Metropolitan Development Authority.	90	150	240	240
2 Land Development	220	780	1,000	250
3 Parks and Open spaces .. .. .	..	150	150	50
Total .. .. .	..	..	..	540

(NOTE.—Other projects relate to other concerned sectors.)

TABLE 26.III.

URBAN DEVELOPMENT.

Provision and expenditure in the Fifth Five-Year Plan and outlays for the Five-Year Plan, 1978-1983.

(RUPEES IN LAKHS.)

Scheme.	Fifth Five-Year Plan 1974-79 provision.	1974-78.		Spill over Commit- ment.	Outlay New outlay.	Total.	Five-Year Plan 1978-83.					
		Approximate outlay.	Expendi- ture.				1978-79.		Phasing of Outlay.			
							Approved Outlay.	Anti- expenditure.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Environmental Improvement of Slums—												
(a) Minimum Needs Programme .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(b) Other than Minimum Needs Programme .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
				Not readily available.								
2. Urban Development Programme												
3. Loans and grants to Local bodies—												
(a) For remunerative scheme .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(b) For non-remunerative scheme .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(c) Detailed Development Plans	43.10	32.10	32.10	11.00	139.00	150.00	11.00	11.00	34.75	34.75	34.75	34.75
4. Integrated Urban Development Programme for major agglomerations.		356.00	296.00 60.00	..	505.00	505.00	..	332.00	126.25	126.25	126.25	126.25
5. Research and Development (Institute of Urban Studies).	10.00	4.13	3.67	..	10.00	10.00	..	1.00	2.50	2.50	2.50	2.50
6. Preparation of Master Plan and Regional Plans including Block level studies.	100.00	96.66	96.59	3.34	16.66	20.00	..	35.00	4.16	4.16	4.16	4.18
7. Other scheme—Traffic and Transportation studies ..	40.00	28.97	29.81	..	5.00	5.00	8.18	12.00	1.25	1.25	1.25	1.25
8. Modernisation of Directorate of Town Planning ..	..	..	..	..	..	10.00	..	9.00	2.50	2.50	2.50	2.50

Chapter 27

TOURISM

27.0. Tamil Nadu has immense potential for tourism to attract both domestic and international tourists. Besides providing a large scope for employment generation and foreign exchange earnings, encouragement of tourism would serve as a means for national integration and understanding.

27.1. The basic requirement for the development of tourism is to provide the necessary infrastructure such as transport and communications, drinking water supply, health and sanitation, etc., and tourist facilities like accommodation and cafeteria at moderate charges to suit various income groups and also recreation facilities. For promoting tourism, an integrated approach with other departments like Transport, Health, Highways, Railways, Local Bodies, etc., is proposed by utilising the services/facilities provided by them through programmes in their respective sectors. Private investments for providing boarding and lodging facilities, transport, etc., in selected tourist centres would also be encouraged.

Progress in Fifth plan

27.2. During Fifth Plan a sum of Rs. 105 lakhs was provided for tourism development. The expenditure incurred during 1974-78 was Rs.72.26 lakhs. The Budget provision for 1978-79 is

Rs. 35.69 lakhs. Nearly 80 per cent of this total outlay is given as assistance to Tamil Nadu Tourism Development Corporation for providing infrastructure and tourist facilities.

27.3. During 1971 about 38,100 foreign tourists visited Tamil Nadu and this had increased to 66,500 in 1976. By 1980, it is estimated that about 3 lakh foreign tourists, that is, about 30 per cent of foreign tourists visiting the country would visit this State. Considerable efforts to increase the existing facilities to receive such large number of tourists is necessary.

PROGRAMMES PROPOSED DURING 1978-83.

Accommodation

27.4. The Tamil Nadu Tourism Development Corporation is providing accommodation for tourists at the tourist Bungalows in 12 centres at present and the total bed strength is 935. It is proposed to add 668 beds in places where the demand for accommodation is large. It is also proposed to put up new tourist bungalows in six other Centres, viz. Courttallam, Mudumalai, Pichavaram, pudukottai, Kancheepuram and Tirunelveli with a total bed strength of 625. Further, dormitory type of accommodation for about 15-20 persons would be provided in each of the tourist bungalows. The total cost works out to Rs. 194 lakhs.

Transport Facilities

27.5. For providing a comfortable travel, the Corporation has proposed to purchase 17 more luxury coaches to meet the anticipated growth in tourist traffic. Of these, 5 would be air-conditioned coaches. The total cost would be Rs. 40 lakhs.

27.6. A sum of Rs. 150 lakhs is provided as share capital contribution and loan to Tamil Nadu Tourism Development Corporation for the above two schemes.

Hotel Development Fund

27.7. Since the demand for accommodation at the tourists centres is large, private sector would be encouraged to put up hotels and rest-sheds in these places. It is proposed to have a Hotel Development Fund from which seed capital and loans at concessional rates of interest would be given to private entrepreneurs to set up hotels. A sum of Rs. 50 lakhs is provided for this purpose and this Fund would be operated by Department of Tourism in the State.

Development of important tourist complexes

27.8. The following 9 places are proposed to be developed as tourist complexes by providing tourist amenities and recreation facilities. Besides preserving the natural environment and improvement of its landscaping, certain specific programmes are also proposed as detailed below:—

(a) *Madras City*.—Development of Marina Beach and landscaping and improvements to Elliotts Beach is proposed at a cost of Rs. 12 lakhs and Rs. 8 lakhs respectively. Establishing of a planetarium at a cost of Rs. 20 lakhs is also proposed.

(b) *Mamallapuram*.—As recommended by the United Nations Development Programme it is proposed to develop Mamallapuram to an international beach resort. A sum of Rs. 20 lakhs is provided for the first stage of the development.

(c) *Kanyakumari*.—For providing tourist amenities Rs. 5 lakhs is proposed.

(d) *Rameswaram-Kurusadi*.—With the completion of Pamban Bridge there will be an increased flow of tourist traffic to Rameswaram. There

is also a proposal to develop Kurusadi Island as a major marine Zoological park. A sum of Rs. 10 lakhs is provided during 1978—83.

(e) *Madurai*.—For landscaping and development of parks around Teppakulam and for environment preservation, a sum of Rs. 15 lakhs is provided.

(f) *Ooty*.—Besides providing amenities and recreation facilities, novel attractions like a rope way between Doddabetta and the Ooty Botanical gardens is proposed. A sum of Rs. 20 lakhs is provided during 1978—83.

(g) *Kodaikanal*.—A sum of Rs. 10 lakhs is provided to develop this hill station which attracts International Tourists.

(h) *Chidambaram - Pitchavaram*.—Chidambaram is a famous pilgrim centre and the nearby Pitchavaram is a place of scenic beauty with lagoons. A sum of Rs. 15 lakhs is provided for developing these areas as major tourist complex.

(i) *Thanjavur*.—To provide the natural environment of the monuments like the Fort with a Palace, ancient Manuscript Library and Art Gallery and the Brahadeeswarar temple and to develop them as a major tourist attraction, a sum of Rs. 15 lakhs is provided.

District Excursion Centres

27.9. To promote domestic tourism it is proposed to develop one excursion centre for a group of 2 to 3 taluks. Forty-five places like dam sites and places of scenic beauty have been identified in various districts and it is proposed to develop them as District Excursion Centres by providing rest sheds, catering facilities, drinking water supply, etc. A sum of Rs. 30 lakhs is provided for this purpose during 1978—83.

Promotion and Publicity

27.10. For Tourist promotion wide publicity through tourist literature, feature films, etc., is proposed and a sum of Rs. 5 lakhs is provided for this purpose.

Strengthening of the Department of Tourism

27.11. A sum of Rs. 10 lakhs is provided for streamlining and strengthening of the Headquarters and District Level staff to implement all the development programmes.

Guide Services

27.12. Excepting Madras, guide services in other tourist places is not adequate. A scheme to train candidates in guide service and then post them as Tourist Promoters is implemented. These Promoters are given a stipend of Rs. 175 per mensem for the first three years to enable them to stabilise in their occupations. A sum of Rs. 5 lakhs is provided to implement similar schemes during 1978-83.

Total outlay

27.13. The total outlay proposed on various schemes under 'Tourism' sector during 1978-83 works out to Rs. 4.00 crores. The Table 27.1. appended gives an abstract of the schemes proposed during 1978-83.

CENTRAL SECTOR SCHEME.

27.14. The U.N.D.P. Team has recommended that Mamallapuram could be developed into an international beach resort. Further, the location of the Vivekananda Rock Memorial at Kanyakumari attracts tourists in large numbers. It is understood that the Government of India would be taking up the development of 2 tourist complexes in each State during 1978-83 under Central Sector Schemes. Considering these aspects, the development of tourist complexes at Mamallapuram and Kanyakumari at a cost of Rs. 225 lakhs is recommended under Central Sector Schemes.

TABLE 27.1.**Tourism : Abstract of Schemes.**

<i>Scheme.</i>	<i>Outlay proposed during 1978-83.</i>
(1)	(2)
(RUPEES IN LAKHS.)	
1 Accommodation	} 150*
2 Transport facilities	
3 Hotel Development Fund	50

<i>Scheme.</i>	<i>Outlay proposed during 1978-83.</i>
(1)	(2)
(RUPEES IN LAKHS.)	
4 Development of important Tourist Complexes—	
(i) Madras City	40
(ii) Mamallapuram	20
(iii) Kanyakumari	5
(iv) Rameswaram-Kurusadi	10
(v) Madurai	15
(vi) Ootacamund	20
(vii) Kodaikanal	10
(viii) Chidambaram-Pitchavaram	15
(ix) Thanjavur	15
5 District Excursion Centres.	30
6 Promotion and Publicity	5
7 Strengthening of the Department of Tourism.	10
8 Guide Services	5
Total	400

(* as share-capital contribution and loans to Tamil Nadu Tourism Development Corporation).

Central Sector Scheme.

1 Development of tourist complexes at Mamallapuram and Kanyakumari.	225
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Chapter 28

INFORMATION AND PUBLICITY

28·0. The approach in the 1978-'83 Plan with regard to Information and Publicity is to give priority to schemes which can assist in promoting rural development as part of an integrated communication policy.

28·1. The plan has made a total provision of Rs. 1·51 crores for Information services and Publicity. Out of this, an outlay of Rs. 52·40 lakhs is for Field Publicity and Rs. 90·01 lakhs for Film and Rs. 8·95 lakhs for Art and Culture. These provisions are in addition to the provision for publicity under the programmes of a few other departments like Health, Agriculture and Tourism.

28·2. The 1978-'83 Plan schemes which involve in the aggregate an outlay of Rs. 1,51·36 lakhs may conveniently be grouped under the following sub-heads under each of the three main heads—

I. Field Publicity—

1. Modernising the photo units ;
2. Song and Drama ;
3. Replacement of cinema equipments and purchase of spare parts ;
4. Multi-media campaigns ;
5. Equipping the District units with new Public Address Systems ; and
6. Setting up permanent exhibitions.

II. Films—

1. Institute of Film Technology ;
2. Tamil Nadu Films Divisions ;
3. Film Development Corporation.

III. Art and Culture—

1. Improvements to Valluvar Kottam.

28·3. In order to achieve professional efficiency and quick communication to the public of events and achievements of the Government, acquisition of four more cameras, and one Metry-Electronic Flash unit in a phased manner over 1978-83, is envisaged by ear-marking a sum of Rs. 1·40 lakhs.

28·4. To propagate and publicise the various welfare measures of the Government and its policy of eradication of untouchability and evils of drinking among the people, organisation of Song and Drama programmes which are also employment-oriented, is envisaged with a proposed outlay of Rs. 25 lakhs.

28·5. Provision of a sum of Rs. 7·25 lakhs is made for the purchase of new projectors, badly needed for the conduct of film show in the districts as well as for maintenance and replacement of the projectors and for the purchase of spare parts.

28.6. To educate the people on the evils of drinking and for eradicating untouchability, conduct of multi-media campaigns in the districts is found very useful and helpful and hence a provision of a sum of Rs. 11.25 lakhs is made.

28.7. In order to use during the organisation of exhibitions, functions and festivals in the districts, Public Address equipments are required and a sum of Rs. 1.50 lakhs is ear-marked for the purchase of 15 numbers of Public Address system and equipments and spare parts.

28.8. To publicise with photography, painting and models, the creative activities of the local population and their culture and to highlight the archaeological and tourist potential of the area, setting up of permanent exhibitions at three places in Tamil Nadu with a proposed outlay of Rs. 6.00 lakhs, is envisaged.

28.9. To start a course in Television in the Institute of Film Technology, to provide library with the requirements for about 200 students and to provide one outdoor shooting unit and also conveyance amenities and hostel accommodation to its students, an outlay of Rs. 60.01 lakhs is provided.

28.10. In view of the proposed increase in the release of news reels and in the production of documentary films required by other departments, there is need to fully equip the Tamil Nadu Films Division and an outlay of Rs. 30.00 lakhs is proposed.

28.11. For the development of Film Industry, the formation of a State Film Development Corporation is envisaged with a token provision.

28.12. Improvements to Valluvar Kottam envisage certain schemes as implementation of sound reinforcement system at its auditorium, replacement of damaged thombai, provision of car parking and scooter/cycle stand, completion of certain incomplete items of work and construction of Shopping centre-cum-Canteen and quarters for resident staff. For these, an outlay of Rs. 8.95 lakhs is ear-marked.

28.13. The main head-wise break-up of the outlay for the Plan 1978-83 is shown in Table 28. I-A and the details are shown in Table 28. I-B appended to the chapter.

TABLE 28. I-A
Outlay for Information and Publicity

				(Rupees in Lakhs.)
<i>Serial number and items.</i>				<i>Outlay (1978-'83).</i>
(1)				(2)
1	Field Publicity	..	..	52.40
2	Films	..	..	90.01
3.	Art and Culture	..	..	8.95
Total				151.36

TABLE 28. I-B
INFORMATION AND PUBLICITY
Details of the Proposed Outlay for the Plan, 1978-'83.

(Rupees in Lakhs.)

<i>Scheme.</i>	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. Field Publicity						
(1) Modernising the Photo units	0.30	0.30	0.30	0.30	0.20	1.40
(2) Song and Drama	5.00	5.00	5.00	5.00	5.00	25.00
(3) Replacement of cinema equipments and purchase of spare parts.	1.45	1.45	1.45	1.45	1.45	7.25
(4) Multi-media campaigns	2.25	2.25	2.25	2.25	2.25	11.25
(5) Equipping the District Units with New Public Address system.	0.30	0.30	0.30	0.30	0.30	1.50
(6) Setting up Permanent exhibition	1.20	1.20	1.20	1.20	1.20	6.00
II. Films						
(1) Institute of Film Technology	1.93	25.20	22.90	1.85	8.05	60.01
(2) Tamil Nadu Films Division	3.50	5.50	10.00	5.00	6.00	30.00
(3) Film Development Corporation	Token	Token	Token	Token	Token	Token
III. Art and Culture						
(1) Improvements to Valluvar Kottam	2.20	2.20	2.35	1.00	1.20	8.95
Total	18.13	43.48	45.75	18.35	25.65	1,51.36

Chapter 29

WELFARE OF SCHEDULED CASTES, SCHEDULED TRIBES AND OTHER BACKWARD CLASSES

29·0. Improvement of literacy, development of economic status and a better social integration are aspects of developmental programme initiated for the welfare of Scheduled Castes and Scheduled Tribes. These programmes have been in existence from the very beginning of the era of planned development and a noticeable improvement has been made in these aspects. The measures for development are grouped under the following heads, namely :—

1. Education ;
2. Employment and Economic Advancement ;
and
3. Health, Housing and other schemes.

Education

29·1. Educational development is tried to be achieved through giving facilities to the Scheduled Caste pupils by way of scholarships, books, clothings and meals and at higher levels by way of hostels for accommodation. In addition to this, special coaching for students living in hostels are also attempted. For social integration, a certain percentage of the hostel accommodation is reserved for other communities.

29·2. A major scheme in the provision of food for students is the mid-day meals scheme. The Education Department supplies 90 grams of food-grains and 6 grams of oil per day per student 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 come under this plan. This programme is handled by the Harijan Welfare Department. Supply of mid-day meals to Harijan children in about 350 non-Harijan schools is entrusted to the Directorate of School Education.

29·3. 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 also proposed to open larger number of single teacher schools. It is proposed to draw up a construction programme for buildings to accommodate the schools including high schools.

29.4. Additional expenditure in school programmes arise mainly due to the growth in 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 of new schools. This, in turn, demands the supply of mid-day meals and other facilities like clothing, text books and similar necessities. There is bound to be a growth in the number of scholarships and student-ships given to the students.

29.5. It has already been stated that there is an expected growth of candidates and demand for schools. Another corollary to this demand is the demand on accommodation and hostel facilities. It has become necessary to build hostels to accommodate the Scheduled Caste candidates and to maintain them. It is proposed to request the Tamil Nadu Harijan Housing and Development Corporation to take up construction of hostels.

29.6. Housing for teachers is a pre-requisite and the same Corporation will be asked to build them. In addition to coaching students, coaching in Typewriting and 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 loans for financial assistance to pursue their studies under the Tamil Nadu Harijan Welfare Loan Scholarship Scheme.

Employment and Economic Advancement

29.7. The majority of members of Scheduled Castes 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 bulls. The expenditure incurred during the four years of the Fifth Plan under this programme was around Rs. 21 lakhs. 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 a number of societies have been organised in this State.

29.8. Technically trained people are supplied with tools and other required appliances to pursue the 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. Training Scheduled Caste people in cane weaving and tailoring is also taken up. As a trial measure, a small set of selected Scheduled Caste and Scheduled Tribe women will be trained in radio mechanism so that they can attend to repairing of house-hold articles including radios and televisions.

Health, Housing and other Schemes

29.9. Provision of drinking water has so far been made to 23,000 Harijan colonies out of 25,000. Ordinary open wells are being provided at present. It is expected to be replaced with bore wells and it is also expected that all the 25,000 colonies will be provided with drinking water by the end of the Plan, 1978-83. 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. This should become a practice of the past. It is unfortunate that many of the colonies of Scheduled Caste people do not have a pathway giving access to their homes and hence it is considered desirable to provide access ways to housing colonies. Community halls are being constructed for use by the inhabitants to conduct marriages and other festivals. Cash help is being given to inter-caste marriages. Child Welfare Centres will be opened in the Harijan colonies and the colonies will be electrified.

29.10. Special importance would be given to the Tamil Nadu Harijan Housing and Development Corporation which has been doing a magnificent job of building houses for the Harijan families. These houses are given free of cost to the deserving families.

Welfare of Schedule Tribes

29.11. Scheduled Tribes also are a neglected lot and require schemes to educate, employ and accommodate them in environmentally and economically developed areas. The schemes proposed have been classified under education, employment and economic advancement and health, housing and other schemes.

Education

29.12. There are 85 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. As in the case of Scheduled Castes, it is expected to upgrade a set of these schools to the next higher category.

29.13. Hostels for students who attend schools, colleges and industrial training centres are also opened every year on a phased programme. There are at present 19 hostels for the tribals with a total strength of nearly 800 candidates. Other programmes regarding education are the same as for scheduled castes namely, providing houses for teachers, equipment for schools, taking students on excursion, supply of text books, etc.

Employment and Economic advancement

29.14. Scheduled tribes are basically rural-oriented. 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 install electric motors and pumpsets. Another scheme that needs mention is the Palakarai area coffee plantation in the Nilgiris district. These plantations held by the tribals are on land reclaimed and made better for coffee plantations. Measures are being taken to increase the coffee yield. It is expected that the yield will continue to increase. The scheme will be continued in the Plan, 1978-83. Assistance to technically trained persons, loans to petty traders, training-cum-production centres are the other schemes considered along the lines similar to those applicable to the Scheduled castes.

Health, Housing and other schemes

29.15. Housing is taken up by Tamil Nadu Harijan Housing and Development Corporation and nearly 4,860 houses were constructed during 1974-78. Drinking water wells are sunk in tribal areas and the water is connected to ground level reservoirs. It is essential that the tribals are supplied with treated water as they suffer from chronic water-borne disease. A number of mobile medical units are proposed to be opened in the tribal areas as additional facilities to improve the public health measures. Provision is also being made to provide link roads, etc., to connect the tribal colonies and to facilitate their contacts with the outer world. There are three model tribal villages in the Nilgiris district where all amenities are provided. It is expected that more number of such villages will be formed in the Plan, 1978-83.

Welfare of Backward Classes and Denotified Tribes

29.16. The uplift of denotified tribes and other backward classes are also met by way of improving the literacy level, helping in their economic betterment and supporting their demand to settle in specific areas. Adequate number of scholarships are given to boys and girls. Selected books are supplied wherever necessary. New hostels would be opened and maintained. Expansion would also be made for the construction of buildings for schools and hostels. Schools are also upgraded to accommodate the higher rate of admission. Special coaching is arranged for hostel students and clothing is supplied free of cost to denotified tribes. Under schemes for economic development, assistance is given to sink wells for irrigation. Garment making and embroidery training is offered to denotified tribes in centres opened by the Social Welfare Department. Free tools and implements are given to trained people who learnt specific trades in general purchase workshops. Maravars who belong to a very backward class community are allowed certain facilities to enable them to rise up economically and socially. Boyers, Dhobies and Barbers are given subsidised tools for their trades. Backward class and Denotified tribes are helped by opening tailoring centres at various places for their women. Housing facilities would be given. Child Welfare Centres will be opened in every 3 or 4 centres.

TRIBAL SUB-PLAN

Plan Implementation

29.17. Several development schemes such as agricultural development, soil conservation, animal husbandry, minor irrigation, co-operation, education, medical facilities, forestry, road schemes, etc., belonging to various sectors are being implemented under tribal sub-plan. 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.

Schemes

29.18. Distribution of agricultural inputs and conducting farmers training programme, construction of Veterinary dispensaries, supply of pigs, poultry, sheep and milch cattle, supply of seedlings for afforestation to tribals, organisation of L.A.M.P. Co-operatives and also multi-purpose ones, 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 THHADCO are schemes dealt with under Tribal sub-plan intended for the betterment and development of tribals.

Considering the level of technology, literacy and ecological balance, primitive tribes are identified and separate projects are taken up for their development. So too individual-oriented programmes for dispersed tribes are taken up and implemented.

Research and Development

29.19. Special studies of socio-economic development of Backward classes, Scheduled Castes and Scheduled Tribes and action-oriented research for strengthening the motivation for and ways of economic development at village, district and metropolitan levels have to be undertaken.

29.20. The total effect of these schemes would be such as to give new values and hopes for a higher quality of life to those belonging to Scheduled Castes and Tribes. The financial outlays proposed are only part of the resource need. Socio-economic leadership and major thrusts, to ensure the success of this programme and social amelioration would be provided.

TABLE 29. I
WELFARE OF SCHEDULED CASTES,
SCHEDULED TRIBES AND OTHER
BACKWARD CLASSES.

I. HARIJAN AND TRIBAL WELFARE DEPARTMENT—

(i) Welfare of Scheduled Castes—

	(RUPEES IN LAKHS) Allotment.
1 Education	1,350
2 Employment and Economic advancement.. .. .	250
3 Health, Housing and other schemes	3,600
Total	<u>5,200</u>

II. WELFARE OF SCHEDULED TRIBES—

A. Schemes of Harijan Tribal Welfare Department—

1. Education	75
2. Employment and Economic advancement	50
3. Health, Housing and other schemes	75
	<u>200</u>
B. Tribal area sub-plan	1,800
Total	<u>2,000</u>

III. CENTRALLY SPONSORED SCHEMES—

A. Scheduled Tribes—

(i) Research	8.50
(ii) Education	6.43
(iii) Employment and Economic Advancement	4.20
Total—A. Scheduled Tribes	<u>19.73</u>

III. CENTRALLY SPONSORED SCHEMES—*cont.*(RUPEES IN
LAKHS.)
*Allotment.*B. *Scheduled Castes*—

(i) Education	519·91
(ii) Employment and Economic Advancement	0·71
(iii) Health, Housing and other schemes	49·62
Total—B. Scheduled Castes ..	<u>570·24</u>

IV. BACKWARD CLASSES—

A. *Welfare of Denotified Tribes*—

1. Education	225
2. Economic uplift	50
3. Health, Housing and other schemes	50
	<u>325</u>

B. *Welfare of other Backward Classes*—

1. Education	700
2. Economic uplift	500
3. Health, Housing and other schemes	200
	<u>1,400</u>

V. RESEARCH AND DEVELOPMENT .. 200

GRAND TOTAL Rs. 91·25 CRORES.

TABLE 29-II.

Welfare of Scheduled Castes, Scheduled Tribes and Backward Classes—Five Year Plan (1978-83)—Financial Outlays.

(RUPEES IN LAKHS.)

Serial number and Programmes.	Fifth Plan 1974-78.		Five-Year Plan 1978-83.			1978-79.			Phasing of outlays for			
	Approved outlay.	Expen- diture.	Spillover.	New.	Total.	Capital.	Approved outlay.	Anticipa- ted expen- diture.	1979-80.	1980-81.	1981-82.	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
STATE PLAN SCHEMES.												
I. Scheduled Tribes—												
(i) Education	21.45	18.47	0.16	74.84	75.00	..	8.41	8.41	8.04	12.99	19.62	25.94
(ii) Employment and Economic Advancement ..	16.67	14.43	0.23	49.77	50.00	..	3.43	3.43	4.35	8.85	15.42	17.95
(iii) Health, Housing and Other Schemes ..	25.69	19.33	0.88	74.12	75.00	..	5.83	5.83	6.05	13.64	20.75	28.73
Total	<u>63.81</u>	<u>54.23</u>	<u>1.27</u>	<u>1,98.73</u>	<u>2,00.00</u>	..	<u>17.67</u>	<u>17.67</u>	<u>18.44</u>	<u>35.48</u>	<u>55.79</u>	<u>72.62</u>
II. Scheduled Castes—												
(i) Education	4,96.95	6,37.18	0.85	12,49.15	13,50.00	3,70.02	2,14.15	2,14.15	2,17.36	2,55.86	3,07.10	3,55.53
(ii) Employment and Economic Advancement ..	99.70	86.56	1.61	2,48.39	2,50.00	..	33.23	33.23	38.00	48.01	58.51	72.25
(iii) Health, Housing and other Schemes ..	15,31.96	25,71.61	11.04	29,98.97	36,00.00	0.01	5,40.30	5,40.30	6,96.21	7,43.39	7,83.51	8,36.59
Total	<u>21,28.61</u>	<u>32,95.35</u>	<u>13.50</u>	<u>44,86.51</u>	<u>52,00.00</u>	<u>3,70.03</u>	<u>7,87.68</u>	<u>7,87.68</u>	<u>9,51.57</u>	<u>10,47.26</u>	<u>11,49.12</u>	<u>12,64.37</u>
Centrally-Sponsored Schemes.												
A. Scheduled Tribes—												
(i) Research	3.52	1.50	..	8.50	8.50	..	0.50	0.50	0.75	1.25	2.00	4.00
(ii) Education	6.02	3.86	..	6.43	6.43	4.20	1.20	1.20	0.84	1.09	1.46	1.84
(iii) Employment and Economic advancement ..	2.48	1.56	..	4.80	4.80	..	0.23	0.23	0.50	0.82	1.25	2.00
Total	<u>12.02</u>	<u>6.92</u>	..	<u>19.73</u>	<u>19.73</u>	<u>4.20</u>	<u>1.93</u>	<u>1.93</u>	<u>2.09</u>	<u>3.16</u>	<u>4.71</u>	<u>7.84</u>

TABLE 29-II.—cont.

(RUPEES IN LAKHS.)

Serial number and programmes.	Fifth Plan (1974—78).		Five-Year Plan (1978—83).			1978-79.			Phasing of outlays for			
	Approved outlay.	Expenditure.	Spill-over.	New.	Total.	Capital.	Approved outlay.	Anticipated expenditure.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
B. Scheduled Castes—												
(i) Education	1,88.53	2,91.22	..	5,19.91	5,19.91	19.74	86.16	86.16	38.47	79.19	1,28.48	1,87.61
(ii) Employment and Economic Advancement ..	4.62	0.14	..	0.71	0.71	..	0.01	0.01	0.10	0.15	0.20	0.25
(iii) Health, Housing and Other Schemes	22.02	9.71	..	50.12	50.12	..	0.02	0.02	7.00	10.10	13.50	19.50
Total	2,15.17	3,01.07	..	5,70.74	5,70.74	19.74	86.19	86.19	45.57	89.44	142.18	207.36
III. Other Backward Classes—												
1. Welfare of Denotified Tribes—												
(a) Education	1,52.34	43.74	2.21	2,25.00	222.79	10.53	22.35	22.52	38.47	47.83	54.84	61.34
(b) Economic Uplift	78.88	14.33	..	50.00	50.00	..	7.10	7.10	9.40	10.45	11.50	11.55
(c) Health, Housing and Other Schemes	17.50	1.56	..	50.00	50.00	..	10.19	10.19	9.30	10.17	10.17	10.17
Total for Denotified Tribes	2,48.72	59.63	2.21	3,25.00	3,22.79	10.53	39.64	39.81	57.17	68.45	76.51	83.06
2. Welfare of other Backward Classes—												
(a) Education	9,92.41	1,16.81	..	7,00.00	7,00.00	1,26.00	29.86	20.53	1,18.84	1,54.04	1,78.77	2,27.82
(b) Economic Uplift	30.00	24.37	..	5,00.00	5,00.00	..	12.10	12.10	1,38.71	1,39.94	1,41.17	68.08
(c) Health, Housing and other Schemes	8.50	1.84	..	2,00.00	2,00.00	..	1.25	1.25	47.00	47.25	47.00	57.50
Total for other Backward Classes	10,30.91	1,43.02	..	14,00.00	14,00.00	1,26.00	43.21	33.88	3,04.55	3,41.23	3,66.94	3,53.40
Total (1 + 2)	12,79.63	2,02.65	2.21	17,25.00	17,25.00	1,66.53	82.86	73.69	3,61.72	4,09.68	4,43.45	4,36.46

TABLE 29-III

Development of Backward Classes—Five-Year Plan (1978-'83) Financial Outlays.

(RUPEES IN LAKHS.)

Serial number and programmes.	Five-Year Plan 1974-78.		Five-year plan 1978-83.				1978-79.		Phasing of outlays for			
	Approved outlay. (i.e., B.E.)	Estimated expenditure (i.e., actuals.)	Spill over.	New.	Total.	Capital.	Approved outlay.	Anticipated expenditure.	1979-80	1980-81	1981-82	1982-83
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
SCHEDULED CASTES :												
(i) Education—												
1 Scholarships and Stipends	1,17.72	1,32.62	..	2,27.50	250.30	..	43.99	43.99	38.15	46.20	56.26	65.70
2 Midday Meals	39.00	31.19	..	23.23	23.23	..	10.03	10.03	1.70	2.60	3.50	5.40
3 Schools	47.65	69.28	0.70	1,75.53	192.63	40.01	25.32	25.32	38.01	40.43	43.80	45.77
4 Hostels	45.30	41.42	..	83.15	83.15	0.01	25.09	25.09	6.10	11.71	17.32	22.93
5 Clothing	28.50	39.78	..	87.02	87.02	..	13.00	13.00	17.96	18.34	18.72	19.00
6 Equipment for Schools	44.75	46.84	..	1,36.00	1,48.30	..	19.94	19.94	29.06	31.10	33.10	35.10
7 Coaching for College Students	7.00	2.46	..	5.00	5.00	..	1.00	1.00	1.00	1.00	1.00	1.00
8 Houses for Teachers	4.75	4.42	0.15	9.85	10.00	..	1.50	1.50	1.50	2.00	2.50	2.50
9 Excursion to School pupils	1.15	0.31	..	1.25	1.25	..	0.21	0.21	0.25	0.25	0.27	0.27
10 Coaching to students in Typewriting and Short-hand.	5.82	3.10	..	7.72	7.72	..	1.27	1.27	1.50	1.55	1.65	1.75
11 Special coaching to candidates appearing for departmental tests.	0.09	0.05	..	0.15	0.15	..	0.03	0.03	0.03	0.03	0.03	0.03
12 Loans to students for pursuing Arts, Professional, Technical, Post-graduate, etc., courses.	18.94	43.10	..	1,55.00	1,70.50	..	11.22	11.22	12.35	25.90	49.90	71.13
13 Special Training and Counselling to candidates appearing for Group IV Services competitive Examination conducted by T. N. P. S. C.	10.80	3.38	..	7.75	7.75	..	1.55	1.55	1.55	1.55	1.55	1.55
14 Assistance to THHADCO for construction of Hostels.	1,25.48	2,19.23	..	3,30.00	3,63.00	3,30.00	60.00	60.00	68.20	73.20	78.20	83.40
Total—(i) Education	4,96.35	6,37.18	0.85	12,49.15	13,50.00	3,70.02	2,14.15	2,14.15	217.36	2,55.86	3,07.10	3,55.53
(ii) Employment and Economic Advancement—												
1 Agriculture	24.87	21.17	1.61	48.39	50.00	..	7.64	7.64	8.50	10.00	11.50	12.36
2 Milk Supply Societies	20.93	17.65	..	70.00	70.00	..	10.41	10.41	10.41	12.41	15.41	21.36
3 Assistance to Technically Trained persons ..	10.86	9.91	..	27.00	27.00	..	3.38	3.38	3.42	4.85	6.35	9.00
4 Business loans to petty traders and agriculturists.	42.50	37.80	..	92.35	92.35	..	11.25	11.25	14.30	18.45	22.35	26.00
5 Cottage Industries	0.54	0.03	..	9.00	9.00	..	0.38	0.38	1.12	2.00	2.50	3.00
6 Schemes for Training Scheduled Caste/Scheduled Tribe Women in Radio Mechanism.	..	..	..	1.65	1.65	..	0.17	0.17	0.25	0.30	0.40	0.53
Total (ii) Employment and Economic Advancement.	99.70	86.56	1.61	248.39	250.00	..	33.23	33.23	38.00	48.01	58.51	72.25

TABLE 29-III—cont.

(RUPEES IN LAKHS.)

Serial number and programmes.	Five-Year Plan 1974-78.		Five-Year Plan 1978-83.				1978-79.		Phasing of outlays for			
	Approved outlay (i.e. B.E.). (2)	Estimated expenditure (i.e. actuals.) (3)	Spill over. (4)	New. (5)	Total. (6)	Capital. (7)	Approved outlay. (8)	Anticipated expenditure. (9)	1979-80. (10)	1980-81. (11)	1981-82. (12)	1982-83. (13)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(iii) Health, Housing and other Schemes—												
1 Construction of houses	6.36	4.59	..	0.01	0.01	..	0.01	0.01	..	..	..	..
2 Drinking water	1,38.64	79.91	6.07	2,06.18	2,48.29	..	24.26	24.26	34.19	49.01	61.82	79.01
3 Conversion of dry latrines into RCAP latrines ..	10.00	13.56	..	66.00	66.00	..	5.00	5.00	7.50	11.25	17.00	25.25
4 Provision of pathways and Burial Grounds ..	42.01	71.46	4.97	1,81.70	218.46	..	21.67	21.67	32.79	44.00	54.00	66.00
5 Rewards for Inter-Caste Marriages	8.00	2.54	..	9.00	9.00	..	1.00	1.00	1.30	1.70	2.20	2.80
6 Construction of community halls	6.20	6.94	..	20.00	20.00	..	1.50	1.50	1.50	4.00	5.00	8.00
7 Electrification of Colonies	2,22.00	1,93.07	..	2,70.00	3,15.90	..	56.00	56.00	67.47	67.47	63.47	61.49
8 Opening of Child Welfare Centres	2.02	0.09	..	30.64	30.64	..	4.88	4.88	8.70	5.90	7.56	8.60
9 Boarding Grants	4.65	2.20	..	0.55	0.55	..	0.55	0.55	..	..	..	..
10 Assistance to THHADCO for construction of houses for harijans. } (and) 11 Assistance to THHADCO for construction of houses for harijans and fishermen. }	8,40.04	19,48.83	..	16,00.01	18,90.21	0.01	3,20.00	3,20.00	3,92.55	3,92.55	3,92.55	3,92.57
12 House-sites for landless Rural Workers including harijans (Minimum Needs Programme).	1,92.01	190.49	..	5,65.00	6,61.05	..	1,01.00	1,01.00	1,25.01	1,35.01	1,45.01	1 55.02
13 Grant of Financial assistance to SCs./STs. for funeral rites.	..	..	..	38.38	38.38	..	4.33	4.33	5.00	7.20	9.50	12.35
14 Development Corporation for Scheduled Castes/Scheduled Tribes.	0.01	0.07	..	..	1,00.00	..	..	..	25.00	25.00	25.00	25.00
15 Construction of Dhobikhana .. .. .	..	..	..	1.50	1.50	..	0.10	0.10	0.20	0.30	0.40	.50
Total—(iii) Health, Housing and other Schemes ..	15,31.96	25,71.61	11.04	29,98.97	36,00.00	0.01	5,40.30	5,40.30	6,96.21	7,43.39	7,83.51	8,36.59
Total—I Welfare of Scheduled Castes ..	21,28.61	32,95.35	13.50	44,86.51	52,00.00	3,70.03	7,87.68	787.68	9,51.57	10,47.26	11,49.12	12,64.37

II. SCHEDULED TRIBES—

(i) Education—

1. Schools	2-01	5-15	0-07	5-93	6-00	..	0-50	0-50	0-50	1-00	1-50	2-50
2. Residential Schools	7-78	6-15	..	45-30	45-30	..	5-23	5-23	4-00	7-25	12-32	16-50
3. Hostels	5-42	3-13	..	12-00	12-00	..	1-20	1-20	1-80	2-40	3-00	3-60
4. Equipment for Schools	2-35	1-89	..	0-50	0-50	..	..	..	0-01	0-10	0-15	0-24
5. Houses for Teachers	3-80	1-58	0-09	5-91	6-00	..	0-90	0-90	0-90	1-20	1-40	1-60
6. Excursion to School pupils	0-09	0-04	..	0-20	0-20	..	0-02	0-02	0-03	0-04	0-05	0-06
7. Supply of Text Books, Note Books, Slates .. .. .	..	0-53	..	5-00	5-00	..	0-56	0-56	0-80	1-00	1-20	1-44
Total—(i) Education	21-45	18-47	0-16	74-84	75-00	..	8-41	8-41	8-04	12-99	19-62	25-94

(ii) Employment and Economic Advancement —

1. Agriculture	13-07	10-40	0-23	29-77	30-00	..	2-19	2-19	2-75	5-00	9-81	10-25
2. Assistance to technically trained persons	1-25	1-49	..	5-00	5-00	..	0-25	0-25	0-50	0-75	1-25	2-25
3. Business Loan to petty traders and Agriculturists.	1-05	..	..	3-00	3-00	..	0-40	0-40	0-50	0-60	0-70	0-80
4. Training-cum-production centre	1-30	2-54	..	12-00	12-00	..	0-59	0-59	0-60	2-50	3-66	4-65
Total—(ii) Employment and Economic Advancement.	16-67	14-43	0-23	49-77	50-00	..	3-43	3-43	4-35	8-85	15-42	17-95

TABLE 29-III—cont.

(RUPEES IN LAKHS)

Serial number and programmes.	Five-Year Plan 1974-78		Five-Year Plan 1978-83				1978-79		Phasing of outlays for			
	Approved outlay	Estimated expenditure	Spill. over.	New.	Total.	Capital.	Approved outlay.	Anticipated expenditure.	1979-80	1980-81	1981-82	1982-83
	(i.e. B.E.) (2)	(i.e. actuals.) (3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(iii) Health, Housing and Other Schemes—												
1. Construction of houses	6.31	4.29	..	11.00	11.00	..	1.50	1.50	1.50	2.00	2.50	3.50
2. Drinking water wells	9.05	8.68	0.75	20.25	21.00	..	3.00	3.00	3.00	4.00	5.00	6.00
3. Mobile Medical Units	2.02	0.78	..	1.00	1.00	.	0.01	0.01	0.25	0.24	0.25	0.25
4. Roads	6.91	5.17	0.10	31.90	32.00	.	1.02	1.02	1.00	5.00	10.00	14.98
5. Tribal Model Village	1.40	0.41	0.03	9.97	10.00	..	0.30	0.30	0.30	2.40	3.00	4.00
Total—(iii) Health, Housing and Other Schemes.	25.69	19.33	0.88	74.12	75.00	.	5.83	5.83	6.05	13.64	20.75	28.73
Total—(2) SCHEDULED TRIBES	63.81	54.23	1.27	198.73	200.00	..	17.67	17.67	18.44	35.48	55.79	72.62
CENTRALLY SPONSORED SCHEMES												
A. SCHEDULED TRIBES												
I. Research												
1. Establishment of Tribal Research Institute. ..	3.25	1.50	..	8.50	8.50	..	0.50	0.50	0.75	1.25	2.00	4.00
II. Education												
1. Government of India Post-matric Scholarship.	2.02	3.86	..	2.23	2.23	..	0.70	0.70	0.14	0.29	0.46	0.64
2. Construction of Buildings for girls hostels	4.00	..	..	4.20	4.20	4.20	0.50	0.50	0.70	0.80	1.00	1.20
Total—II Education	6.02	3.86	..	6.43	6.43	4.20	1.20	1.20	0.84	1.09	1.46	1.84
III. Employment and economic advancement												
1. Cottage Industry—Industrial Co-operative societies. ..	2.48	1.56	..	4.80	4.80	..	0.23	0.23	0.50	0.82	1.25	2.00
Total—A Scheduled Tribes	12.02	6.92	..	19.73	19.73	4.20	1.93	1.93	2.09	3.16	4.71	7.84

B SCHEDULED CASTES

I. Education

1. Training Centre for All India Service Examination.	9.39	10.29	..	20.90	20.90	..	2.67	2.67	3.23	4.00	5.00	6.00
2. Government of India Post-matric Scholarship.	171.23	276.36	..	475.69	475.69	..	79.83	79.83	32.43	71.34	118.03	174.06
3. Government of India Pre-matric Scholarship.	..	..	..	2.91	2.91	..	1.91	1.91	0.25	0.25	0.25	0.25
4. Construction of Buildings for Girls Hostels ..	6.90	4.48	..	19.74	19.74	19.74	1.74	1.74	2.50	3.50	5.00	7.00
5. Pre-Examination Training Centre for Scheduled Castes and Scheduled Tribes to impart training to graduates for various competitive Examinations conducted by Union Public Service Commission	1.01	0.09	..	0.67	0.67	..	0.01	0.01	0.06	0.10	0.20	0.30
Total I. Education	188.53	291.22	..	519.91	519.91	19.74	86.16	86.16	38.47	79.19	128.48	187.61

II. Employment and Economic advancement.

1. Cottage Industries Co-operative	4.62	0.14	..	0.71	0.71	..	0.01	0.01	0.10	0.15	0.20	0.25
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III. Health, Housing and other Schemes—

1 Housing for Harijans engaged in unclean occupations.	17.01	5.54	..	37.51	37.51	..	0.01	0.01	5.00	7.50	10.00	15.00
2 Humanising the occupations of sweepers and scavengers.	5.01	4.17	..	12.61	12.61	..	0.01	0.01	2.00	2.60	3.50	4.50
Total—III. Health, Housing and other Schemes ..	22.02	9.71	..	50.12	50.12	..	0.02	0.02	7.00	10.10	13.50	19.50
Total : B. Scheduled Castes ..	215.17	301.07	..	570.74	570.74	19.74	86.19	86.19	45.57	89.44	142.18	207.36

OTHER BACKWARD CLASSES :

Direction and Administration (Advance Planning)—

1 Denotified Tribes .. .. .	..	..	..	9.50	9.50	..	..	0.50	2.15	2.20	2.25	2.40
2 Education : (Existing Schemes)—												
(a) Tuition and Examination fee	57.94	7.51	..	27.90	27.90	..	3.11	1.60	3.28	5.76	7.64	9.62
(b) Prematric scholarship												
(c) Postmatric scholarship												
(d) Stipends in I.T.I's and Craft Training ..												

Table 29-III—cont.

(RUPEES IN LAKHS)

Serial number and programme.	Five-Year Plan 1974-78.		Spill over.	Five-Year Plan 1978-83.			1978-79.		Phasing of Outlays for				
	Approved Outlay	Estimated expendi- ture		New.	Total.	Capital.	Approved Outlay.	Anticipated expen- diture.	1979-80	1980-81	1981-82	1982-83	
	(i.e.B.E.)	(i.e. actuals.)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	(1)	(2)		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(e) Opening of hostels/maintenance	4.80	0.80	..	31.60	31.60	..	2.12	2.12	4.22	6.32	8.42	10.52	
(f) Construction of Government hostel	15.00	..	..	10.00	10.00	10.00	..	..	2.00	2.00	2.00	4.00
(g) Grant-in-aid to hostels .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(h) Grant-in-aid to voluntary organisations .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(i) Ashram schools .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(j) Supply of Educational materials .. .. .	..	..	..	30.10	30.10	..	5.82	5.82	5.92	6.02	6.12	6.22
(k) Schools (Upgrading)	21.06	..	..	9.60	9.60	..	..	..	1.20	2.40	3.00	3.00
(l) Grants for School Buildings .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(m) Social Education Centres .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(n) Mid-day Meals	10.17	6.49	..	9.20	9.20	..	1.72	1.72	1.87	1.87	1.87	1.87	
(o) Promotion of Cultural Activities .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(p) Special Coaching to students in hostels (Part-time Tutors).	1.40	..	..	1.60	1.60	..	..	..	0.35	0.38	0.42	0.45
(q) Books Banks .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(r) Financial aid for Technical course .. .. .	..	..	..	..	..	..	..	..	..	..	..	..
(s) Clothing	20.67	20.03	..	38.80	38.80	..	7.34	7.34	7.55	7.76	7.97	8.18	
(t) Construction of School building	6.07	2.71	0.53	15.74	16.27	0.53	0.53	0.53	3.74	4.00	4.00	4.00	
(u) Equipment for Schools	9.72	5.17	..	24.34	24.34	..	0.04	0.04	2.90	5.80	7.80	7.80	
(v) Houses for Teachers	5.30	1.03	1.68	21.65	23.33	..	1.65	1.65 +1.68	5.00	5.00	5.00	5.00	
(w) Excursion of pupils	0.21	..	..	1.84	1.84	..	..	..	0.34	0.42	0.50	0.58
(x) Boarding Grants .. .. .	..	..	..	0.42	0.42	..	0.02	0.02	0.10	0.10	0.10	0.10
Total for Denotified Tribes	152.34	43.74	2.21	222.79	225.00	10.53	22.35	22.52	38.47	47.83	54.84	61.34	

3. Economic Uplift—

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(a) Aid for Agricultural in puts	13-20	3-26	..	18-00	18-00	..	1-00	1-00	3-00	4-00	5-00	5-00
(b) Animal Husbandry
(c) Aid for Agriculture	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(d) Cottage Industries	..	..	..	13-38	4-16	..	3-60	3-60	..	0-72	0-72	0-72	0-72	0-72	0-72
(e) Training in Crafts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(f) Finance Corporation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(g) Rehabilitation and Colonisation	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Road/Pathways	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(i) Tools and Implements	..	..	..	1-30	0-68	..	1-10	1-10	..	0-22	0-22	0-22	0-22	0-22	0-22
(j) Reclamation of Maravars	..	..	..	51-00	..	..	1-00	1-00	..	..	..	0-25	0-25	0-25	0-25
(k) Business Loan to Narikoravas	..	..	..	..	0-54	..	0-05	0-05	..	0-01	0-01	0-01	0-01	0-01	0-01
(l) Tools to Boyars	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(m) General Purpose Engineering Workshop	..	..	..	..	5-42	..	22-26	22-26	..	4-36	4-36	4-40	4-45	4-50	4-55
(n) Opening of Tailoring Centres	..	..	..	..	0-27	..	3-99	3-99	..	0-79	0-79	0-80	0-80	0-80	0-80
Total for Denotified Tribes	78-88	14-33	..	50-00	50-00	..	7-10	7-10	9-40	10-45	11-50	11-55

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TABLE 29·III.—cont.

(RUPEES IN LAKHS)

Serial number and programme.	Five-Year plan, 1974-78.		Five-Year plan, 1978-83				1978-79		Phasing of outlays for			
	Approved outlay, (i.e. B.E.)	Expenditure, (i.e. actuals)	Spill over.	New.	Total.	Capital.	Approved outlay.	Anticipated expenditure.	1979-80.	1980-81.	1981-82.	1982-83.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
4. Health Housing and Others—												
(a) Subsidy for construction of houses	8.50	0.97	..	49.13	49.13	..	10.00	10.00	9.13	10.00	10.00	10.00
(b) Distribution of house sites—												
(1) Narikoravars	0.01	0.01	..	0.01	0.01	..	..	..	..
(2) P. Kallars
(c) Construction of community halls
(d) Low cost Dwelling Units
(e) Drinking Water Supply
(f) Aid to voluntary Agencies
(g) Legal aid
(h) Award to inter-Caste married couples
(i) Medical Aid
(j) Miscellaneous
(k) Housing colonies	9.00	..	..	..	..	..	..	..	..	..	..	..
(l) Child Welfare Centres	0.02	..	0.85	0.85	..	0.17	0.17	0.17	0.17	0.17	0.17
(m) Housing Loans	0.57	..	0.01	0.01	..	0.01	0.01	..	..	..	..
Total—Denotified Tribes	17.50	1.56	..	50.00	50.00	..	10.19	10.19	9.30	10.17	10.17	10.17

OTHER BACKWARD CLASSES—

1. Education (Existing Schemes)—

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(a) Tuition fees and Examination fees
(b) Prematric scholarship
(c) Postmatric scholarship
(d) Stipends in I.T.I.s and Craft Training ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Opening of hostels/maintenance	137.97	47.42	..	194.15	194.15	..	2.93	2.93	30.43	46.93	51.93	61.93	..	..
(f) Construction of Government hostels	15.00	..	..	142.00	142.00	126.00	..	..	33.00	33.00	33.00	43.00	..	..
(g) Grant-in aid to hostels .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Grant-in aid to voluntary organisation .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(i) Ashram schools .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(j) Supply of educational materials (Books and Slates).	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(k) Schools (upgrading) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(l) Grants for school buildings .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(m) Social Education Centres .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(n) Midday Meals .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(o) Promotion of Cultural Activities .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(p) Special coaching to students in hostel (part-time-tutors).	10.08	..	..	26.44	26.44	..	..	..	6.40	6.54	6.68	6.82	..	..
(q) Book Banks .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(r) Financial aid for Technical Course .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(s) Clothing	5.24	2.62	..	32.12	32.12	..	1.36	1.36	6.19	7.19	8.19	9.19	..	..
(t) Construction of school .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(u) Equipment of schools .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(v) Houses for teachers .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(w) Excursion of pupils .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(x) Boarding Grants	5.01	0.76	..	2.51	2.51	..	0.51	0.51	0.50	0.50	0.50	0.50	..	..
(y) Award of prizes .. .. .	..	0.05	..	0.20	0.20	..	0.04	0.04	0.04	0.04	0.04	0.04	..	..
Total	992.41	116.81	..	700.00	700.00	126.00	29.86	20.53	118.84	154.04	178.77	227.82	..	..

TABLE 29:III—cont.

(RUPEES IN LAKHS)

Serial number and programme.	Five-Year Plan, 1974-78.		Five-Year Plan, 1978-83			1978-79		Phasing of outlays for					
	Approved outlay, (i.e. actuals)	Expenditure, (i.e. B.E.)	Spill over.	New.	Total.	Capital.	Approved outlay.	Anticipated expenditure.	1979-80.	1980-81.	1981-82.	1982-83.	
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
(a) Aid for Agriculture inputs
(b) Animal Husbandry
(c) Aid for Sericulture
(d) Cottage Industries	0.03	..	393.68	393.68	..	..	..	..	..	..	..	..
(e) Training in Crafts
(f) Finance Corporation	117.00	117.00	117.00	42.68	..
(g) Rehabilitation and Colonisation
(h) Road/Pathways
(i) Tools to Barbers and Dhobies	30.00	24.34	..	93.77	93.77	..	11.77	11.77	19.00	20.00	21.00	22.00
(j) Tools to Boyers	1.10	1.10	..	0.10	0.10	0.25	0.25	0.25	0.25
(k) Opening of Tailoring Centres	11.45	11.45	..	0.23	0.23	2.46	2.69	2.92	3.15
Total	30.00	24.37	..	500.00	500.00	..	12.10	12.10	138.71	139.94	141.17	68.08	

3. Health, Housing and other—

(a) Subsidy for construction of houses	..	..	..	..	..	..	169.00	169.50	..	..	..	40.00	40.00	40.00	49.50
(b) Distribution of house-sites	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) Construction of community halls	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(d) Low Cost Dwelling Units	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(e) Drinking Water Supply	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(f) Aid to Voluntary Agencies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(g) Legal Aid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(h) Award to Inter-caste Married Couples	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(i) Medical Aid	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(j) Miscellaneous	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(k) Housing Colonies	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(l) Child Welfare Centre	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(m) Housing loan	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(n) Dhobikanas	8.50	1.84	..	30.00	30.50	..	1.25	1.25	7.00	7.25	7.00	8.00
Total—Other Backward Classes	8.50	1.84	..	200.00*	200.00	..	1.25	1.25	47.00	47.25	47.00	57.50

* Excludes Advance Planning.

TABLE 29-IV
DEVELOPMENT OF BACKWARD CLASSES—ESTIMATED NON-PLAN COMPONENT OF EXPENDITURE
TOWARDS SCHEMES 1974-'78.

Programmes.	Estimated committed level expenditure (Non-Plan) 1974-79 Plan Schemes as on			
	1st April 1978.		1st April 1979.	
	Total. (2)	Capital. (3)	Total. (4)	Capital. (5)
(1)				
(RUPEES IN LAKHS.)				
Scheduled Castes—				
(a) Education	623.20	..	873.25	..
(b) Economic Development .. .. .	..	..	..	..
(c) Health, Housing and other Programmes	5.00	..	5.69	..
Total—Scheduled Castes	<u>628.20</u>	<u>..</u>	<u>878.94</u>	<u>..</u>
Scheduled Tribes—				
(a) Education	37.03	..	45.71	..
(b) Economic Development .. .. .	..	..	..	..
(c) Health, Housing and other Programmes .. .. .	..	..	..	..
Total—Scheduled Tribes	<u>37.03</u>	<u>..</u>	<u>45.71</u>	<u>..</u>
Total—Scheduled Castes and Scheduled Tribes	<u>665.23</u>	<u>..</u>	<u>924.65</u>	<u>..</u>
3. Other Backward Classes—				
I. Denotified Tribes—				
(a) Education	488.37	..	143.63	..
(b) Economic Development	2.05	..	0.55	..
(c) Health, Housing and other Programmes .. .. .	..	..	..	..
II. Other Backward Classes—				
(a) Education	1,365.77	..	383.76	..
(b) Economic Development	0.84	..	0.49	..
(c) Health, Housing and other Programmes .. .. .	..	..	..	..
Grand Total	<u>1,857.03</u>	<u>..</u>	<u>528.43</u>	<u>..</u>

TABLE 29-V.

DEVELOPMENT OF BACKWARD CLASSES—FIVE YEAR PLAN (1978-83) TARGETS AND ACHIEVEMENT FOR TRIBAL AREAS SEPARATELY WHERE SUB PLAN EXISTS.

Programme.	Unit.	Position at the end of the Fifth Plan that is position obtaining in 1977-78	Target for the Plan 1978-83.	Outlay for 1978-79.		Phasing for 1979-83.				Remarks
				Target fixed.	Likely Achievement.	1979-80	1980-81	1981-82	1982-83	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
I. Sub-Plan—I.T.D.P. (State Plan)—						(RUPEES IN LAKHS).				
1	Agriculture ..			30.00	30.00	35.00	40.00	40.00	45.00	
2	Animal Husbandry			25.84	25.84	29.16	30.00	32.00	35.00	
3	Forestry			15.20	15.20	22.50	25.30	30.00	35.00	
4	Co-operation ..			10.00	10.00	15.00	20.50	25.00	25.00	
5	Minor Irrigation ..			5.00	5.00	10.00	15.00	20.00	25.00	
6	Communication ..	Schemewise		47.34	47.34	45.66	40.00	43.00	37.00	
7	Village Industries..	break up		10.00	10.00	12.00	15.00	20.00	25.00	
8	Education	details not		15.00	15.00	18.00	23.00	30.00	35.00	
9	Health	readily		15.00	15.00	19.20	25.20	30.00	35.00	
10	Social Welfare ..	available		5.00	5.00	7.50	10.00	15.00	22.00	
11	Electrification ..			5.00	5.00	10.00	17.00	20.00	25.00	
12	Housing			5.00	5.00	8.00	15.00	15.00	20.00	
13	Drinking Water Supply.		100.00	10.00	10.00	15.00	20.00	25.00	30.00	
14	Tribal Research and Development.		20.00	1.62	1.62	2.98	4.00	6.00	5.00	
Total.			238.00	1,500.00	200.00	200.00	250.00	300.00	350.00	400.00
(State Tentative)										
II. Development of Primitive Tribes—										
Community/Individual oriented economic scheme—										
(i)	State Plan		200.00	120.00	20.00	30.00	40.00	50.00	160.00	
(ii)	Central Assistance ..		55.00	40.00	40.00	70.00	120.00	150.00	170.00	
III. Dispersed Tribes—										
(i)	State		100.00	10.00	10.00	15.00	20.00	25.00	30.00	
(ii)	Central Assistance ..		150.00	5.00	5.00	15.00	30.00	45.00	55.00	
Total—State Plan ..			1,800.00	230.00	230.00	295.00	360.00	425.00	490.00	
Total—Central Assistance			700.00	45.00	45.00	85.00	150.00	195.00	225.00	

TABLE 29-VI.

STATEMENT SHOWING EXTENT OF ESTIMATED EMPLOYMENT GENERATION PLAN OF BENEFIT TO WEAKER SECTIONS OF THE POPULATION.

Serial number and name of Scheme	Estimated Employment Generation						Remarks.	
	1974-78.	1978-79.	1979-80.	1980-81	1981-82	1982-83		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
I. Scheduled Tribes—								
1	Schools	31	2	3	3	3	3	..
2	Hostels	2	..	3	3	3	3	..
II. Scheduled Castes—								
3	Schools (Number of teachers to be employed).	116	..	23	36	41	41	..
4	Hostels (Wardens and Cooks)	191	45	48	48	48	48	..
5	Child Welfare Centres ..	50	50	..	50	50	50	..
III. Other Backward Classes—								
1	Wardens .. .. .	..	10	36	36	36	36	..
2	Cooks .. .. .	..	20	72	72	72	72	..
Total		390	127	185	248	253	253	..

TABLE
DEVELOPMENT OF
PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative upto 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>
(1)	(2)	(3)	(4)	(5)
I. WELFARE OF SCHEDULED TRIBES—				
(i) Education—				
1 Schools	No. of schools.	Not readily available.	86	Not fixed.
2 Residential Schools	Do.	Do.	85	20
3 Hostels	No. of Hostels.	Do.	19	16
4 Equipment for schools	No.	Do.	About 4,850 students in Tribal schools.	Not fixed.
5 Houses for Teachers	No. of Houses.	Do.	28 Works.	Not fixed.
6 Excursion to School Pupils	No. of schools.	Do.	14 G.T.R. Schools.	New pupils in 14 G.T.R. Schools.
7 Supply of Text Books, Note Books and Slates.	No. of pupils benefited.	Do.		Not fixed.
(ii) Employment and Economic Advancement—				
1 Agriculture	No. of pair of plough bulls.	Not readily available.	364 pairs + 17 sets of Agricultural implements.	Not fixed.
	No. of Irrigation wells.	Do.	258 works.	Not fixed.
2 Assistance to Technically trained persons.	No. of beneficiaries.	Do.	226	Not fixed.
3 Business Loan to petty traders and Agriculturists.	No. of beneficiaries.	Do.	32	Not fixed
4 Training-cum-Production Centre	No. of Centres.	Do.	7	Not fixed.
(iii) Health, Housing and other schemes—				
1 Construction of houses	No. of houses.	Not readily available.	4,860.	Not fixed.
2 Drinking water wells	No. of wells.	Do.	195 works.	Not fixed.
3 Mobile Medical Units	No. of units.	Do.		Not fixed.
4 Roads	No. of works.	Do.	45 works.	Not fixed.
5 Tribal Model village	No. of villages.	Do.		Not fixed.
CENTRALLY SPONSORED SCHEMES—				
A. I Research Scheduled Tribes—				
1. Establishment of Tribal Research Institute.	Number of Units.	Not readily available.	One Research Cell.	Continuance of the Research Cell.
II Education—				
1. Government of India Post-Matric Scholarship.	Number of Scholarships.	Not readily available.	662 (includes Non-Plan).	Not fixed.
2. Construction of buildings for Girls Hostels.	Number of Works.	Do.	..	Not fixed.
III. Employment and economic Advancement—				
1. Cottage Industry—Industrial Co-operative Societies.	Number of Societies.	Not readily available.	5	Not fixed.

29. VII.

BACKWARD CLASSES

AND TO BE ACHIEVED IN FIVE-YEAR PLAN, 1978-83.

1978-79		Phasing for 1978-83.				Remarks.
Target fixed.	Likely achievement.	1979-80.	1980-81.	1981-82.	1982-83.	
(6)	(7)	(8)	(9)	(10)	(11)	
Not fixed.		Not fixed	Not fixed	Not fixed.	Not fixed.	
8	8	3	3	3	3	
4	4	3	3	3	3	
..	..	Not fixed	Not fixed.	Not fixed.	No. fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
New pupils in 14 G.T.R. Schools.	14 G.T.R. Schools.	New pupils in 14 G.T.R. Schools.	New pupils in 14 G.T.R. Schools.	New pupils in 14 G.T.R. Schools.	New pupils in 14 G.T.R. Schools.	
Not fixed		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.		Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Continuance of the Research Cell.	One Research Cell.	Continuance of the Research Cell.	Continuance of the one Research Cell.			
Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed	Not fixed.	
1	1	Do.	Do.	Do	Do.	
Not fixed.		Do.	Do.	Do.	Do	

TABLE
DEVELOPMENT OF

PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative up to 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>
(1)	(2)	(3)	(4)	(5)
II Scheduled Castes—				
(i) Education—				
1. Scholarships and Stipends	Number	Not readily available.	17,72,630 Scholarships.	Not fixed.
2. Midday Meals	Number of Students.	Do.	Students in 942 Schools.	New Students in 942 Schools.
3. Schools	Number	Do.	942	56
	Number of Buildings.	Do.	..	88
4. Hostels	Number of Hostels.	Do.	72	64
5. Clothing	Number of Students.	Do.	To benefit about 30,000 Boys.	Not fixed.
6. Equipment for Schools	Number of schools.	Do.	About 1,42,275 students in H.W. Schools.	Not fixed.
7. Coaching for College students	Number of Colleges.	Do.	189	New students in 189 Colleges.
8. Houses for Teachers	Number of Houses.	Do.	56 Works.	Not fixed.
9. Excursion to school pupils	Number of schools.	Do.	21 H.W. High schools.	New pupils in 27 High schools.
10. Coaching to students in Typewriting and Shorthand.	Number of students.	Do.	About 2,200 students given Training.	Not fixed.
11. Special Coaching to candidates appearing for departmental tests.	Do.	Do.	....	Not fixed.
12. Loans to students for pursuing Arts, Professional, Technical, Post-graduate, etc. courses.	Number of students.	Do.	7,858 students.	Not fixed.
13. Special Training and Counselling to candidates appearing for Group IV Services competitive Examinations conducted by T.N.P.S.C.	Number of Centres.	Do.	15 centres with 2,222 students.	Not fixed.
14. Assistance to THHADCO for construction of Hostels.	Number of Hostels.	Do.	..	Not fixed.
(ii) Employment and Economic Advancement—				
1. Agriculture	Number of pair of plough bulls. Number of irrigation wells.	Do.	702 pairs plus 16 persons (Agricultural implements). 1,955 works.	Not fixed.
2. Milk Supply Societies	Number of Societies.	Do.	61 Societies.	Not fixed.
3. Assistance to Technically Trained persons.	Number of Beneficiaries.	Do.	3,061	Not fixed.
4. Business Loans to Petty Traders and Agriculturists.	Number of beneficiaries.	Not readily available.	5,141	Not fixed.

29. VII—cont.

BACKWARD CLASSES

AND TO BE ACHIEVED IN FIVE-YEAR PLAN, 1978—83.

1978-79.		Phasing for 1978-83.				Remarks.
Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(6)	(7)	(8)	(9)	(10)	(11)	(12)
Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.
New Students in 942 schools.	New students in 942 schools.	New students in 942 schools.	New students in 942 schools.	New students in 942 schools.	New students in 942 schools.	..
..	..	14	14	14	14	..
..	..	22	22	22	22	..
..	..	16	16	16	16	..
Not fixed.	..	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..
About 1,42,275 students in H.W. schools.	..	About 1,42,275 students in H.W. schools.	..			
New students in 189 Colleges.	189	New students in 189 Colleges.	..			
Not fixed.	..	Not fixed.	..	Not fixed.	Not fixed.	..
New pupils in High schools.	..	New pupils in 25 High schools.	New pupils in 25 High schools.	New pupils in 27 High schools.	New pupils in 27 High schools.	..
Not fixed.	..	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..
Do.	..	Do.	Do.	Do.	Do.	The expenditure is only for cost of staff.
Do.	..	Do.	Do.	Do.	Do.	..
New candidates in the 15 centres.	New candidates in the 15 centres.	Do.	Do.	Do.	Do.	..
Not fixed.	Do.	Do.	Do.	Do.	Do.	..
Not fixed.	Do.	Do.	Do.	Do.	Do.	..
Do.	Do.	Do.	Do.	Do.	Do.	..
Do.	Do.	Do.	Do.	Do.	Do.	..
Not fixed.	....	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..

TABLE
DEVELOPMENT OF
PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative up to 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>
(1)	(2)	(3)	(4)	(5)
5. Cottage Industries	Number of Societies.	Not readily available.	2 Societies.	Not fixed.
6. Schemes for Training in Radio Mechanism. S. C./ S. T. Women	Number of Trainees.	(No Programme.)	..	Do.
(III) Health, Housing and other schemes—				
1. Construction of Houses	Number of houses.	Not readily available.	Not readily available.	Do.
2. Drinking Water	Number of colonies.	Do.	23,000	Do.
3. Conversion of dry latrines into RCAP Latrines.	Number.	Do.	About 6,669 Latrines.	Do.
4. Provision of Pathways and Burial Grounds.	Number of works.	Do.	3,115 works.	Do.
5. Rewards for Inter Caste Marriages	Number of beneficiaries.	Do.	235	Do.
6. Construction of Community Halls	Number of halls.	Do.	27 Community Halls taken up.	133
7. Electrification of Colonies	Number of colonies.	Do.	439	Not fixed.
8. Opening of Child Welfare Centres	Number of Centres.	Do.	50	250
9. Boarding Grants	Number of subsidised Hostels.	Do.	598 grants in 8 Private Hostels.	15
10. Assistance to THHADCO for construction of Houses for Harijans and	} Number of Houses.	Do.	35,045	25,000
11. Assistance to THHADCO for construction of houses for Harijans and fishermen.				
12. House-sites for landless Rural workers including Harijans (Minimum Needs Programme).	Number of sites.	Do.	64,200	Not fixed.
13. Grant of Financial Assistance to Scheduled Castes/Scheduled Tribes for funeral rites.	Number of beneficiaries.	Do.	No Programme.	Do.
14. Construction of Dobikhana	Number of Dhobikhana.	Do.	Do.	15
CENTRALLY SPONSORED SCHEMES—				
Scheduled Castes—				
I. Education—				
1. Training Centre for All-India Service Examination.	Number of Centre.	Do.	One Centre.	New J.A.S. trainees in one Centre.
2. Government of India Post-Matric Scholarship.	Number of Scholarships.	Do.	59,705 (includes Non-Plan).	Not fixed.
3. Government of India Pre-Matric Scholarships.	Number of Scholarships.	Do.	....	Do.
4. Construction of buildings for girls Hostels.	Number of works.	Do.	3 works	Do.
5. Pre-Examination Training Centre for Scheduled Castes and Scheduled Tribes to impart training to Graduates for various competitive Examinations conducted by Union Public Service Commission.	Number of Trainees.	....	....	Do

29. VII—cont.

BACKWARD CLASSES.

AND TO BE ACHIEVED IN FIVE-YEAR PLAN 1978—83.

1978-79.		Phasing for 1978-83.				Remarks.
Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(6)	(7)	(8)	(9)	(10)	(11)		(12)
Not fixed.	....	....	....	....	....	....
20	20	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..
Not fixed.	....	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..
....
Not fixed.	....	Not fixed.	Not fixed.	Not fixed.	Not fixed.	..
....	....	....	Not fixed.	....	....	....
....	....	....	Not fixed.	....	....	....
10	....	10	27	33	53	....
Not fixed.	Not fixed	Not fixed.	Not fixed.	Not fixed.	Not fixed.	....
....	....	....	53	100	100	....
15	....	....	....	....	....	....
5,000	5,000	5,000	5,000	5,000	5,000	....
Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed	....
....	....	....	Not fixed.	....	....	....
1	1	2	3	4	5	....
New I.A.S. trainees in one Centre	One Centre.	New I.A.S. trainees in one Centre	New I.A.S. trainees in one Centre.			
Not fixed.	....	....	....	....	....	..
....
1	1	....	....	....	....	..
Not fixed.				Not fixed.		

TABLE
DEVELOPMENT OF
PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative up to 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>	
(1)	(2)	(3)	(4)	(5)	
II. Employment and Economic Advancement—					
1 Cottage Industries—Co-operatives	Number of Societies.	Not readily available.	....	Not fixed.
III. Health, Housing and other Schemes—					
1 Housing for Harijans engaged in unclean occupation.	Number of houses.	Not readily available.	125 houses taken up.	Not fixed.	
2 Humanising the occupation of sweepers and scavengers.	Numbers.	Not readily available.	423 wheel barrows, 300 pans and scrappers.	Not fixed	
III. BACKWARD CLASSES—					
1 Direction and Administration	Numbers.	....	....	....
Welfare of Denotified Tribes—					
1 Education—					
Existing Schemes					
(a) Tuition and Examination fees	Number of students.	}	3,38,360	18,460	1,03,414
(b) Prematric Scholarships	Number of Scholarship				
(c) Postmatric Scholarships	Number				
(d) Stipends in Industrial Technical Institutes and expert training.	Number				
(e) Opening of Hostels and maintenance ..	Number of Hostels and Boarders.	4 Numbers 436 Boarders	11 Numbers 850 boarders.	24 Numbers 1,200 boarders.	
(f) Construction of Government Hostel ..	Number	8 Numbers.	....	5 Numbers.
(g) Grant-in-aid to Hostels	Do.	....	....	....
(h) Grant-in-aid to Voluntary Organisations	Do.	....	....	....
(i) Ashram Schools	Do.	....	....	....
(j) Supply of Educational Materials (Books and Slates).	Number of students.	235 Schools.	....	Among the Denotified Tribe Schools.
(k) Schools (Upgrading)	Number of schools.	....	....	52 Numbers.
(l) Grants for School buildings	Number of grants.	....	....	....
(m) Social Education Centres	Number.	....	....	....
(n) Midday Meals	Number of students.	16,770	22,932	....
(o) Promotion of cultural activities.. ..	Number and type.	....	....	....
(p) Special coaching to students in Hostels (Part-time tutors).	Number and type.	47	....	228 tutors.

29. VII—con.

BACKWARD CLASSES.

AND TO BE ACHIEVED IN FIVE-YEAR PLAN 1978—83.

1978-79.		Phasing for 1978—83.				Remarks.
Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(6)	(7)	(8)	(9)	(10)	(11)	(12)
Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	
Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	Not fixed.	....
Do.	Do.	Do.	Do.	Do.	Do.	....
....	18 Assistants, 15 A.R.I., 1 Typist, 1 R.C. 1 Sec. Head.	18 Assistant 15 A.R.I., 1 Typist, 1 R.C., 1 Sec. Head.	18 Assistants, 15 A.R.I., 1 Typist, 1 R.C. 1 Sec. Head.	18 Assistants, 15 A.R.I. 1 Typist, 1 R.C. 1 Sec. Head.	18 Assistants 15 A.R.I., 1 Typist, 1 R.C., 1 Sec. Head.	....
6,620	6,439	13,211	20,331	27,797	35,636	
Nil.	Nil.	----- 6 Numbers, 300 Boarders -----				
....	....	1 Number.	1 Number.	1 Number.	2 Numbers.	....
....
....
....
Among the Deno- tified Tribe schools.	Among the Deno- tified Tribe schools	Among the Deno- tified Tribe schools.	....	....	....	....
....	....	13 Numbers.	13 Numbers.	13 Numbers.	13 Numbers.	....
....
....
....
....
....	....	50 tutor	54 tutors.	60 tutors.	64 tutors.	....

TABLE
DEVELOPMENT OF
PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative up to 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>
(1)	(2)	(3)	(4)	(5)
(q) Book Banks .. .. .	....	....	....	....
(r) Financial aid for Technical courses	Number of students.	....	..	....
(s) Clothing	Do.	1,12,060	78,104	....
(t) Construction of School building	No.	....	....	36
(u) Equipment for schools	Number of Schools.	....	....	Among Denotified Tribe Schools. 216
(v) Houses for Teachers	Number of Houses.	50	32	....
(w) Excursion of pupils	Number of Schools.	46	....	....
(x) Boarding grants	Number of grants.	....	....	168 grants.
(y) Teachers in Denotified Tribe Schools ..	Number	1,599	....	....
3. Economic Uplift—				
(a) Aid for Agricultural inputs	Number of families.	137 (pair bulls).	277	380
(b) Animal Husbandry	Do.	407 wells.	....	....
(c) Aid for sericulture	Do.	....	....	....
(d) Cottage Industries	Do.	3+4	2 Centres, 70 Trainees.	....
(e) Training in Crafts	Persons.	....	....	....
(f) Finance Corporation	Number.	....	....	....
(g) Rehabilitation and Colonisation	Number of families.	....	....	....
(h) Road/Pathway	Number of Kilometres.	....	....	....
(i) Tools and implements .. .. .	....	9941	76 Trainees	123
(j) Reclamation of Maravars .. .. .	....	....	One Scheme in Tirunelveli Ramanathapuram districts. 180 Koravars.	Loan Token
(k) Business Loan to Narikoravars .. ..	....	....	....	....
(l) General Purpose Engineering Workshops ..	No.	3 Units 60 trainees.	3 Units 60 Trainees.	4 Units 375 trainees.
(m) Opening of Tailoring Centres	No.	....	4 Centres 80 trainees.	4 Centres 400 trainees.
(n) Special Training Institute for I.A.S. & I.P.S., etc.	No.	....	....	....
4. Health, Housing and others—				
(a) Subsidy for construction of houses to Denotified Tribes.	Number of families.	166	215	1,228
(b) Distribution of House sites	House sites.	....	....	....
(c) Construction of Community Halls	No.	....	....	....
(d) Low cost Dwelling Units	No.	....	....	....

29-VII—cont.

BACKWARD CLASSES.

AND TO BE ACHIEVED IN FIVE-YEAR PLAN 1978—83.

1978-79.		Phasing for 1978—83.				Remarks.
Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(6)	(7)	(8)	(9)	(10)	(11)	(12)
..
..
..
5	5	7 schools	8 schools.	8 schools.	8 schools.	..
Among Denotified Tribe Schools.		..	..	..	..	..
16	16	50 houses.	50 houses.	50 houses.	50 houses.	..
..	..	44 Hr. Ele. 12 High.	54 Hr. Ele. 15 High.	64 Hr. Ele. 18 High.	74 Hr. Ele. 21 High.	..
168 grants.	8	40 grants.	40 grants.	40 grants.	40 grants.	..
....
40	40	60	80	100	100	..
..
..
..	..	2 Centres, 70 trainees.				..
..
..
..
23	23	25	25	25	25	..
One scheme in Tirunelveli and Ramanathapuram districts.						..
Token.	Token.	..	..	..	..	..
4 Units, 75 trainees.	4 Units, 75 trainees.	4 Units, 75 trainees.	4 Units, 75 trainees.	4 Units, 75 trainees.	4 Units, 75 trainees.	..
4 Centres, 80 Trainees.	4 Centres, 80 trainees.	4 Centres, 80 trainees.	4 Centres, 80 trainees.	4 Centres, 80 trainees.	4 Centres, 80 trainees.	..
..
250	350	228	250	250	250	..
..
..
..

TABLE
DEVELOPMENT OF
PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

<i>Serial number and scheme.</i>	<i>Unit.</i>	<i>Achievement of physical targets cumulative up to 1973-74.</i>	<i>Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.</i>	<i>Target fixed for the Plan (1978-83 Additional.)</i>
(1)	(2)	(3)	(4)	(5)
(e) Drinking Water Supply	Wells	..	..	..
(f) Aid to Voluntary Agencies	No.	..	..	..
(g) Legal aid	Persons	..	..	..
(h) Award to inter-caste married couple ..	Number of awards.	..	..	..
(i) Medical aid	No.	..	..	..
(j) Miscellaneous	No.	..	..	..
(k) Housing colonies	No.	..	..	..
(l) Child Welfare Centres	No.	..	5 Centres 350 children.	5 Centres 350 children.
(m) Housing Loans	No.	..	....	....
Welfare of Other Backward Classes—				
<i>2. Education (existing Schemes)—</i>				
(a) Tuition fees and Examination fees ..	..	..	..	..
(b) Prematric Scholarship	No.	568032	49753	304011
(c) Postmatric Scholarship .. .. .	..	..	..	..
(d) Stipends in Industrial Technical Institute and expert training.	..	..	..	..
(e) Opening of Hostels Maintenance .. ..	..	144 Hostels, 7608 Boarders.	83 Hostels, 6457 Boarders.	182 Hostels, 6500 Boarders.
(f) Construction of Government Hostels ..	..	..	..	47 Hostels.
(g) Grant-in-aid to hostels .. .. .	..	..	..	..
(h) Grant-in-aid to Voluntary organisation ..	..	..	..	..
(i) Ashram Schools .. .. .	..	..	..	..
(j) Supply of Educational materials (Books and Slates).	..	..	..	..
(k) Schools (Upgrading) .. .. .	..	..	..	..
(l) Grants for School Building .. .. .	..	..	..	..
(m) Social Education Centres .. .. .	..	..	..	..
(n) Midday Meals .. .. .	..	..	..	..
(o) Promotion of cultural activities .. ..	..	..	..	..
(p) Special coaching to students in Hostels (Part-time tutors).	..	..	..	924 Hostel Tutors.
(q) Book Banks .. .. .	..	..	..	..
(r) Financial Aid for Technical Course ..	..	..	..	One Corporation.
(s) Clothing .. .. .	..	24000	6740	..
(t) Construction of Schools .. .. .	..	..	..	..

29·VII.—cont.

BACKWARD CLASSES.

AND TO BE ACHIEVED IN FIVE-YEAR PLAN 1978—83.

1978-79.		Phasing for 1978-83.				Remarks.
Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(6)	(7)	(8)	(9)	(10)	(11)	(12)
..
..
..
..
..
..
5 Centres, 350 children.	5 Centres, 350 children.	5 Centres, 350 children.	5 Centres, 350 children.	5 Centres, 350 children.	5 Centres, 350 children.	..
..
11121	14464	42689	49796	78404	98658	..
..
..
10 Hostels, 500 Boarders.	10 Hostels, 500 Boarders.	43 Hostels, 1750 Boarders.	43 Hostels, 1750 Boarders.	43 Hostels, 1750 Boarders.	43 Hostels, 1750 Boarders.	..
..	..	10 Hostels.	11 Hostels.	11 Hostels.	15 Hostels.	..
..
..
..
..
..
..
..
..	..	201 Hostel tutors	221 Hostel tutors.	241 Hostel tutors.	261 Hostel tutors.	..
..
..	One Corporation.	..	..	..
..

TABLE
DEVELOPMENT OF

PHYSICAL TARGETS ACHIEVED IN FIFTH PLAN (1974-78)

Serial number and scheme.	Unit.	Achievement of physical targets cumulative up to 1973-74.	Position at the end of Fifth Plan (i.e.) Position obtaining in 1977-78.	Target fixed for the Plan (1978-83 Additional.)
(1)	(2)	(3)	(4)	(5)
(u) Equipment for Schools
(v) Houses for Teachers
(w) Excursion of pupils
(x) Boarding grants	262 grants.	1004 grants.	244 grants.
(y) Award of prizes	180 prizes.	310 prizes.	82 prizes.
2. Economic Uplift—				
Welfare of other backward classes—				
(a) Aid for Agricultural inputs
(b) Animal Husbandry
(c) Aid for Sericulture
(d) Cottage Industries
(e) Training in Crafts
(f) Finance Corporation	1 Corporation.
(g) Rehabilitation and Colonisation
(h) Road/Pathways
(i) Tools to Barbers and Dhobies	No. of Dhoby/Barbes.	9,941	12,578
				21,555
				21,186
(j) Tools to Bovers	1,100 persons.
(k) Opening of Tailoring Centres	1 Unit 20 trainees.	9 Units
				180 trainees
3. Health, Housing and others—				
Welfare of other backward classes—				
(a) Subsidy for construction of houses	3,557
(b) Distribution of house site
(c) Construction of Community Halls
(d) Low cost dwelling units
(e) Drinking water supply
(f) Aid to Voluntary agencies
(g) Legal aid
(h) Award to inter-caste married couples
(i) Medical aid
(j) Miscellaneous
(k) Housing Colonies
(l) Child Welfare Centres
(m) Housing Loan
(n) Dhobikanas	25 Nos.	4 Nos.

Chapter 30

SOCIAL WELFARE AND NUTRITION

30.0. In a democratic welfare State, it is the recognised responsibility of the State to improve the conditions of the weaker and handicapped sections of society, and welfare activities for such social benefits is part of the developmental process. Welfare of women is an index of progress.

30.1. Social Welfare activities in Tamil Nadu are attended to by the Department of Social Welfare. The Department of Social Welfare attends to Women's Welfare, Child Welfare, Welfare of the Handicapped and Welfare of the Destitutes and the Poor.

Welfare of Women

30.2. Under the programmes for the welfare of women, provision is made for running service homes in districts. To give an economic content to the programme, work centres and production units, where rural women could be trained in handicrafts and home industries are run. Such vocational training helps the poor to be self-reliant and to make a living. There are schemes to train women in secretariat practice and allied occupations in which women have proved their special capabilities and efficiency.

30.3. Social schemes like remarriage of eligible widows are encouraged by giving incentives. To assure them economic support, widows are offered

sewing machines. All these schemes are at present in operation and in the Plan 1978-'83, it is expected that additional units will be added to spread the benefits to a larger size of population.

Child Welfare

30.4. Under Child Welfare schemes, strengthening of Child Welfare Centres, training Balasevikas and nutrition programmes are schemes that are at present in operation. The need to give proper nutritional care to children of six years and below and lactating mothers is fully realised. Pre-schools provide an infrastructure for childhood services and it is the focal point for activities like nutritional help, nutrition education, health education and informal pre-school education. The existing number of pre-schools in the State is around 4,000. Additional 9,000 pre-schools are proposed to be started during the next five years. This will result in nearly every panchayat having a pre-school in its area. For the purpose of starting these schools Rs. 8.4 crores will be allotted.

Welfare of the Handicapped

30.5. Rehabilitating the physically handicapped is also part of the responsibility of society. The blind, the deaf, the dumb and orthopaedically handicapped and the mentally retarded and mentally handicapped have been recognised as requiring

help and guidance to make a minimum living. However, a need-based outlay for this purpose is not feasible due to obvious reasons of non-availability of funds. Vocational training centres, where physically handicapped persons are being given training in trades are already in operation. Under the new schemes for the Plan, it is proposed to place physically handicapped people in in-service training in established industries. Towards this, an amount of Rs. 1.3 crore is suggested.

Other Schemes

30.6. Special schemes included are training of women for match manufacture, chalk, crayon manufacture, candle making etc., and also training women as Television and Refrigerator mechanics and setting up of catering units. It is suggested that institutional finance may be obtained for these schemes wherever possible in addition to Rs. 1.0 crore allotted for this purpose.

Special Nutrition Programme

30.7. The main objective of the Special Nutrition Programme is to provide supplementary-nutrition to children below six years and expectant and lactating mothers. An amount of Rs. 1 crore is suggested for the same.

Programmes for Correctional Administration

30.8. Due to the modern changes in values and the stress and strain of civilization, there is need for better care, training and rehabilitation of juveniles. The Department of correctional administration have a set of programmes to train and equip youngsters to be self-reliant and useful to the society. Necessary programmes to open training centres and additional approved schools are drawn. The total allocation for these schemes suggested is Rs. 1 crore.

Finance

30.9. The suggested allotment for the Plan, 1978-83 under the different heads are as follows :—

		(RUPEES IN LAKHS)
1. Family and Child Welfare	..	55.38
2. New schemes ..	..	100.00
3. Child Welfare	..	1,084.62
4. Welfare of Handicapped	..	130.00
5. Nutrition ..	..	100.00
		<hr/>
Total	..	1,470.00
		<hr/>
6. Correctional Administration	..	100.00

Other Social and Community Services-Rehabilitation

30.10. It is estimated that repatriation from Sri Lanka during the next five years from 1978-79 to 1982-83 could be of the order of about 64,000 families. It is expected that at least two-thirds of these families will be settled in tea plantations and another 12,000 are expected to be accommodated in the neighbouring States of Kerala, Karnataka, etc., by those Governments. 12,000 will be settled in schemes already drawn up and an equal number could be settled by granting business loans. The total financial requirement on this basis will be Rs. 70.06 crores for the next five years. The whole scheme is to be centrally-sponsored

TABLE 30-f.
Statement showing outlay and expenditure in the Fifth Plan, proposed outlay for the Five-year Plan, 1978-83.
Social Welfare Sector.

(RUPEES IN LAKHS)

Serial number and Programme.	Fifth Plan		Five Year Plan 1978-83.				Phasing of outlay for					Total.
	Approved outlay 1974-78.	Expenditure 1974-78.	Spill over.	New.	Total.	Capital.	1978-79 approved outlay.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I Direction and Administration (including training)
II Family and Child Welfare—												
<i>(I) Women's welfare:—</i>												
(i) Plan Scheme	..	35.56	28.44	51.71	..	55.38	..	..	..	..	..	..
1. Service Homes in Districts	2.24	1.43	1.43	1.43	1.43	7.96
2. Works Centres and Production units	3.31	2.87	3.08	3.08	3.08	15.42
3. Sewing Machines to widows	4.00	4.00	4.00	..	..	12.00
4. Saving Certificate for encouraging widow remarriage	5.00	5.00	5.00	..	..	15.00
5. Assistance to school children of widows	1.00	1.00	1.00	1.00	1.00	5.00
Total	15.55	14.30	14.51	5.51	5.51	55.38
New Schemes—												
<i>State Plan</i>												
1. Chalk Making
2. Envelope making
3. File pad making
4. Match making	100.00	..	20.00	20.00	20.00	20.00	20.00	100.00
5. Spinning
6. Power laundry
7. T. V. and Refrigerators cleaning
. Catering training etc.
Total	100.00	..	20.00	20.00	20.00	20.00	20.00	100.00

Central sector—

1. Economic activity through Mandrams.	11.32	7.53	23.55	..	23.55	..	0.41	0.41	0.41	0.41	0.41	2.05
2. Functional literary for adult women.	..	..	..	..	..	..	4.30	4.30	4.30	4.30	4.30	21.50
Total ..	11.32	7.53	23.55	..	23.55	..	4.71	4.71	4.71	4.71	4.71	23.55

Centrally sponsored—

1 Assistance to Private Organisation (Women in distress).	..	..	..	50.00	50.00	..	10.00	10.00	10.00	10.00	10.00	50.00
Total ..	..	..	..	50.00	50.00	..	10.00	10.00	10.00	10.00	10.00	50.00

II. Child Welfare—

<i>State Plan.</i>	242.50	190.59	..	..	227.86	..	..	..	..	..	..	..
1. Social Support Scheme under World Bank Project.	..	..	..	..	..	..	23.62	39.24	..	..	..	62.86
2. Grant to State Social Welfare Board for assisting Social Welfare Institutions.	..	..	..	..	..	..	1.00	1.00	1.00	1.00	1.00	5.00
3. Supplementary nutrition in 4 New Integrated Child Development Service Scheme.	..	..	..	..	..	..	32.00	32.00	32.00	32.00	32.00	160.00
Total ..	242.50	190.59	..	..	227.86	..	56.62	72.24	33.00	33.00	33.00	2,27.86
<i>New Schemes.</i>												
1. Starting of 9,000 Pre-schools and running of 150 Pre-schools sanctioned during 1978-79.	..	..	21.06	735.70	756.76	..	52.46	102.30	152.14	201.98	247.88	756.76
Total ..	..	..	21.06	735.70	756.76	..	52.46	102.30	152.14	201.98	247.88	756.76
CORRECTIONAL ADMINISTRATION.	..	..	..	..	100.00	..	..	..	..	..	..	..

TABLE 30.1—cont.

Serial number and programme.	(RUPEES IN LAKHS)											
	Fifth Plan.		Five Year Plan, 1978-83.				Phasing of outlays for					Total.
	Approved outlay 1974-78.	Expenditure 1974-78.	Spill over.	New.	Total.	Capital.	1978-79 approved outlay.	1979-80.	1980-81.	1981-82.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I Central Sector—												
1 Training of Associated Women Workers.	0.81	0.46	1.35	..	1.35	..	0.27	0.27	0.27	0.27	0.27	1.35
II Centrally sponsored—												
1 Integrated Child Development Service Scheme.	19.44	24.51	60.15	84.00	144.15	..	12.03 20.00	12.03 16.00	12.03 16.00	12.03 16.00	12.03 12.00	60.15 80.00
Total ..	..	..	..	..	..	..	32.30	26.30	28.30	28.30	24.30	1,41.50
III Welfare of Handicapped State Plan.												
1 Placement of Physically Handicapped in Industries.	..	..	..	..	..	..	26.00	26.00	26.00	26.00	26.00	130.00
IV Welfare of Poor and Destitute. Centrally sponsored.—												
1 Programme for care of Destitute Children.	42.98	70.79	107.25	..	135.01	..	26.60	26.60	27.60	27.61	26.60	135.01
V. Nutrition— State Plan.												
1 Special Nutrition Programme.	..	119.50	..	100.00	100.00	..	..	11.50	20.50	29.50	38.50	100.00

TABLE 30-II.

Statement showing estimated level of non-plan component of expenditure reached at the end of 1977-78 and 1978-79

Social Welfare Sector

(RUPEES IN LAKHS)

Serial number and Programme.	Estimated committed level of expenditure (Non-plan) as on	
	1st April 1978.	1st April 1979.
	(2)	(3)
I. Direction and Administration (including training)	Nil.	Nil.
II. Family and Child Welfare :		
(a) <i>Women's Welfare</i> —		
(1) Service Homes in Districts	0.97	1.15
(2) Work Centres and Production Units	4.94	1.35
(3) Guidance Bureau	0.08	0.54
(4) Assistance to poor women for vocational training	0.12	1.50
(b) <i>Child Welfare</i> —		
(1) Starting of Integrated Family and Child Welfare Centres	18.64	7.36
(2) Training of untrained Balasevikas	1.17	0.64
(3) Supplementary Nutrition	4.13	26.93
III. Welfare of Handicapped—		
(1) Modern Training-cum-Production Workshop at Muttukadu	55.77	16.80
(2) Training of Women in Stree Seva Mandir	0.48	0.52
(3) Assistance to Welfare Institutions	3.03	0.65
(4) Rehabilitation Home for blind	0.01	1.36
IV. Correctional Administration	Does not relate to this Department.	
V. Welfare of Poor and Destitute—		
Assistance to Karunai Illam	5.40	0.01
VI. Grant-in-aid to Voluntary Institutions—		
Assistance to Voluntary Institutions	0.89	1.00
VII. Other Schemes—		
Tribal Sub-plan .. .. .	..	..
Total ..	95.63	59.86

TABLE 30-III—

Statement showing the achievements and proposed physical target—Social Welfare Sector.

Serial number and programme.	Unit.	Cumulative achievement at the end of Fourth Plan 1973-74.	Addition during Fifth Plan 1974-78.	Proposed target 1978-83.	1978-79.		Proposed phasing for				Remarks.
					Target fixed.	Likely achievement.	1979-80	1980-81	1981-82	1982-83	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I Direction and Administration .. .. .	..	..	..	..	..	..	..	..	..	..	..
II Family and Child Welfare—											
(a) Women's Welfare											
1. Service Homes in Districts	Nos.	Service Home.	1 Service Home.	1 Service Home.	1	1	..	..	..	..	..
2. Work Centres and Production Units ..	Do.	4 Work Centres and 3 Production Units.	2 Work Centres.	8	8	8	..	..	..	..	..
3. Sewing Machine	Do	Nil.	2,000 beneficiaries.	2,500	500	500	500	500	500	500	..
4. Saving Certificate for widows remarriage	Do.	..	236 beneficiaries	500	100	100	100	100	100	100	..
5. Assistance to School children of widows ..	Do.	..	..	15,000 children.	3,000	3,000	3,000	3,000	3,000	3,000	..
Centrally sponsored—											
6. Economic activity through Magalir Mandrams.	Central Sector.	656	132	15(£) 220(££)	15 44	15 44	.. 44	.. 44	.. 44	.. 44	..
7. Functional Literacy to adult women ..	Do.	9,000 beneficiaries	9,000 beneficiaries	..	..	..	..	..	..	..	..
8. Assistance to private organisation	Centrally sponsored.	..	..	400	80	80	80	80	80	80	40 women in each batch for 2 batch a year.
(£) Mahila Mandals. (££) Awards.											

(b) Child Welfare—

State Plan—

9. Social support scheme under World Bank Project.	..	..	30	170	70	70	100	..	..	..	Number of centres.
10. Grants to Social Welfare Board for assisting Social Welfare Institutions.	..	..	..	..	..	..	..	..	..	..	..
11. Supplementary Nutrition in 4 new I.C.D.S.S.	..	..	30,000	40,000	40,000	40,000	..	..	..	40,000	beneficiaries will continue till 1982-83.
12. Starting of 9,000 Pre-schools and running of 150 Pre-schools.	..	..	..	640,500	136,500	136,500	1,26,000	1,26,000	1,26,000	1,26,000	Children
13 Training of Associate Women Workers.	..	..	167	1,350	270	270	270	270	270	270	Convenors
14 Integrated Child Development Service Scheme.	..	..	300	700	400	400	..	..	..	700	Centres will continue till 1982-83.
III Welfare of Handicapped :—											
Placement of physically handicapped.	..	..	..	10,000	2,000	2,000	2,000	2,000	2,000	2,000	Beneficiaries
IV Correctional Administration.			Does not relate to this department.								
V Welfare of Poor and Destitute											
Programme for Care of Destitute children.	..	Centrally sponsored.	2,000	417	417	..	..	..	..	..	2,000 children were benefitted. During the current year in addition 417 will be benefitted.
VI Other Schemes—											
Tribal Sub-plan	..	..	49 Child Welfare Centres.	55	55	55	..	..	..	104	Child Welfare Centres will Continue till 1982-83.

TABLE 30-IV.

Statement showing the extent of estimated employment generation and flow of benefits to Scheduled Castes, Scheduled Tribes and other Backward Classes.

Serial number and programme.	Estimated employment generation.					Flow of benefits to			Remarks.	
	1978-79	1979-80	1980-81	1981-82	1982-83	Scheduled Castes.	Scheduled Tribes.	Other Backward Classes.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)		(9)	(10)
I. Direction and Administration										
II. Family and Child Welfare										
<i>State Plan.</i>										
1 Service Homes in Districts	18	..	..	..	..	..	..	..	..	..
2 Work Centres & Production Units	12	..	..	..	..	..	..	..	..	..
3 Sewing Machines .. .. .	..	..	..	..	..	..	..	..	..	..
4 Saving Certificates .. .. .	..	..	..	..	..	..	..	..	..	..
5 Assistance to School children of widows .. .. .	..	..	..	..	..	..	..	..	..	..
<i>Centrally sponsored.—</i>										
6 Economic activity through Magalir Mandrams .. .. .	..	..	..	..	..	..	..	..	..	..
7 Functional Literacy to adult women	3	..	..	..	..	..	..	..	..	..
8 Assistance to private organisations .. .. .	..	..	..	..	..	..	..	..	..	..
Child Welfare.										
<i>State Plan—</i>										
9 Social Support Scheme under World Bank Project	18 200	18 200	..	..	..	..	..	..	..	..
10 Grants to Social Welfare Board .. .. .	..	..	..	..	..	..	..	..	..	..
11 Supplementary Nutrition .. .. .	..	..	..	..	..	..	..	..	..	..
12 Starting of 9,000 Pre-Schools and running of 150 Pre-Schools	3,600	3,600	3,600	3,600	3,600*	..	..	..	..	..
Central Sector :										
13 Training of Associate Women Workers .. .. .	..	..	..	..	..	..	..	..	..	..

* 1 Balasevika and 1 Ayah

Centrally sponsored—

14 Integrated Child Development Service Scheme	44 } 600 }	60 } 800 }
--	---------------	---------------	----	----	----	----	----	----

III. Welfare of handicapped

State Plan—

15 Placement of Physically handicapped	2,000	2,000	2,000	2,000	2,000
--	-------	-------	-------	-------	-------	----	----

IV. Welfare of Poor and Destitute —

Centrally sponsored—

16. Programme for Care of Destitute children
--	----	----	----	----	----	----	----	----	----	----

V. Nutrition —

State Plan—

17. Special Nutrition Programme
---------------------------------------	----	----	----	----	----	----	----	----	----	----

VI. Tribal Areas Sub-Plan —

State Plan—

Opening of Pre-schools in Tribal Areas	110	110	110	110 *
--	----	-----	-----	-----	-------	----	----	----	----	----

* 1 Balasevika and 1 Ayah

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TABLE 30. V.

Statement showing outlay and expenditure in the Fifth Plan and proposed outlay for the Five-Year Plan 1978-1983—Nutrition sector.

(RUPEES IN LAKHS.)

Serial number and programme.	Fifth Plan.		Five-Year Plan 1978-1983.			Phasing of Outlays for.					
	Outlay approved 1974-78.	Expenditure 1974-78.	Spillover.	New.	Total.	1978-79. (Approved)	1979-80.	1980-81.	1981-82.	1982-83.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Midday Meals Programme	654.00*	48.66	..	..	..	22.00	36.00	36.00	36.00	40.00	..
2. Special Nutrition Programme :											
Plan .. ..	..	119.50	..	100.00	100.00	..	11.50	20.50	29.50	38.50	100.00
Non-Plan .. ..	..	212.73	..	..	..	..	..	..	..	..	..

* Minimum Needs Programme includes schemes relating to Kuzhandaigal Kappagams/Special Nutrition Programmes.

TABLE 30. VI

Statement showing estimated level of non-plan component of expenditure reached at the end of 1977-1978 and 1978-1979
(Nutrition sector).

(RUPEES IN LAKHS.)

<i>Serial number and Programme.</i>	<i>Estimated committed level of expenditure (Non-Plan) for 1974-1979 as on</i>	
	<i>1-4-1978.</i>	<i>1-4-1979.</i>
(1)	(2)	(3)
1 Midday Meals Programme	466.09	470.93
2 Special Nutrition Programme :		
(i) Pre-School children (0-6 years) } }	41.17	49.45
(ii) Pregnant and lactating mothers }		

TABLE 30. VII.
Statement showing achievement and proposed Physical Target (Nutrition).

Serial number and programme.	Cumulative achievement at the end of Fourth Plan, 1973-1974.	Additions during Fifth Plan, 1974-1978.	Target 1978-1983.	1978-1979.		Proposed phasing for 1979-1983.			
				Target.	Achievement.	1979-1980.	1980-1981.	1981-1982.	1982-1983.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Midday Meals Programme	18,00,000	1,60,000*	4,25,000	25,000	25,000	1,00,000	1,00,000	1,00,000	1,00,000
2 Special Nutrition Programme :									
(i) Pre-school children (0-6 years)	2,47,587	5,53,530	2,00,000	2,76,530	2,76,530	50,000	1,00,000	1,50,000	2,00,000
(ii) Pregnant and Nursing mothers	27,623	..	..	..	..	..	..	..	..

* This does not include 1.65 lakhs of pupils fed under the scheme of the Harijan Welfare Department.

TABLE 30. VIII.
Statement showing the extent of estimated employment generation and flow of benefits to Scheduled Castes, Scheduled Tribes and Other Backward Classes.

Serial number and programme.	Estimated employment generation.					Flow of benefits to		
	1978-79.	1979-80.	1980-81.	1981-82.	1982-83.	Scheduled Castes.	Scheduled Tribes.	Other Backward Classes.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Midday meals			Nil.			The entire benefit accrues to the weaker sections of Society consisting of Harijans and most Backward Classes.		
2 Special Nutrition Programme				NIL				

TABLE 30. IX.
Coverage achieved by the end of 1977-1978 (Nutrition).

Serial number and Programme.	Sector.	0-6 years.				6-11 years.			
		Urban.	Rural.	Tribal.	Total.	Urban.	Rural.	Tribal.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 Midday meals programme.	State .. .. .	..	..	..	..	..	..	..	..
2 Special Nutrition Programme.	State	1,06,893	1,32,382	13,570	2,52,845	Nil.	Nil.	Nil.	Nil.

TABLE 30. IX—cont.

Serial number and programme.	Pregnant and Nursing mothers.				Number of feeding centres.			
	Urban (11)	Rural (12)	Tribal (13)	Total (14)	Urban (15)	Rural (16)	Tribal (17)	Total (18)
1 Midday meals programme.	..	..	..	..	..	..	..	..
2 Special Nutrition Programme.	7,019	15,574	1,004	23,597	58	521	191	770

TABLE 30·X.

Statement showing the number of Blocks covered in Tribal and Drought prone Rural areas (Nutrition).

Serial number.	Name of the areas.	Total number of Blocks in the State.	Number of Blocks covered under Feeding programme by the end of 1977-78.	Serial number.	Number of cities with one lakh and above population.	Total number of eligible wards in the selected cities.	Number of wards covered
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A.	1 Tribal areas	374	21	B	17	1,372	343
	2 Drought prone rural areas		4				
	3 Blocks where Scheduled Castes are in sizeable numbers .. .		..		

TABLE 30·XI.

Proposed coverage in the next plan (1978-1983) (Nutrition).

Serial number and programme.	Number of beneficiaries proposed to be covered during 1978-83.											
	Urban.			Rural.			Tribal.			Total.		
	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.
(1)	(2)			(3)			(4)			(5)		
1 Midday meals programme (6-11 years).	Not Available											
2 Special Nutrition Programme.	Not Available											
(i) 0-6 years ..	Nil.											
(ii) Pregnant and Nursing mothers.	Nil.											

Serial number and Programme.	Number of beneficiaries proposed to be covered during 1978-1979.											
	Urban.			Rural.			Tribal.			Total.		
	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.	Scheduled Castes.	Scheduled Tribes.	Others.
(1)	(6)			(7)			(8)			(9)		
1 Midday meals programme (6-11 years).	Not Available.											
2 Special Nutrition Programme.	Not Available.											
(i) 0-6 years ..	Nil.											
(ii) Pregnant and Nursing mothers.	Nil.											

Chapter 31

EMPLOYMENT SERVICE, CRAFTSMEN TRAINING AND LABOUR WELFARE

31.0. The most challenging economic issue in Indian economy is the provision of full employment because human resources constitute precious and yet neglected means of development. In view of massive unemployment of the unskilled educated and other professional classes of people, this plan should have as its over-riding objective the reduction in the quantum of unemployment by about 60 to 70 per cent. A shelf of projects which we could keep in readiness should spell out monetary as well as physical components, to ensure productive employment to the unemployed matched by a cycle of increasing mass consumption of food and basic necessities and corresponding rise in real incomes. These are the instruments of full employment policy. Land reforms, organisation of peasants, participation of workers in industry, and the improvement of quality of relevant education at all levels would constitute action and research oriented projects and programmes to hasten the tempo of employment and appreciable reduction in the worst forms of poverty. This constitutes the best approach to employment planning.

31.1. Nevertheless the programmes given herein covering 9.76 crores are meant to serve the second best approach to the employment goals of doing

more in the existing pattern of Government administration-oriented activities. We should herald a new era of re-deployment of the plan and non-plan outlays to serve the most important goal of full employment.

EMPLOYMENT SERVICE.

Performance during the Fifth Plan

31.2. Under the National Employment Service Scheme there are in Tamil Nadu, 31 Employment offices including 9 sub-employment offices at Dindigul, Erode, Kancheepuram, Ambattur, Nagapattinam, Tuticorin, Mandapam, Sankarapuram and Alangayam and 2 special employment offices at Madras, one for professional and executive standard employment seekers, and the other for physically handicapped and, 3 University Employment Information and Guidance Bureaux at Madras, Madurai and Annamalainagar. The total number of job seekers in Tamil Nadu on the live register of employment exchanges seeking assistance was, 9,37,345 persons as on 31st March 1978 of which 4,15,126 persons or 45 percent belong to rural areas. The number of applicants on the live register belonging to Scheduled castes and Scheduled Tribes was 1,30,908 and 2,566 respectively.

Approach to the Plan 1978-83

31.3. Employment service is confronted by two problems. One is inadequacy of staff to cope with the ever increasing size of job seekers calling at the employment offices. The second is the inadequacy of job opportunities in the area labour markets to satisfy job seekers. There is also the need to cover adequately the rural areas. Keeping these broad requirements in view, it is necessary to provide sufficient employment services in the plan period 1978-83.

Plan for 1978-83

The following are the schemes proposed for implementation during 1978-83 :—

Establishment of Sub-Employment office in districts

31.4. At present eight sub-employment offices are effectively serving the rural population. 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 of nearest employment exchange, etc. It is therefore, necessary to open 8 more sub-employment offices to serve the rural areas. The sub-employment offices may be located at Dharapuram of Coimbatore district, Periyakulam of Madurai district, Pattukkottai of Thanjavur district, Arkonam of North Arcot district, Gudalur in Nilgiris district, Mettur in Salem district, Paramakudi in Ramanathapuram district and Hosur in Dharmapuri district. The decision to open sub-employment offices in these districts is dictated by the large number of persons on the live register of these district employment offices. The scheme envisages the appointment of suitable staff to man the sub-employment offices at a total cost of Rs. 0.19 crore for the plan period.

Creation of separate Employment office for technical categories in the districts of Coimbatore, Madurai, Tiruchirappalli, Salem, Chingleput and North Arcot

31.5. To meet the increased demand for employment assistance following the development of Industries in Tamil Nadu during the fifties and sixties, Employment Exchanges for special kinds of job seekers were created in Madras city. Five separate offices were established in Madras city for technically qualified persons and for other unskilled

clerical categories and for physically handicapped. Similar trends are now noticed in some of the major district headquarters where the demand from special kinds of job seekers has increased during the past few years. Therefore a separate district employment office to deal exclusively with technical categories in these districts is proposed to be established in the districts of Coimbatore, Madurai, Tiruchirappalli, Salem, Chingleput and North Arcot during the plan period. Adult education and continuing education programmes would be co-ordinated to make teachers on live employment registers employable. Under the scheme suitable staff are proposed to be appointed at a total cost of Rs. 0.31 crore for five years.

Creation of Mobile Vocational Units

31.6. In Tamil Nadu 12 Vocational Guidance Units are existing in 12 districts. Most of the guidance activities could not be undertaken fully in the past by a single vocational office in a district due to lack of facilities. It is proposed to establish Mobile Vocational Guidance Units one each in five zones, viz., Madras, Madurai, Coimbatore, Nagercoil and Thanjavur with suitable staff, projector and mini van. The Mobile Unit can visit each and every school in a planned manner and the rural student population will benefit by the vocational guidance programme. The cost of the scheme will be Rs. 0.13 crore.

Setting up of Printing Press for handicapped persons

31.7. There are at present 9,054 handicapped persons on the live register of employment exchanges awaiting employment assistance. It is proposed to set up a Printing Press (training-cum-production unit) under the control of the State Board for handicapped at Madras to train 13 handicapped persons initially in proof-reading, composing, machine mending, etc., and after completion of the training courses the Printing Press Training Centre will be converted as a full fledged Printing Press. The cost of the scheme will be Rs 0.11 crore.

Opening of Zonal Employment Offices for special vocational guidance and placement of the physically handicapped persons

31.8. Rehabilitation of physically handicapped candidates should be an integrated measure to cover the three aspects of rehabilitation work, i.e., job training, placement and follow up action after

placement. The present arrangement for dealing with the handicapped persons in the District Employment Office is not adequate. In order to have an integrated approach to the placements of the physically handicapped persons, four special employment offices to cover all the districts in the State will be established during the plan period. The zonal offices will be formed at suitable centres taking into consideration the district live register strength of the physically handicapped applicants. A sum of Rs. 0.17 crore has been provided for this purpose.

Establishment of a Self-employment Cell

31.9. The problem of educated unemployed is assuming serious proportions. The amount of investment in education and training might become wasteful if job opportunities consistent with their academic and technical qualifications are not provided. The absorption capacity in Government departments, public and private enterprises at present is very little compared to the large number of unemployed persons. It is necessary to promote self-employment opportunities among the educated job seekers. A separate cell in the Directorate could promote self-employment schemes offered by various agencies. The cost of the scheme will be Rs. 0.04 crore.

A Special Cell for Scheduled Caste/Scheduled Tribes

31.10. With a view to improve the position in regard to filling up of reserved vacancies only by reserved communities and for uplifting the Scheduled Caste/Scheduled Tribes economically and socially, it is proposed to set up a special Cell in the Directorate. The cost of the scheme is Rs. 0.04 crore.

Other Programmes

31.11. The details of other Programmes are given below:—

	<i>Outlay.</i> (RUPEES IN LAKHS.)
(a) Creation of the post of Senior Accounts Officer with supporting staff for employment wing.	2.70
(b) Strengthening of University Employment Information and Guidance Bureaux at Madras and Madurai and Annamalai Nagar with one post of Assistant in each	1.07

	<i>Outlay.</i> (RUPEES IN LAKHS.)
(c) Purchase of vehicles for major District Employment Officers..	8.90
(d) Setting up of vocational guidance units in the District Employment Offices at Nilgiris, Pudukkottai and Krishnagiri	7.85
(e) Setting up of employment machinery for the employment exchanges (compulsory notification of vacancies), (Act, 1959) in Tamil Nadu	12.31
(f) Research and development—Setting up of State Career Study Centre for job development and career study. Action and Research programmes and continuous analysis of unemployment data.	12.66
Total ..	45.49
	<i>or</i> 0.45
	CRORES

Outlay

31.12. The total outlay on schemes for improvement of Employment Services in Tamil Nadu during the plan period is Rs. 1.43 crores.

CRAFTSMEN TRAINING.

31.13. To meet the growing demand for technically trained craftsmen by the industry, Industrial Training Institutes were set up in Tamil Nadu during the Plan periods. These Training Institutes form the backbone of the Craftsmen Training Programmes. In order to make the training effective, workshop conditions have been reproduced in these Industrial Training Institutes.

Performance during the Fifth Plan period

Training Programmes.

31.14. At the end of 1977-78, there were 31 Industrial Training Institutes for boys and girls and one Industrial Training Centre exclusively for women in Tamil Nadu. The annual intake in the 32 Government Industrial Training Institutes is 6799. The average annual out-turn from these institutes is 6180. 12,512 trainees are undergoing training in these institutions at the end of 1977-78, of which 2,278 were Scheduled Caste/Scheduled Tribe trainees and 289 were women. Training is given in 29 engineering trades and six non-engineering trades.

31.15. Tamil Nadu has made a commendable progress in implementing the Industrial Training Institutes Programme. At the beginning of the second five year plan there were 6 Industrial Training Institutes with 768 seats. At the end of the second Plan the number of Institutions increased to 10 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 period there were 30 Industrial Training Institutions with a total sanctioned seating capacity of 9,592.

31.16. 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.

31.17. During the Fifth Plan period, a unit with 32 seats has been started at the Instronic campus, Adyar to meet the growing demand in the trade of Mechanic (General engineering). Thus by the end of 1977-78 the seating capacity in all these institutes was 13,128.

Unemployment of Craftsmen :

31.18. Unemployment among craftsmen has been growing in Tamil Nadu. This growing unemployment is the result of a lack of coordination between the employment agencies and the Industries. Unemployment of craftsmen is not peculiar to Tamil Nadu alone but there are large number of unemployed craftsmen in Madhya Pradesh, Punjab, Kerala and Andhra Pradesh also. Unemployment among men in trades like Welder, Fitter, Turner, Wireman, Motor Mechanic, Sheet metal worker, Carpenter, Moulder and Electrician was heavy. The number of unemployed craftsmen in Tamil Nadu is 26,809.

31.19. As employability improves with acquisition of skills it may be necessary to impart fresh skills to the unemployed craftsmen to enable them to find employment in the newly emerging industries in Tamil Nadu as also to prevent migration of skills to neighbouring States.

Approach to the Plan 1978-83:

31.20. Industrial growth is largely dependent on the availability of skills. It is estimated that at the end of 1982-83, there might be demand of 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 at the end of 1982-83. In order to meet the anticipated demand for craftsmen and to build up skills in Tamil Nadu, the following schemes have been formulated for implementation during the plan period 1978-83.

Plan proposals for 1978-83:

31.21. *Starting of new Industrial Training Institutes.*—(i) *Dharmapuri*—As there is only one Industrial Training Institute in Dharmapuri District now located at Hosur, it is proposed to start another Industrial Training Institute at Dharmapuri to cater to the Southern Taluks of the District. The new Industrial Training Institute at Dharmapuri will be started at a cost of Rs. 0.46 crore and it will have 264 seats.

(ii) *Madurai*.—As there is only one Industrial Training Institute for women now in Madras with a total sanctioned strength of 256 seats, it is proposed to start a new Industrial Training Institute exclusively for women at Madurai with a capacity of 250 seats. The cost of the scheme is Rs. 0.41 crore.

(iii) *Nilgiris*.—In the present Industrial Training Institute at Coonoor, tribal boys do not join in adequate strength, perhaps, due to its location. It is, therefore, proposed to start another small Industrial Training Institute at Gudalur at a cost of Rs. 0.15 crore.

Construction of permanent Hostel building for 5 Industrial Training Institutes

31.22. Out of a total of 31 Industrial Training Institutes and one Industrial Training Unit in Tamil Nadu, 24 Industrial Training Institutes have been provided with permanent hostel buildings. Two Industrial Training Institutes have been provided with hostel accommodation in rented buildings and one institute does not require hostel building. Hostel accommodation is to be provided to one third of the total sanctioned

seats of the respective Industrial Training Institutes. Permanent hostel buildings to accommodate the trainees in the 5 Industrial Training Institutes at Erode, Karaikudi, Pudukkottai, Tuticorin and Theni are proposed to be built. The total cost of the scheme is Rs. 0.30 crore at the rate of Rs. 0.06 crore for one Industrial Training Institute.

Diversification of trades in Industrial Training Institutes

31.23. The scheme contemplates the abolition of less popular trades and introduction of new and more employable trades in their places to satisfy the needs of rural as well as small scale industries. So far, 768 seats have been diversified in 16 Industrial Training Institutes in Tamil Nadu since 1970. During the Plan period 1978-83, it is proposed to diversify 192 seats in 6 Industrial Training Institutes.

31.24. The total cost of the scheme is Rs. 0.25 crore, of which Rs. 0.06 crore is for buildings and Rs. 0.19 crore is for purchase of tools, equipment and furniture.

Replacement of equipment in the Industrial Training Institutes

31.25. Some of the machinery 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 worn out machinery for various engineering trades at a cost of Rs. 0.25 crore.

Development of Audio-visual aids in various Industrial Training Institutes

31.26. At present, facilities for Audio-visual aids are available only in two Industrial Training Institutes, at Ambattur and at Madurai. The two cinema operators attached to these institutes have to arrange film shows in the other Industrial Training Institutes in their jurisdiction and the frequency of such film shows is limited. It is proposed to provide 16 mm. projectors in 8 District Headquarters Industrial Training Institutes at Coimbatore, Virudhunagar, Salem, Tiruchirappalli, Pettai (Tirunelveli), Thanjavur, Vellore and Cuddalore. It is also proposed to supply one film strip-cum-slide projector and one Epidiascope to all the 31 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. The total cost of the scheme is Rs. 0.66 crore. The scheme would generate employment for 8 cinema operators.

Introduction of Additional seats in 2 Industrial Training Institutes

31.27. During the plan period, it is proposed to introduce 48 additional seats in the two existing Industrial Training Institutes, viz., Vellore and Theni. As there are a number of Tanneries in North Arcot district and as there is good demand for leather group of trades, a new non-engineering trade, viz., manufacture of suit cases and other leather goods will be introduced in the Industrial Training Institute at Vellore with a capacity of 16 seats.

31.28. A new trade 'farm mechanic' is proposed to be introduced in the Industrial Training Institute at Theni with a capacity of 32 seats. There is lot of scope for employees under this trade, as there are 15,000 tractors and a good number of other agricultural implements. This trade is also proposed to be introduced in two other Industrial Training Institutes under the scheme for diversification of trades. The total cost of the scheme is Rs. 0.06 crore.

Curriculum Development Cell

31.29. A Cell to advise changes 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. The Cell will also study the impact of technological innovation on vocational training. The total cost of the scheme is Rs. 0.07 crore.

Production Centres

31.30. It is proposed to start production centres in 3 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. Consumer articles like steel chairs, can be manufactured. Articles produced or service rendered will be charged at 20 per cent of the cost of materials plus labour charges of Rs. 5 per day.

The total cost of the scheme is Rs. 0.05 crore at the rate of Rs. 1 lakh per year for the 3 centres.

Deputation of Craft Instructors

31-31. The total number of craft instructors available in all the 31 Industrial Training Institutes/Centres is 861 including 30 diploma holders and 831 N.T.C. and N.A.C. holders.

These craft instructors have necessary skill, competency and experience, but lack the art of transferring their skills to the trainees and also the art of presentation of related instruction to the trainees.

31-32. During the plan period, the instructors will be deputed for refresher training and short term training once in two years. The total cost of the scheme is Rs. 0.05 crore at the rate of Rs. 1 lakh per year.

Scheme for evening classes for Industrial workers

31-33. At present training is given at the 5 Industrial Training Institutes at North Madras, Guindy, Coimbatore, Madurai and Ambattur in Tamil Nadu with a sanctioned strength of 1,050 seats in the trades like welding, instrument mechanic, draughts men (Civil), and fitter, etc.

31-34. During the plan period, it is proposed to expand this scheme to two more centres viz, the Industrial Training Centre, Tiruchy and Industrial Training Centre, Mettur to train 150 trainees at each centre in the trades of fitter, welder, wireman, electrician and instrument mechanic.

The total cost of scheme is Rs. 0.04 crore.

Apprentice Training Schemes

31-35. 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 institutions during the apprenticeship training.

31-36. 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 instructions imparted to the apprentices by relieving the congestion in the existing Related Instruction Centres. It is, therefore, proposed to implement suitable schemes during the Plan period at a cost of Rs. 0.28 crore.

The Outlay

31-37. The estimated expenditure towards the proposed schemes under Craftsmen Training and Apprentice Training Scheme during the period 1978-83 is Rs. 2.43 crores as detailed below :—

TABLE 31-1.

Serial number and Title of the Scheme.	Approximate cost for Plan Period.
(1)	(2)
	(RUPEES IN LAKHS.)
1. Starting of new Industrial Training Institutes at Dharmapuri, Madurai and Gudalur.	100.00
2. Construction of permanent hostel buildings for 5 Industrial Training Institutes.	30.00
3. Diversification of trades in 6 existing Industrial Training Institutes.	25.00
4. Replacement of old machinery . .	25.00
5. Development of Audio-visual aids in the Industrial Training Institutes.	6.65
6. Introduction of additional seats in 2 existing Industrial Training Institutes.	6.00
7. Formation of curriculam Development Cell in the Directorate.	7.00
8. Starting of Production Centres in 3 Industrial Training Institutes.	5.00
9. Deputation of craft instructors for Central Training Institutes.	5.00
10. Starting of evening classes for Industrial Workers in 2 Industrial Training Institutes.	4.00
11. Apprenticeship Training Scheme.	28.00
12. Research and Development for Industrial Training.	2.34
Total ..	243.99
OR	2.43
	crores.

LABOUR WELFARE PROGRAMMES.

Review of the Fifth Plan

31.38. The Fifth Plan provision for labour and labour welfare was Rs. 2,04.00 lakhs. A sum of Rs. 1,80.63 lakhs or 88.5 per cent has been spent for labour and labour welfare including training and employment during the period from 1974-75 to 1977-78. Of the total expenditure (Rs. 1,80.63 lakhs), a sum of Rs. 4.64 lakhs and Rs. 1,75.99 lakhs have been spent for Labour and Training and Employment respectively, during the period under review.

31.39. To prevent occupational diseases, the Government have set up a combined Industrial Health and Hygiene Unit and laboratory in the State Factory Inspectorate. A sum of Rs. 2.64 lakhs has been spent for this scheme during the period from 1974-75 to 1977-78 to improve the working conditions and safety of the labourers. At the end of 1977, there were 412 plantations employing 92,141 workers. At present there are 601 Trade Mark Owners having 1,775 industrial premises in Tamil Nadu. About 15,631 workers were employed in the industrial premises during 1977. Over one lakh of workers are employed as home workers in the Beedi Rolling Industry.

31.40. During the year 1977-78, Government have fixed/revised the minimum rates of wages for (1) Employment in Cinemas, (2) Employment under any local Authority, (3) Employment in Bricks and Tile Manufactory, (4) Employment in Match and Fire Works Manufactory, (5) Employment in Sago Industry, and (6) Employment in Salt Pans. During the earlier years, the Government have fixed/revised the minimum wages for employment in agriculture, snuff and tobacco manufacturing industry, road construction, flour and rice mills, stone crushing, plantation, hotels and restaurant. Proposals for constitution of Minimum Wages Advisory Committee for fixation/revision of minimum wages for other types of employment were 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 48 employments including plantations.

31.41. The Employees, State Insurance Scheme is now in force in all the districts in the State except Dharmapuri and the Nilgiris District. At

the end of 1977-78, this scheme was in operation in 44 areas covering 4,50,000 employees. At the end of 1977-78, three Employees' State Insurance Hospitals in Madras, Madurai and Coimbatore and 104 Employees, State Insurance Dispensaries 9 Mobile Dispensaries, 3 Utilisation Dispensaries and 2 Part-time Dispensaries are functioning in the State. An Employees' State Insurance Hospital at K.K. Nagar, Madras is also functioning from April, 1977 with 206 beds.

31.42. An amount of Rs. 36.87 lakhs has been spent for the Subsidised Industrial Housing Scheme during the period 1974-75 to 1977-78. In Tamil Nadu at the end of 1977-78, about 94 per cent of resident plantation workers have been provided with housing accommodation.

31.43. Workers' Education Scheme of the Government of India is being implemented in three Centres in Tamil Nadu, viz., Madras, Madurai and Coimbatore. The number of worker-teachers and workers trained at the end of 1977-78 was 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 Manrams 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 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, 21,103 beneficiaries are covered by this scheme.

The Plan —1978-83

31.46. The new plan lays emphasis on the following:

(1) Effective implementation of the Minimum Wages Act and Equal Remuneration Act ;

(2) Streamlining the industrial relations machinery at the State level :

(3) Preventing exploitation of child labour and enforcement of the provisions of the Employment of Children Act, particularly in the context of the international children's year to be celebrated in 1979 ;

(4) Extension and Co-ordination of activities in the field of functional literacy for workers in the age group 15-35;

(5) Strengthening or setting up of safety cells, appointing safety officers and granting safety awards with a view to creating safety consciousness and sufficient knowledge on safety measures among the workers;

(6) Feasibility of extension of social security measures gradually to the un-organised rural and urban labour;

(7) giving adequate publicity regarding important settlements effected under the Industrial Disputes Act, new provisions included in the existing labour laws or provisions made in any new legislation.

The Plan Proposals — 1978-83

Industrial disputes legislation

31.47. The Industrial Disputes Act, 1947 envisages collective bargaining and contract between union representing the workmen and the management, a matter which is outside the realm of the common law or the Indian Law of contract. If the disputes are so allowed to escalate, strike or/and lock-out would follow resulting in loss of production and the concomitant economic recession and unnecessary suffering to workers themselves. So far as Tamil Nadu is concerned the number of disputes pending with the conciliation officers is too many, since the trade unions are well informed and employers are enlightened. In this context, it could be seen that the Deputy Commissioners of Labour who are regional conciliation officers have multifarious functions, because they are also the appellate authorities under various Acts like the Tamil Nadu Shops and Establishments Act, Equal Remuneration Act, etc., and they are also regional controlling officers administering labour laws. It is felt that some of these officers should be divested of all other duties and should be made to be exclusively in-charge of settling the industrial disputes only. It is proposed to create five posts of Deputy Commissioners of Labour during this plan period, to deal with industrial disputes only. It is also proposed to upgrade the posts of labour Officers in the five circles in Madras, Madurai and Coimbatore cities to the level of Assistant Commissioners of Labour

and to create five more posts of Labour Officers in the industrially concentrated areas like Madras City, Madurai, Tiruchirappalli and Coimbatore. Apart from the above, there is also a pressing need for the creation of one more post of Joint Commissioner of Labour in the headquarters office, because the present Joint Commissioner of Labour is over-worked as he has to attend to heavy administrative work as well as conciliation work. The financial implications involved in these proposals is Rs. 9.10 lakhs per annum.

Wages Legislation

31.48. Of all the labour laws that crowd the columns of the statute book, the most momentous one is easily the Minimum Wages Act. The object of the Act is that if on account of the absence or weakness of the organisation among the workers in a trade or sector if the wages are low compared with better organised workers or with the general level of workers, minimum wages should be fixed with a view to bringing the lowest wages with the general level for similar work. It is felt necessary to have a separate enforcement machinery for the enforcement of the Minimum Wages Act and also the Equal Remuneration Act. In this connection, it is proposed to appoint during this plan period 120 Deputy Inspectors of Labour and 12 Inspectors of Labour with the necessary supporting staff. The financial implications of this scheme will be Rs. 34.28 lakhs per annum.

Rural Labour Welfare measures

31.49. Although, various labour laws have been enacted especially after independence, all of them give protection only to industrial workers. The rural workers who constitute the overwhelming majority of the working population in India have not so far been paid the attention due to them. The main draw back on the part of the rural workers which hinders their uplift is their ignorance and illiteracy. It is, therefore, necessary to formulate schemes for workers, education in rural sector, embracing relief from indebtedness, enlightenment on minimum wages legislation and employment within their own sphere of activities. The Central Board of Education has only a modest scheme of workers' education. It is felt that a time has come for the State Government to step into formulate their own scheme for rural

workers' education. There are 48 Revenue divisions in Tamil Nadu and three worker-teachers are proposed to be appointed for each Revenue Division. A workers' education officer for each district will also be appointed to supervise the work of worker-teachers. In implementing the scheme, the assistance and co-operation of all the Revenue Officials and the rural development workers will be enlisted. The expenditure on these schemes works out to Rs. 30.65 lakhs per annum.

Creation of workers' awareness of rights and duties

31-50. Unless adequate awareness of the conditions of labour are provided for, the labour community may lose sight of the privileges and rights available to them. It is, therefore, necessary that concrete and suitable measures are taken for the wide publicity of the activities of the Labour Department which benefits the working class and others connected with labour. To make a modest beginning, it is proposed to appoint a publicity Officer in each office of the five Deputy Commissioners of Labour with supporting stenotypists for each. In the head-quarters office, it is proposed to upgrade the existing Public Relations Officer to the cadre of Assistant Commissioner of Labour. The cost of this scheme would come to Rs. 1.20 lakhs per annum.

Safety Cell

31-51. In the year 1978, there have been 18 fatal and 15,163 non-fatal accidents upto 30th June 1978 which are higher than the figures corresponding to the same period of the previous year. At present the Factory Inspectorate consists of 23 Inspectors of Factories and 17 Assistant Inspectors as Field Officers and they are enforcing the Factories Act and eight other labour enactments in 8,618 factories as on 30th June 1978. At present each inspector inspects on an average 215 factories. The Factories Act has been recently amended by Act 94 of 1976 and the section 91-A authorises occupational and health surveys including examination and testing of plant and machinery and collection of samples and other data relevant to the survey. This requires a team of Officers. The cell will conduct the safety surveys in all factories where there is high incidence of accidents and it will be situated in Madras City and work under the administrative control of the Joint Chief Inspector of Factories. The total cost involved in setting up of this Safety Cell will be Rs. 19.01 lakhs for the entire five year period 1978-83.

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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 2,55,113 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 to ensure the total health care programme to cover all the workers under various establishments and create a healthy and safe working environment. It will necessitate the establishment of industrial hygiene units depending upon the concentration of industries.

31-53. As the extension of the Employees' State Insurance Scheme to the unorganised sectors like beedi rolling and handloom weaving would be a difficult proposition, it is proposed to provide mobile medical service to the workers engaged in the beedi rolling trade alone with miniature X-ray units, exclusively for the welfare of the beedi and cigar workers. The total cost for extending health care to workers through mobile miniature X-ray units, creche units and industrial hygiene units comes to Rs. 194.05 lakhs for the entire five year period 1978-83.

The Outlay

31-54. The estimated expenditure towards the proposed schemes under "Labour Welfare" during the period 1978-83 is Rs. 5.89 crores as detailed below.

TABLE 31.2.

<i>Serial number and title of the scheme.</i>	<i>Approximate cost for plan period.</i>
(1)	(2)
	(RUPEES IN LAKHS.)
1 Strengthening of industrial disputes machinery	45.50
2 Separate machinery for enforcement of Minimum Wages legislation	171.40
3 Workers' education scheme	138.25
4 Creation of workers' awareness of their rights and duties	6.00
5 Safety Cell	19.01
6 Health Care of Workers	194.05
7 Research and development in factory legislation, law, economics of labour welfare, ergonomics and cognate issues.	15.00
Total ..	589.21

OR : Rs. 5.89. Crores.

TABLE 31.I.
Draft Plan 1978—83 : Tamil Nadu Craftsmen Training and Labour Welfare—Schemewise and Yearwise Phasing of Outlays (Financial.)

Serial number and scheme.	1974—78.				1978—83.			
	Total expenditure.	Capital Expenditure.		Foreign assistance component in the total.	Total outlay.	Capital outlay.		Foreign assistance component in the total.
		Buildings.	Equipment.			Buildings.	Equipment.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Craftsmen Training	91.68	38.17	46.68	..	214.99	70.48	97.49	..
1.								
2.								
3.								
II. Apprenticeship Training	6.47	0.43	1.24	..	28.00	12.58	1.18	..
1.								
2.								
3.								
III. Employment Service	20.18	..	..	..	143.00	..	11.92	..
1.								
2.								
3.								
IV. Labour Welfare .. .. .	..	..	..	..	589.21	21.40	33.80	..
1.								
2.								
3.								

TABLE 31.I—cont.
Draft Plan 1978—83 : Tamil Nadu Craftsmen Training and Labour Welfare—Schemewise and Yearwise Phasing of Outlays (Financial)—cont.

Serial number and scheme.	1978—79.				1979—80.				1980—81.			
	Total outlay.	Approved outlay capital outlay.		Foreign assistance component in the total.	Total outlay.	Capital outlay.		Foreign assistance component in the total.	Total outlay.	Capital outlay.		Foreign assistance component in the total.
		Buildings.	Equipment.			Buildings.	Equipment.			Buildings.	Equipment.	
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	
I. Craftsmen Training	29.15	4.65	17.31	..	29.60	7.00	20.76	..	79.95	27.02	15.26	..
1.												
2.												
3.												
II. Apprenticeship Training	4.20	41	1.00	..	4.00	1.02	0.51	..	4.67	2.03	0.32	..
1.												
2.												
3.												
III. Employment Service	49.26	..	11.92	..	24.15	..	..	..	23.59	..	..	..
1.												
2.												
3.												
IV. Labour Welfare	145.48	21.40	33.80	..	96.57	..	..	..	101.57	..	..	..
1.												
2.												
3.												

TABLE 31. I—cont.

Draft Plan 1978—83 : Tamil Nadu—Craftsmen Training and Labour Welfare—Schemewise and Yearwise Phasing of outlays (Financial)—cont.

Serial number and scheme.	1981-82.				1982-83.				If the scheme is spillover from the Fifth Plan indicate (S) against such scheme in this column.	Remarks.
	Total outlay.	Capital outlay.		Foreign assistance component in the total.	Total outlay.	Capital outlay.		Foreign assistance component in the total		
		Building.	Equipment.			Building.	Equipment.			
(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	
I. Craftsmen Training	49.55	12.00	13.50	..	26.74	5.58	7.50	..	..
1.										
2.										
3.										
II. Apprenticeship Training	4.19	1.02	0.17	..	10.94	8.51	0.18	..	..
1.										
2.										
3.										
III. Employment Services	23.00	..	..	..	23.00	..	..	..	..
1.										
2.										
3.										
IV. Labour Welfare	116.57	..	..	..	127.72	..	..	..	..
1.										
2.										
3.										

TABLE 31-II.
DRAFT PLAN 1978-83 : TAMIL NADU—CRAFTSMAN TRAINING AND LABOUR WELFARE
(PHYSICAL).

Serial number and particulars.	Position as at the end of March 31, 1978.	Likely position as at the end of March 31, each Year.					Remarks.
		1979	1980	1981	1982	1983	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. Craftsmen Training—							
1. Number of Industrial Training Institutes (I.T.I.s)	32	32	33	34	35	35	
2. Seating Capacity	13,128	13,144	13,192	13,416	13,744	13,808	
3. Number of persons undergoing training—							
(a) Total	12,512	13,144	13,192	13,416	13,744	13,803	
(b) Scheduled Castes/Scheduled Tribes	2,278	2,366	2,375	2,415	2,474	2,485	
(c) Women	289	280	280	472	536	536	
II. Apprenticeship Training—							
1. Training places located	9,537	10,000	10,500	11,000	11,500	12,000	
2. Apprentices under-going training —							
(a) Total	9,876	10,000	10,500	11,000	11,500	12,000	
(b) Scheduled Castes	1,587	1,666	1,750	1,833	1,916	2,000	
Scheduled Tribes	4	500	525	550	575	600	
(c) Women	281	..	..	..	..	..
(d) ITI Trained	5,920	..	..	..	..	..
III. Employment Service —							
1. Number of Employment Exchanges—							
(a) In urban areas	33	36	56	56	56	56	
(b) In rural areas	9	10	18	18	18	18	
(c) University Employment Information and Guidance Bureau	3	3	3	3	3	3	
(d) For Physically handicapped..	3	5	11	11	11	11	
2. Number of applicants on Live Registers of Employment Exchanges—							
(a) Total	9,37,345	..	..	..	..	..	Live register figure for the years 1978-83 cannot be assessed now.
(b) ITI trained craftsmen—							
(i) Total	32,430	..	..	..	..	..
(ii) Registered for two years or more	NA.	..	..	..	..	..
(c) Trained Apprentices—							
(i) Total	2,412	..	..	..	..	..
(ii) Registered for two years or more	NA.	..	..	..	..	..
(d) Scheduled Castes	1,30,908	..	..	..	..	..
Scheduled Tribes	2,566	..	..	..	..	..
(e) Women	1,93,480	..	..	..	..	..
IV. Labour Welfare—							
1. Number of Labour Welfare Centres							
	10	1	..	..	..	..
2. Bonded Labour—							
(a) Located.. .. .							
(b) Freed							Not available.
(c) Rehabilitated							

TABLE 31.III

Employment likely to be generated in the General Sector during the next Five-Year Plan, 1978-83

TAMIL NADU.

(for direct employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING (EMPLOYMENT WING).

1. Project/Scheme/ Programme.	Setting up of Printing Press (Training-cum-Production Unit) for Physically Handicapped persons.	
2. Financial outlay for the project (in lakhs) for the next plan as a whole ..	Rs. 10.64 lakhs.	
3. Expenditure likely to be incurred—		
1978-79 ..	Rs. 3.00 lakhs.	
1979-80 ..	Rs. 1.91 lakhs.	
1980-81 ..	Rs. 1.91 lakhs.	
1981-82 ..	Rs. 1.91 lakhs.	
1982-83 ..	Rs. 1.91 lakhs.	
Employment potential of the Scheme/Project—		
A. Total ..	25	
B. Yearwise (i) 1978-79	5	
(ii) 1979-80	20	
(iii) 1980-81	..	
(iv) 1981-82	..	
(v) 1982-83	..	
(a) Unskilled or uneducated :		
(b) Educated (i) Technical	22	
(ii) Non-Technical	3	

TABLE 31.III-A.

Employment likely to be generated in the Co-operative Sector during the next Five-Year Plan 1978-1983 : Tamil Nadu.

(Direct employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING

(EMPLOYMENT WING)

1. Project/Scheme/ Programme.	Establishment of Workshops-cum-Weaving Co-operative for the Blind.
----------------------------------	--

2. Financial outlay for the project (in lakhs) for the next plan as a whole .. Rs. 5.57 lakhs.

3. Expenditure likely to be incurred—	
1978-79 ..	Rs. 1.85 lakhs.
1979-80 ..	Rs. 1.60 lakhs.
1980-81 ..	Rs. 1.22 lakhs.
1981-82 ..	Rs. 0.45 lakh.
1982-83 ..	Rs. 0.45 lakh.

4. Employment potential of the Scheme/Project—

A. Total ..	13
B. Year-wise—	
(i) 1978-79	8
(ii) 1979-80	..
(iii) 1980-81	125 (120 trained Blind employees as members).
(iv) 1981-82	..
(v) 1982-83	..
(a) Unskilled or uneducated	5
(b) Educated (i) Technical	125
(ii) Non-Technical	3

TABLE 31.III-B.

Employment likely to be generated in General Sector during the next Five-Year Plan 1978-83 indirectly towards expansion of the Department by implementation of VI Plan Schemes since Employment Service is a Service Department (Staff oriented).

(Indirect employment only)

DEPARTMENT OF EMPLOYMENT AND TRAINING.
(EMPLOYMENT WING), TAMIL NADU.

1. Projects/Schemes/ Programmes.	Vide list of Schemes given Table 31-IV.
2. Financial outlay for the projects/schemes / Programmes (in lakhs) for the next plan as a whole	Rs. 132.15 lakhs.

3. Expenditure likely to be incurred—

1978-79	.. ..	Rs. 36.59	lakhs.
1979-80	.. ..	Rs. 23.89	lakhs.
1980-81	.. ..	Rs. 23.89	lakhs.
1981-82	.. ..	Rs. 23.89	lakhs.
1982-83	.. ..	Rs. 23.89	lakhs.

4. Employment potential of the Schemes/Projects—

A. Total	.. ..	335
B. Year-wise		
(i) 1978-79	.. ..	335
(ii) 1979-80	.. ..	..
(iii) 1980-81	.. ..	..
(iv) 1981-82	.. ..	..
(v) 1982-83	.. ..	..
(a) Unskilled or uneducated	.. ..	100
(b) Educated—(i) Technical	.. ..	26
(ii) Non-Technical	.. ..	209

<i>Serial number and name of the Scheme.</i>	<i>Outlay (Rs. in lakhs).</i>	<i>Indirect employment (Number of persons).</i>
(1)	(2)	(3)
5 Creation of the post of Senior Accounts Officer with supporting staff for Employment Wing	2.70	7
6 Supply of Vehicles (2 wheels Diesel Jeeps) to major District Employment Offices.	8.90	10
7 Setting up of a full-time self-employment cell at the State Directorate	3.67	9
8 Setting up of State Career Study Centre for Job Development and career Study programme ..	12.66	29

TABLE 31.IV.

List of Schemes under Plan 1978-83 in which indirect employment generation is likely to be created.

<i>Serial number and name of the Schemes.</i>	<i>Outlay (Rs. in lakhs).</i>	<i>Indirect employment (Number of persons).</i>		
(1)	(2)	(3)		
1 Establishment of Sub-Employment Offices in Districts.	18.90	56	9 Strengthening of University Employment Information and Guidance Bureaux, at Madras, Madurai and Annamalainagar.	1.07 3
2 Creation of separate Employment Office for Technical categories in Districts ..	30.60	90	10 Setting up of Special Cell for Scheduled Caste/Scheduled Tribe at the State Directorate.	3.70 8
3 Creation of Mobile Vocational Guidance Units on Zonal Basis (5 Zones)	12.84	30	11 Setting up of Vocational Guidance Units in the District Employment Offices at the Nilgiris, Pudukottai and Krishnagiri	7.85 18
4 Zonal Employment Offices for giving special vocational Guidance and placement of Physically Handicapped persons.	16.95	44	12 Setting up of Enforcement Machinery for the Employment Exchanges (CNV) Act, 1959 in Tamil Nadu (Zonal Basis) ..	12.31 31
			Total	132.15 335

TABLE 31.V.

Employment likely to be generated in the Craftsmen Training Sector during the Plan, 1978-83.

(Direct Employment only)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1 Scheme Craftsmen Training Scheme - Starting of new Industrial Training Institutes.

2 Financial outlay for the project (in lakhs) for the next plan as a whole Rs. 102.34 Lakhs.

3 Expenditure likely to be incurred :-

Year	Rs.	Lakhs.
1978-79
1979-80	8.00
1980-81	55.00
1981-82	26.50
1982-83	12.84

4. Employment Potential of the Scheme/Project.

(1)	1978-79 (2)	1979-80 (3)	1980-81 (4)	1981-82 (5)	1982-83 (6)	Total (7)
1 Principal	1	1	..	2
2 Foreman Instructor	1	..	1	1	3
3 Supervisory Instructor	2	4	2	8
4 Craft Instructors	3	13	15	7	38
5 Stenography Instructor	1	1	2
6 Drawing Instructor	1	1	1	..	3
7 Maths Instructor	1	1	1	..	3
8 Office Manager	1	1	..	2
9 Assistant	1	1	1	..	3
10 Store Keeper	1	1	1	..	3
11 Accountant	1	1	..	2
12 Junior Assistant	2	2	..	4
13 Typist	1	1	1	..	3
14 Workshop Attendant	1	3	3	..	7
15 Peon	2	4	4	..	10
16 Contingent Staff	2	8	8	..	18
17 Medical Officer (Part Time)	1	1	..	2
18 Pharmacist (Full Time)	1	1	..	2
19 Hostel Superintendent	1	1	..	2

(a) Unskilled or uneducated Nil.

(b) Educated 117

(i) Technical 66 ..

(ii) Non-technical 51 ..

TABLE 31.V-A.

Employment likely to be generated in the Craftsmen Training Sector during Plan, 1978-83.

(Direct employment only)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1 Scheme	Craftsmen Training Scheme. Development of Audio-Visual Aids in 8 Industrial Training Institutes.	
2 Financial outlay for the Project (in lakhs) for the next plan as a whole	6.65 Lakhs.	
3 Expenditure likely to be incurred—		
1978-79 . . . . .	.. ..
1979-80	Rs. 2.00 Lakhs.	
1980-81	Rs. 1.50 ..	
1981-82	Rs. 1.50 ..	
1982-83	Rs. 1.65 ..	
4 Employment potential of the Scheme/Project—		
A. Total Cinema Operators	8 Numbers.	
B. Year-wise—		
(i) 1978-79	Nil.	
(ii) 1979-80	8	
(iii) 1980-81	Nil.	
(iv) 1981-82	Nil.	
(v) 1982-83	Nil.	
(a) Unskilled or uneducated	Nil.	
(b) Educated	8	
(i) Technical	8	
(ii) Non-technical.. .	Nil.	

TABLE 31.V-B.

Employment likely to be generated in the Craftsmen Training Sector during the Plan, 1978-83.

(Direct employment only)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1 Scheme	Craftsmen Training Scheme — Introduction of Additional seats in two Industrial Training Institutions.	
2 Financial outlay for the project (in lakhs) for the next plan as a whole	Rs. 6.00 lakhs.	
3 Expenditure likely to be incurred—		
1978-79	Rs. Nil.	
1979-80	Rs. Nil.	
1980-81	Rs. 3.00 lakhs.	
1981-82	Rs. 2.00 lakhs.	
1982-83	Rs. 1.00 lakh.	
4 Employment potential of the Scheme/Project—		
A. Total Craft Instructors	3 Nos.	
B. Year-wise—		
1978-79	Nil.	
1979-80	Nil.	
1980-81	2	
1981-82	1	
1982-83	Nil.	
(a) Unskilled or uneducated	Nil.	
(b) Educated	3	
(i) Technical	3	
(ii) Non-technical	Nil.	

TABLE 31.V-C.

Employment likely to be generated in the Craftsmen Training Sector during the next Five-year Plan 1978-83.

(Direct Employment only.)

1. Scheme Craftsmen Training Scheme — Formation of curriculam Development Cell.

2. Financial outlay for the project (in lakhs) for the next plan as a whole Rs. 6 lakhs

3. Expenditure likely to be incurred—

1978-79 Nil.
1979-80 Rs. 1.50 lakhs.
1980-81 Rs. 1.50 lakhs.
1981-82 Rs. 1.50 lakhs.
1982-83 Rs. 1.50 lakhs.

4. Employment potential of the Scheme/Project.

A. Total.

B. Year-wise.

		1978-79	1979-80	1980-81	1981-82	1982-83	Total.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Deputy Director	1	..	..	..	1
2 Assistant Director	1	..	..	..	1
3 Technical Assistant	5	2	..	..	7
4 Draughtsman	1	1	..	..	2
5 Artist	1	..	..	..	1
6 Steno-Typist	2	..	..	..	2
7 Typist	2	..	..	..	2
8 Superintendent	1	..	..	..	1
9 Assistant	2	..	..	..	2
10 Junior Assistant	1	..	..	..	1
11 Typist	1	..	..	..	1
12 Librarian	1	..	..	..	1
13 Last Grade Government Servants	6	..	..	..	6
<hr/>							
(a) Unskilled or uneducated	Nil.	..	..	..
(b) Educated	28	..	..	..
(i) Technical	12	..	..	..	..	..
(ii) Non-technical	16	..	..	..	..	..

TABLE 31.V-D.

Employment likely to be generated in the Craftsmen Training Sector during the Plan 1978-83.

(Direct Employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1 Scheme	Craftsmen Training Scheme — Evening Classes for Industrial workers in two centres at Trichirappalli and Metturdam.
2 Financial outlay for the Scheme (in lakhs) for the next plan as a whole	Rs. 4 lakhs.
3 Expenditure likely to be incurred—	
	Rs.
1978-79 .. ..	....
1979-80	1.00 lakh.
1980-81	1.20 lakhs.
1981-82	1.30 lakhs.
1982-83	0.50 lakh.
4 Employment potential of the Scheme/Project.	
A. Total.	
B. Year-wise—	
	1978 1979 1980 1981 1982 -79. -80. -81. -82. -83.
(1)	(2) (3) (4) (5) (6) (7)
1 Foreman Instructor ..	2 2
2 Assistants	2 2
3 Junior Assistants	2 2
4 Workshop Attendant ..	2 2
5 Last Grade Government Servant	2 2
(a) Unskilled or uneducated	Nil.
(b) Educated	10
(i) Technical	4
(ii) Non-Technical	6

TABLE 31.VI.

Employment likely to be generated in the Sector during the Plan 1978-83.

(Direct Employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1 Scheme	Apprenticeship Training Scheme. Strengthening the existing Related Instruction Classes.
2 Financial outlay for the project (in lakhs) for the next plan as a whole	Rs. 7.6 lakhs.
3. Expenditure Likely to be incurred—	
	Rs.
1978-79 .. ..	....
1979-80	1,90,000.
1980-81	1,90,000.
1981-82	1,90,000.
1982-83	1,90,000.
4. Employment potential of the Scheme/Project.	
A. Total.	
B. Year-wise—	
	1978 1979 1980 1981 1982 -79. -80. -81. -82. -83.
(1)	(2) (3) (4) (5) (6)
1 Training Officers.	.. 1 1 1 1
2 Supervisor Instructor.	.. 1 1 1 1
3 Assiatants	1 1 1 1
4 Typists	1 1 1 1
5 Last Grade Government Servants.	.. 3 3 3 3
(a) Unskilled or Uneducated.	Nil.
(b) Educated	28
(i) Technical	8
(ii) Non-Technical	20

TABLE 31.VI-A.

Employment likely to be generated in the Sector during the Plan 1978—83.

(Direct Employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1. Project/Scheme/Programme. Apprenticeship Training Scheme Starting of new Related Instruction Centres.

2. Financial outlay for the Project (in lakhs) for the next Plan as a whole Rs. 3.20 lakhs.

3. Expenditure likely to be incurred—
Rs.
1978-79
1979-80 0.80 lakh.
1980-81 0.80 lakh.
1981-82 0.80 lakh.
1982-83 0.80 lakh.

4. Employment potential of the Scheme.

A. Total.

B. Year-wise—

	1978	1979	1980	1981	1982
	-79.	-80.	-81.	-82.	-83.
(1)	(2)	(3)	(4)	(5)	(6)
Supervisory Instructor.	..	1	1	1	1
(a) Unskilled or Uneducated	Nil.	..	..
(b) Educated	4	..	..
(i) Technical	4	..	..
(ii) Non-Technical

TABLE 31.VI-B.

Employment likely to be generated in the Sector during the Plan 1978—83.

(For Direct Employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1. Scheme Apprenticeship Training Scheme. Additional Staff for industrial Training Institutes Madurai and Tiruchirappalli.

2. Financial outlay for the project (in lakhs) for the next plan as a whole. Rs. 1.40 lakhs.

3. Expenditure likely to be incurred—
Rs.

1978-79 .. ..	..
1979-80	0.35 lakh.
1980-81	0.35 lakh.
1981-82	0.35 lakh.
1982-83	0.35 lakh.

4. Employment potential of the Scheme/Project.

A. Total.

B. Year-wise—

	1978	1979	1980	1981	1982
	-79.	-80.	-81.	-82.	-83.
(1)	(2)	(3)	(4)	(5)	(6)
1. Supervisory Instructor.	1	..	..
2. Craft Instructors.	..	2	..	..	..
(a) Unskilled or Uneducated	Nil.	..	..
(b) Educated	3	..	..
(i) Technical	3	..	..
(ii) Non-Technical

TABLE 31.VI-C.

Employment likely to be generated in the Sector during the Plan 1978—83.

(Direct Employment only.)

DEPARTMENT OF EMPLOYMENT AND TRAINING, TAMIL NADU.

1. Scheme Apprenticeship Training Scheme Provision of transport facilities at Industrial Training Institute, Coimbatore.

2. Financial outlay for the project (in lakhs) for the next Plan as a whole Rs. 0.74 lakh.

3. Expenditure likely to be incurred—
Rs.

1978-79 .. ..	..
1979-80	0.41 lakh.
1980-81	0.11 lakh.
1981-82	0.11 lakh.
1982-83	0.11 lakh.

TABLE 31.VI-C—cont.

4. Employment Potential of the Scheme/Project.

A. Total.

B. Year-wise

	1978	1979	1980	1981	1982
(1)	(2)	(3)	(4)	(5)	(6)
1. Drive			1	--	--
(a) Unskilled or Uneducated			Nil.		
(b) Educated			1		
(i) Technical			1		
(ii) Non-Technical			--		

TABLE 31.VII

Employment likely to be generated in the public Sector during the Plan 1978—83.

(Direct Employment only.)

DEPARTMENT OF LABOUR,
TAMIL NADU.

1. Project/Programme/ Scheme	Safety Cell.
2. Financial outlay for the Project (in lakhs) for the Next Plan as a whole	Rs. 19.01.
3. Expenditure likely to be incurred— Rs.	
1978-79	3,51,000.00
1979-80	3,65,040.00
1980-81	3,79,641.00
1981-82	3,94,886.00
1982-83	4,10,681.00
	<u>19,01,248.00</u>
4. Employment potential of the Scheme/Project.	
A. Total	52
B. Year-wise—	
(i) 1978-79	52
(ii) 1979-80	Nil.
(iii) 1980-81	Nil.
(iv) 1981-82	Nil.
(v) 1982-83	Nil.
(a) Unskilled/uneducated	19
(b) Educated—	
(i) Technical	27
(ii) Non-Technical	6

TABLE 31.VII-A.

Employment likely to be generated in the Public Sector during the Plan 1978—83.

(Direct Employment only.)

DEPARTMENT OF LABOUR,
TAMIL NADU.

1. Project/Scheme/Programme. Medical Units for workers covered by various Labour Laws with Mobile Miniature X-ray Units, creche Units and Industrial Hygiene Laboratories.	
2. Financial outlay for the Projects (in lakhs) for the next Plan as a whole	Rs. 194.05.
3. Expenditure likely to be incurred— Rs.	
1978-79	35,82,800
1979-80	37,26,112
1980-81	38,75,156
1981-82	40,30,162
1982-83	41,91,368
	<u>1,94,05,598</u>
4. Employment Potential of the Scheme/Projects	
A. Total	167
B. Year-wise—	
(i) 1978-79	167
(ii) 1979-80	Nil.
(iii) 1980-81	Nil.
(iv) 1981-82	Nil.
(v) 1982-83	Nil.
(a) Unskilled or uneducated.	123
(b) Educated—	
(i) Technical	124
(ii) Non-Technical	20

TABLE 31.VII-B.

Employment likely to be generated in the Public Sector during the Plan 1978—83.

(Direct employment only.)

**DEPARTMENT OF LABOUR,
TAMIL NADU.**

1. Project/Scheme/Programme.	Strengthening of machinery for the enforcement of Labour Laws.	
2. Financial Outlay for the project (in lakhs) for the Next Plan as a whole	Rs. 407.43.	
3. Expenditure likely to be incurred :		
1978-79	75.23 lakhs.	
1979-80	78.23 lakhs.	
1980-81	81.36 lakhs.	
1981-82	84.61 lakhs.	
1982-83	88.00 lakhs.	

4. Employment potential of the Scheme/Project.

A. Total 1,048.

B. Year wise—

(i) 1978-79 1,048

(ii) 1979-80 Nil.

(iii) 1980-81 Nil.

(iv) 1981-82 Nil.

(v) 1982-83 Nil.

(a) Unskilled or Uneducated 202

(b) Educated—

(i) Technical 51

(ii) Non-Technical 795

Chapter 32

STATISTICS AND EVALUATION

A. STATISTICS.

32.0. An efficient statistical system for timely supply of data on various aspects of the economy is an essential pre-requisite for planning. At the formulation stage of the successive Five Year Plans, the need for more and more statistical data was keenly felt. Efforts were made to fill the gaps in statistics by implementing schemes aimed at improving the coverage and quality of statistical information. Against the background of the present emphasis on decentralisation of planning and switchover to Rolling Plan concept, the statistical agency has to play a crucial role in furnishing the required data. During 1978-83 Plan, it is proposed to improve the availability of data in the core sectors and strengthen district and block level statistical agency. A total outlay of Rs. 6.00 crores is envisaged for the plan period for implementing statistical schemes.

Agricultural Statistics

32.1. A satisfactory time series data on the area under various crops, their production and productivity for different areas is essential for evaluating the performance of the earlier plans as also for future planning. The area statistics now published by the department is based on the information furnished by village Karnams. Though

the Statistics Department has introduced independent checks to ensure the reliability of the data, further improvements are needed to reduce the margin of error. It is necessary to check and verify the area enumeration intensively so as to place the system on a sound footing. It is proposed to select 800 villages for the intensive check. Regarding statistics on production, the estimates are now made for the state as a whole. The sample size will be increased with a view to get the estimates of yield for blocks (Panchayat Union area). A sample survey covering about 20 cultivators in a few villages in each taluk is proposed for estimating the season-wise area and yield of important crops. The scheme "timely reporting of estimates of area and production" will be continued. Information on the production of fruits and vegetables is practically not available. A horticulture cell will be set up to conduct census of fruit bearing trees and make estimates of yield. The department received daily rainfall data from 424 rain gauge stations. Studies on the association of rainfall and crop yields, frequency and intensity of rainfall, analysis of wet and dry spells will be undertaken utilising the rainfall data. The construction of index numbers for agricultural sector for each district is proposed. A total outlay of Rs. 2.08 crores is envisaged for the above schemes.

Animal Husbandry Statistics

32.2. The quinquennial livestock census is the only source which provides data on the Animal Husbandry sector. Data on the output of live-stock products, their prices, utilisation of by-products are essential, but are not available now. During the plan, estimates of production of milk and its by-products, egg, etc., will be made adopting the methodology evolved by Institute of Agricultural Research Statistics, Delhi. A sum of Rs. 15.00 lakhs is set apart.

Fisheries Statistics

32.3. Estimates of marine fish catches are now made both by State Statistics Department and the Central Marine Fish Research Institute, Cochin. An integrated methodology will be evolved by these two agencies for estimating marine fish catches. It is proposed to conduct pilot sample surveys to evolve suitable sampling design for estimating the inland fish production. A provision of Rs. 17.50 lakhs has been made in the Plan.

Industrial Statistics

32.4. The annual survey of industries covers all the factories employing 50 or more workers and utilising power and those employing 100 workers and not using power. Of the remaining category of factories only 50 per cent are covered on a sample basis. It is proposed to cover the residual 50 per cent of the factories also to firm up the estimates of state income and build similar estimates at district level. An outlay of Rs. 15.00 lakhs is earmarked.

Statistics on Handloom Industry

32.5. A sample survey is being conducted to estimate the monthly production of handloom cloth, its sales and stock. During the Plan, it is proposed to undertake a study on the consumption pattern and expenditure on textiles in addition to production, sales and stock on hand. An outlay of Rs. 15.00 lakhs is envisaged.

Housing Statistics

32.6. Statistics on Housing and building activity are now being collected in respect of public sector construction activity costing more

than Rs. 20,000 and construction activities in Town Panchayats and Municipal areas with population of more than 10,000. During the Plan, it is proposed to cover public sector construction activity costing less than Rs. 20,000 and construction activities in the remaining category of Municipal places, Town Panchayats and in Villages. An outlay of Rs. 12.00 lakhs is proposed.

State Income Estimates

32.7. The Committee on regional accounts set up by Government of India has devised a system of regional account with 8 main tables, 15 supporting tables and an additional table on economic and purpose-wise classification of expenditure of administrative departments. The State income unit will be strengthened to under take this work. Capital formation and savings are crucial indicators of economic development. It is proposed to compile estimates of saving and capital formation in the state economy adopting the expenditure approach. An outlay of Rs. 20.00 lakhs is proposed for these two schemes.

Wholesale and Trade Statistics

32.8. Sample survey for collection and compilation of internal trade statistics, commodity-wise turnover in respect of foodgrains, other agricultural commodities, industrial products, etc., are proposed to improve the availability of data in this important sector of economic activity. An outlay of Rs. 22.00 lakhs has been set apart.

Price Statistics

32.9. Price data are collected from 100 centres. In view of the crucial role played by the price statistics, it is necessary to have effective supervision over the prices collected by the field agencies. It is proposed to strengthen the market intelligence staff and streamline the price collecting machinery at state and lower levels. At present consumer price index numbers are being compiled for four centres by Labour Bureau and for 3 centres by Statistics Department. It is proposed to cover 5 more centres—Neyveli, Salem, Thanjavur, Tirunelveli and Tuticorin for compilation of consumer price index numbers. An outlay of Rs. 18.00 lakhs has been proposed.

Demographic, Manpower and Employment Statistics

32.10. The demographic unit will be strengthened for undertaking studies on trends in urbanisation, migration, mortality, fertility, etc. Besides using census data, sample surveys during the inter-censal period will be conducted for analysing specific demographic characteristics. The manpower and employment cell will take up studies on unemployment and under-employment. A provision of Rs. 15.00 lakhs has been made.

Socio-economic conditions of Tribals

32.11. A Bench-Mark Survey on Tribal population has already been conducted. During the Plan, sample surveys are proposed to study the socio-economic conditions of tribals, the results of which will be useful for formulating tribal welfare schemes. A provision of Rs. 7.50 lakhs has been made.

Data Bank

32.12. Collection of statistics, information storage and retrieval and analysis of data are the three major functions of statistical agency. The present system of storage of data leaves much to be desired. The National Commission on Agriculture has recommended storage of basic agricultural statistics in magnetic tapes. It is proposed to buy 100 magnetic tapes and strengthen the data processing unit by adding 10 punching machines and 10 verifying machines. The computer facilities in the Government Data Centre will be utilised for storage of data. An outlay of Rs. 50.00 lakhs is envisaged.

Training of Statistical Personnel and a Research and Development Cell

32.13. A provision of Rs. 10.00 lakhs is made for training of senior and middle-level statistical personnel. It is proposed to set up a Research and Development Cell in the Department. Refining and improving the methodology to conduct surveys and making estimates by adopting sophisticated statistical techniques are essential for the efficient functioning of the statistical agency. The Research and Development Cell will study the latest developments that are taking place in the field of statistics and will explore the feasibility of adopting such techniques in the State. The Cell will also design training courses for senior statistical personnel.

Printing Unit

32.14. Delay in publishing statistical data will reduce its usefulness. It is proposed to set up a printing unit for timely publication of the reports. A provision of Rs. 15.00 lakhs has been made.

District and Block level statistical system

32.15. Block level and district level data are not available for a number of items. It is proposed to strengthen the statistical machinery at the district and block level to consolidate the progress reports and for compiling block and district level data on important aspects of economic activities. This becomes necessary in view of the present emphasis laid on block level planning. An outlay of Rs. 100.00 lakhs is proposed.

Re-organisation of the Statistics Department

32.16. A Committee under the chairmanship of Thiru P. C. Mathew, ICS (Rtd.) set up to review the existing statistical organisation in the state has suggested a number of measures for improving the functioning of the department. The Committee has made as many as 82 recommendations. Streamlining the work of the Department in order to avoid delays, creation of statistical units in the various Heads of Department headed by a fairly senior officer in the cadre of Joint Director of Statistics and mechanical tabulation of the statistical data are some of the important recommendations of the Committee. Creation of a co-ordinating Directorate for Government Data Centre, Department of Statistics and Department of Evaluation and Applied Research is another important recommendation of the Committee. Re-organisation of the Department on the lines recommended by the Committee will involve considerable expansion and strengthening of the department. An outlay of Rs. 45.00 lakhs is proposed for this re-organisation.

B. EVALUATION.

Progress in V Plan :

32.17. 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 1978—83

32.18. With the adoption of Rolling Plan concept for the Five-Year Plan 1978-83, 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.

32.19. 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 1978—83 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 Husbandry Programmes, Western Ghats Development Programme, etc.

Setting up of Regional Units

32.20. Further for the timely completion of studies, it is proposed to set up two regional units, one in Madurai during the second year of the Plan and other in Coimbatore during the third year of the Plan period.

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Involvement of Experts

32.21. 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. 1,500-2,000 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

32.22. 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 such leading institutions such as Institute for Financial Management and Research, Administrative Staff Training College, Madras Institute of Development Studies (to be converted as ICSSR Regional Unit), Centre for Development Studies, Trivandrum, 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

32.23. 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 1978—83.

Total Outlay

32.24. An outlay of Rs. 19.02 lakhs is proposed during 1978—83. Details of scheme-wise cost are shown in Table 32.III appended to this chapter.

TABLE 32.I.
FIVE-YEAR PLAN, 1978—83.
Proposed Outlays for Statistical Schemes.

Serial number and Scheme. (1)	Plan outlay proposed (RUPEES IN LAKHS) 1978-83. (2)
Agricultural Statistics :	
1. Improvement of Agricultural Statistics	50.00
2. Scheme for firming up of Yield Statistics	60.00
3. Horticultural Statistics Cell	10.00
4. Scheme for improvement of Rainfall Statistics	2.50
5. Construction of Index Number of Agricultural Economy for each district in Tamil Nadu	5.00
6. Scheme for Strengthening the Agricultural Wing of the Department of Statistics	2.50
7. Estimated month-wise area and yield of important crops in Tamil Nadu	60.00
8. Timely Reporting of Estimates of area and Production of principal crops in Tamil Nadu	18.00
Animal Husbandry Statistics—	
9. Scheme for estimation of milk production and its by-products and egg production, etc.	15.00
Fisheries Statistics—	
10. Integrated method for estimating the marine fish landings	10.00
11. Scheme for estimating Inland fish catches	7.50
Industrial Statistics—	
12. Scheme for improvement of industrial statistics	15.00
Handloom Industry—	
13. To study the consumption pattern of Textiles in Tamil Nadu	15.00
Housing Statistics—	
14. Scheme for the Development of Housing Statistics in Tamil Nadu	12.00
State Income Estimates—	
15. Scheme for State Account Statistics in Tamil Nadu	10.00
16. Capital formation in Tamil Nadu	10.00
Wholesale and trade Statistics —	
17. Scheme for compilation of Wholesale and retail trade statistics	22.00
Demographic Studies—	
18. Strengthening of Demographic Unit	5.00
Socio-Economic conditions of Tribal Population—	
19. Socio-Economic Conditions of Tribal Population in Tamil Nadu	7.50
Manpower and Employment Studies—	
20. Manpower and Employment Studies	10.00
Improvement of Prices Statistics—	
21. Improvement of Prices Statistics	10.00
22. Construction of consumer price index number for certain additional centres	8.00
23. Data Bank	50.00
24. Training of Statistical Personnel	10.00
25. Development of District and Block Level Statistical Systems	100.00
26. Re-organisation of the Department of Statistics	45.00
27. Printing Unit	15.00
28. Research and Development Cell	15.00
Grand Total ..	600.00

TABLE 32.II.

Details showing the existing employment position and additional employment likely to be generated in the Statistics Sector in the Plan. 1978—1983.

<i>Serial number and Category.</i>	<i>Existing employment</i>	<i>Additional employment likely to be generated.</i>
(1)	(2)	(3)
1 Commissioner of Statistics	1	..
2 Joint Director of Statistics .. .. .	..	4
3 Deputy Director of Statistics	7	6
4 Assistant Director of Statistics	14	8
5 Statistical Officers	29	6
6 Programmer .. .. .	..	2
7 Manager	1	1
8 Deputy Statistical Officer	83	155
9 Statistical Inspector	364	424
10 Assistant Statistical Investigator	397	231
11 Punch Supervisor	2	2
12 Senior Machine Operator	4	2
13 Punch Operator	8	4
14 Verifier Operator	7	4
15 Machine Operator	4	2
16 Head Draughtsman	1	..
17 Senior Draughtsman	6	2
18 Junior Draughtsman	4	2
19 Librarian	1	..
20 Superintendent	2	..
21 Assistant	34	..
22 Junior Assistant	45	..
23 Typist	27	14
24 Steno-Typist	7	10
25 Driver	1	..
26 Fireman	1	1
27 Junior Foreman	1	2
28 Compositor .. .. .	..	4
29 Junior Binder	2	4
30 Record Clerk	20	10
31 Duffadar	1	4
32 Peon	123	50
33 Watchman	23	..
34 Sweeper	2	..
Total ..	1,222	954

TABLE 32. II.

Five-Year Plan, 1978—83 : Strengthening of Evaluation Organisation—Outlays and Expenditure.

Item. (1)	Fifth Plan 1977—78.			Proposed outlay for next Five-Year Plan, 1978—83.		
	Outlay. (2)	Expenditure. (3)	Approved outlay. (4)	Anticipated expenditure. (5)	Existing posts/items. (6)	Additional posts/items. (7)
	RS.	RS.	RS.	RS.	POSTS.	POSTS.
1. Staff—						
(i) Regular	4,05,000	..	13,19,000	20	44
(ii) Experts on contract	11,000	..	2,28,000	..	..
2. Contingency —						
(i) Recurring	89,000	..	1,25,500	..	..
(ii) Non-recurring	79,000	..	33,500	..	..
(iii) Training of staff	1,00,000	..	..
(iv) Strengthening of Library books and furniture but excluding staff.	61,000	..	..
3 Equipment —						
(i) Pocket Calculator	5,000	..	..
(ii) Typewriter	30,000	..	..
Total	5,84,000	..	19,02,000	..	..

TABLE 32. IV

Five-Year Plan, 1978—83 : Evaluation Organisation—Proposals for Technical Staff.

Name of the Agency (Board/department, etc.) under which functioning.	State Headquarters.				
	Designation.	Posts sanctioned.	In position.	No. trained.	Additional posts now proposed
(1)	(2)	(3)	(4)	(5)	(6)
Directorate of Evaluation And Applied Research.	Joint Director	Nil.	Nil.	..	1
	Deputy Director	Nil.	Nil.	..	1
	Cost Accountant	Nil.	Nil.	..	1
	Research Officer	3	3	..	1
	Research Assistant	6	6	..	1
	Junior Research Assistant	Nil.	Nil.	..	2
	Field Investigators	Nil.	Nil.	..	9
	Field Organisation (Regional units).				
	Designation.	Posts sanctioned.	In position.	No. trained	Additional Posts now proposed
	(7)	(8)	(9)	(10)	(11)
	Research Officer	Nil.	Nil.	..	2
	Research Assistant	Nil.	Nil.	..	Nil.
	Junior Research Assistant	Nil.	Nil.	..	5

TABLE 32. V.

Five-Year Plan, 1978—83 : Evaluation Studies Conducted/Proposals.

Number of studies taken up during Fifth Five-Year Plan.	Number of studies completed	Number of reports published.	Number of studies proposed to be taken up/to be completed during the next five-Year Plan, 1978—83.	Subjects proposed to be covered
(1)	(2)	(3)	(4)	(5)
28	20	Nil.	50/40	Will be indicated by the State Evaluation Committee

Chapter 33

MISCELLANEOUS (ADMINISTRATIVE BUILDINGS)

33.0. At present there are many Government offices in major towns like Madurai, Coimbatore, Tiruchirappalli, Thanjavur, Tirunelveli, Salem, etc., located in private buildings paying huge rents resulting in substantial commitment to the State Exchequer. If these offices are located in Government-owned Central Office Buildings in each of the places, the investment on the construction of buildings will not only fetch profitable financial returns but would go a long way in achieving the advantages like better co-ordination among the various departments, better public contact, better environmental and working condition for the staff, monetary savings in the form of reduced contingency staff, etc.

33.1. A number of Government offices in the Madras City are now located in rented buildings. Construction of three multi-storeyed buildings at Guindy, Teynampet and Nungambakkam were proposed during Fifth Plan and even administrative sanction was obtained. However due to paucity of funds, these works were not taken up. Considering both the monetary savings and also to provide better working conditions for the staff, it is proposed to take up these works during 1978-83.

33.2. Further, the offices of Executive Engineers and Sub-Divisional Officers of Public Works Department are housed in private rented buildings in a number of places. In order to provide a proper environment for running these technical offices, it is proposed to construct 9 division offices, 46 sub-division offices and 306 section offices.

33.3. The total outlay proposed under 'Administrative Buildings' during 1978-83 is Rs. 10.74 crores. The details of the schemes are given in Table 33. I appended.

TABLE 33.1.

Details of schemes proposed under 'Administrative Buildings' during 1978-83.

<i>Name of the work.</i> (1)	<i>Outlay proposed during 1978-83.</i> (2)
1 Construction of Central Office Buildings in major towns.	500

(RUPEES IN LAKHS.)

<i>Name of the city/ town.</i>	<i>Approximate cost of the building.</i>
	(RUPEES IN LAKHS.)
Madurai	100
Coimbatore	80
Tiruchirappalli	70
Salem	50
Thanjavur	50
Tirunelveli	50
Cuddalore	50
Vellore	50
	<u>500</u>
2. Construction of Administrative buildings in Madras city	
	348
(i) Multi-storeyed Building at Guindy	75
(ii) Multi-storeyed building for commercial taxes Department at Nungambakkam	125
(iii) Multi-storeyed building in the Director of Medical Services Compound, Teynampet	70
(iv) Building Research Station at Adayar	40
(v) Construction of four more floors over the second floor of the extension Block of Ezhilagam	38
	<u>348</u>
3. Construction of office buildings for Public Works Department	
	226
9 Division offices	27
46 Sub-Division offices.	46
306 Section offices	153
Total	<u>226</u>
Grand Total	<u><u>1,074</u></u>

Part III
**SPECIAL SOCIO-ECONOMIC
PROGRAMMES**

Chapter 34

REVISED MINIMUM NEEDS PROGRAMME

REVISED MINIMUM NEEDS PROGRAMME

34.0 The social and economic ills of the society such as poverty, unemployment, exploitation, disparity in the distribution of income and wealth and opportunity, illiteracy and low standards of health of people can be effectively identified, controlled and remedied only by means of direct measures. It is the objective of planned development to create in the masses a keen desire to improve their standards of living and arouse their enthusiasm for building up the economy of the State and the country. With this aim in view, the Plan for the period 1978-83 formulates a set of specific measures of a socio-economic nature.

Revised Minimum Needs Programme

34.1 The revised minimum needs programme drawn up by the Union Planning Commission aims at fulfilling "the promise of providing essential infrastructure and social services which the public sector alone can supply to the weaker sections of the population particularly in the rural areas." It comprises (a) elementary education, (b) adult education, (c) rural health, (d) rural water supply, (e) rural roads, (f) rural electrifi-

cation, (g) sites and other help for housing landless rural labour households, (h) environmental improvement of urban slums and (i) nutrition.

Some progress has been already made in the implementation of the above schemes. But in the next five years the tempo of activity under these programmes will be quickened and a redoubled effort will be made to achieve the targets within the target dates fixed.

Elementary Education

34.2 Under this programme, the target set for the Fifth Five-Year Plan was the coverage of 97 per cent of the children in the age group 6-11, and 47 per cent of children in the age group 11-14, against this target, the actual coverage at the end of 1977-78 was 93.4 per cent of the children in the age group 6-11. However, in the enrolment of children in the age group 11-14, the actual performance was 57 per cent as against the target of 47 per cent enrolment indicated for the Fifth Plan.

34.3 So far as the Plan, 1978-83 is concerned the target indicated by the Union Planning Commission is 100 per cent coverage of children in

age group 6-14 (90 per cent of the coverage to be attained by 1982-83). It is estimated that the number of children in the State in the age group 6-11 in 1982-83 will be 63 lakhs. However, taking into account repeaters, underaged and overaged children, the actual enrolment in 1982-83 will have to be not 63 lakhs but 69 lakhs if the target is to be met. This means that about 10 lakhs of pupils will have to be additionally enrolled in standards I to V during the period 1978-79 to 1982-83. As regards enrolment of children in the age group 11-14, the present enrolment of 17 lakhs in the Standards V to VIII should be stepped up to 33 lakhs by 1982-83. However, it may not be possible to enrol the additional 10+17 lakhs of pupils of the age groups 6-11 and 11-14 under the formal school system before 1982-83. It is therefore proposed to provide for the enrolment of about 10 lakhs of children in the age groups 6-11 and 11-14 in the plan period 1978-79 to 1982-83, and to cover 10 lakhs of pupils under the non-formal system. There are already 1500 centres for non-formal education functioning in the State. Provision has been made in 1978-79 to open 2 more centres in each block or a total of 748 centres for additional coverage of children in the age group 6-14 in rural areas.

Adult Education

34.4 The target for the Sixth Plan is coverage of all adults in the age group 15-35. In the 4 years, 1974-75 to 1977-78, the number of participants made literate, under the Central Scheme was 47,484 and under the State scheme 1,51,440. It is proposed that in the next five years, about 65 lakhs of persons of the age group 15-35 will be made literate. A State Board of Adult Education has been constituted in Tamil Nadu and detailed plans are being worked out.

Rural Health Services

34.5 At present, there are 383 primary health centres functioning in 374 blocks. Each primary health centre covers a population of one lakh. Government have also sanctioned on a pilot basis mobile medical teams in 24 selected primary health centres for providing intensive health care services in rural areas. There are 2831 sub-centres in the State, each centre covering a population of 10,000. Mini health centres are organised with the objective of providing comprehensive

health care to a small group of rural population on a co-operative basis. The main agencies involved are the Union Government, State Government and voluntary agencies sharing the total expenditure equally. The voluntary agencies are to organise comprehensive health services for a population of 5000 per mini health centre with a total recurring expenditure of Rs. 18,000 per mini health centre per annum. 48 mini health centres have been started covering a population of 2.4 lakhs.

34.6 The Plan, 1978-83 aims at further extension of this service. Under the multi purpose health workers programme, one set of one male and one female worker will be posted for every 5000 population. Initially, the scheme has been sanctioned in 5 districts Madurai, Kanyakumari, Salem, South Arcot and Chingleput covering 1050 sub-centres. Under the multi purpose health workers scheme, additional sub-centres covering a population of 5000 each are proposed to be opened during the Plan period. Also, the construction of dispensaries and staff quarters in 24 public health centres will be taken up on a priority basis. Besides, it is proposed to have one mobile medical team in all the 383 primary public health centres before the end of 1982-83.

Rural Water Supply

34.7 A comprehensive survey of the Water Supply position in rural areas was undertaken in December 1976 with 'habitation' as the unit of the survey. A habitation is defined as a cluster of houses with a minimum population of 100, and away from a neighbouring cluster by more than 250 metres. There are 47,000 habitations in the State of which 3,566 had no source of water supply within the habitation, the source yield non-potable water in 2,217 habitations and the source is not perennial in 6,487 habitations. It is proposed to provide protected water supply to these habitations on a priority basis, besides improving water supply in the other habitations. Norms have been fixed for the water supply schemes taking into account the population of the habitation. It is estimated that Rs.73-60 crores would be required to provide all the habitations with good and adequate drinking water. A time-bound programme of action has been drawn up and it is proposed to complete the programme by providing water supply to all the habitations by 1983.

Rural Roads

34·8 The rural roads scheme was launched in 1972-73 with a view to connect villages with a population of 1,500 and above with all weather roads. As per 1971 Census there are 1,772 villages with a population of 1,500 and above which do not have connecting roads. Upto 1977-78, 3,356 Kms. of roads were laid benefiting 1,236 villages. During 1978-83, it is proposed to improve 1,076 Kms. of Panchayat Union Roads benefiting 385 villages. The Fair Weather Roads Programme was started in 1974-75 with the objective of connecting all villages where there are no communication facilities with gravel roads irrespective of the population size. Up to 1977-78, 4,165 Kms. of fair weather roads were laid benefiting 2,751 villages. As these roads get damaged by rains and since Panchayat Unions with their meagre resources are not able to maintain these roads, it is now proposed to metal all the fair weather roads already formed, during 1978-83.

Rural Electrification

34·9 Out of a total of 63,759 villages and hamlets in the State, 60,633 were electrified as on 31st March 1974. During 1974-78, an additional 2,267 villages and hamlets were electrified raising the total number to 62,900 on 31st March 1978 constituting 98·6 per cent of the total number of villages and hamlets in the State. Out of an estimated number of 12 lakhs wells in the State, 6·81 lakhs were energised as on 31st March 1974. At the end of 1977-78, the number of agricultural pumpsets increased to 8·09 lakhs or 67 per cent of the total wells in the State.

During 1978-83, it is proposed to electrify 110 villages and hamlets and energise 1·65 lakh pumpsets.

House sites for landless labour in rural areas

34·10 There are about 12 lakh harijan families in the State and it is estimated that 9·68 lakh families—a little over 80 per cent of them are in need of house sites. The State has been implementing a scheme since 1972-73 for providing house site with an area of 91 sq. mts. to rural landless people. Since the inception of the scheme nearly 4·63 lakh persons were given house site pattas. During 1974-78, a sum of

Rs. 2·27 crores was spent for acquisition of lands and provision of house sites to rural landless. It is proposed to extend the benefit to the remaining 5 lakh families also during the 1978-83 Plan.

Slum Improvement Scheme

34·11 The Government recently decided to provide only basic amenities such as public convenience, sewerage and water supply for slum under the Accelerated Slum Improvement Scheme. The allocation in the Fifth Plan for slum improvement was Rs. 400 lakhs of which an amount of Rs. 240·33 lakhs was spent upto 1977-78. Under the Accelerated Slum Improvement Scheme, an expenditure of Rs. 25 lakhs was incurred benefiting 13,268 families—9,696 families in Madurai, 1,935 families in Tiruchirappalli and 1,637 families in Coimbatore. The execution of the works envisaged in the Five Year period 1978-83, would provide improved environmental facilities to 12,800 families in the district headquarters, towns and 40,000 families in Madras Metropolitan area.

Nutrition

34·12 The special nutrition programme for the children below 6 years, expectant and lactating mothers belonging to weaker sections envisages providing supplementary nutrition to the extent of 300 calories and 8 to 12 grams of protein content diet per beneficiary per day for a total of 300 days in a year. About 2·73 lakh persons are benefited by this scheme at present.

It is proposed to extend the benefit to an equal number of persons during 1978-83 Plan thus increasing the coverage to a total of 5·54 lakh persons. About 20·25 lakh school-going children are covered under Mid-day Meals Programme. It is proposed to cover an additional 4·25 lakh children under this programmes during the Plan period.

TRIBAL SUB-PLAN.

34·13 The 1971 Census estimated the tribal population of Tamil Nadu at 3·11 lakhs scattered over a wide area. During the Fifth Five-Year Plan period, a sub-plan was formulated for the welfare of the tribals. For this purpose, nine Integrated Tribal Development Project (I.T.D.P.)

Areas were identified in the five districts, Salem North Arcot, South Arcot, Dharmapuri and Tiruchirappalli. A total number of 1.45 lakh tribals in the above areas are now covered by the sub-plan. Besides these 1.45 lakhs of tribals, there are others living outside the sub-plan areas. Notable among these tribals are the primitive tribes living in the districts of Coimbatore, Nilgiris, Madurai, Ramanathapuram, Tirunelveli and Kanyakumari. 17 primitive tribes have been identified in the State, and detailed project reports for the development of these primitive tribes have been prepared.

34.14 The tribal sub-plan and the special programme for the primitive tribes will between them cover more than 75 per cent of the tribals in Tamil Nadu. The remaining tribals are found to be very widely scattered both in the sub-plan districts and in the other districts. Most of the dispersed tribal groups live in Chingleput district. Sub-individual/family oriented programmes are being prepared to benefit these tribals under the plan, 1978-83.

34.15 The total approved outlay for the tribal sub-plan during the Fifth Plan was Rs. 842.5 lakhs. Under the tribal sub-plan from 1976-77 onwards several development schemes such as agricultural development, soil conservation and animal husbandry, minor irrigation, co-operation, education, medical facilities, forestry, road schemes, electrification, drinking water facilities, establishment of free schools, village industries, etc., are being implemented to directly benefit the tribals. The provision under the tribal sub-plan since 1976-77, i.e., for the three years, 1976-77, 1977-78 and 1978-79 was Rs. 456 lakhs.

34.16 For the successful implementation of the above schemes, it is essential that a favourable atmosphere free from exploitation prevails among the tribals. Most of the tribals are illiterate and less articulate and are being cheated and exploited by others in dealings relating to land holdings, settlement of loans, etc. To protect them from such forms of exploitation, the Government have taken steps to introduce legislative measures for providing debt relief to tribals and also for preventing land alienation in tribal areas.

34.17 The tribal sub-plan is an area development programme. Under these programmes the tribal families are helped to earn increased income by supplying to them agricultural inputs and animal husbandry inputs on a subsidised basis. Large sized multiple purpose co-operative societies have also been established in these areas to meet the credit needs of the tribals. These societies not only provide credit to the tribals but also aim at replacing the erstwhile money lenders who have been exploiting them. The tribal sub-plan also envisages the development of the area by providing facilities such as roads, electricity, hospitals, schools, balwadies, check dams, veterinary dispensaries, etc.

Schemes benefiting the Scheduled Castes

34.18 The Scheduled Caste population of Tamil Nadu constitutes roughly 17 per cent of the total population. They are highly scattered and cannot be identified by areas of concentration. The schemes intended for their benefit may be classified into—

- (1) Educational programmes ;
 - (2) Economic development programmes ;
- and
- (3) Health, housing and other programmes.

PROPOSALS FOR REDUCTION OF REGIONAL INEQUALITIES WITHIN THE STATE.

34.19. As in the case of other States, there is considerable variation in the economic and social standards attained by the different districts in Tamil Nadu. In 1970-71, the income of the districts at current prices varied from Rs. 4,077 lakhs in the case of Nilgiris to Rs. 34,783 lakhs in Coimbatore. In point of per capita income also there is a similar variation ranging from Rs. 832 to Rs. 432. Population density varied from 726/sq. metres in the case of Kanyakumari to 174 in the case of Dharmapuri.

34.20. One of the objectives of planned development in the State is to reduce these regional disparities to the extent possible. For this purpose special attention is to be devoted to the development of the backward districts or regions. The districts are ranked according to certain social and economic indicators such as literacy level, number of schools, standard of public

health facilities available, length of roads, per capita income, industrial income, degree of urbanisation, etc. The ranking is done by combining the social and economic indicators. It is envisaged that in the Sixth Plan period, the expenditure in the development of the districts would be made to vary inversely to the per capita plan expenditure now incurred and proportionately to their potentialities for development and the degree of their backwardness.

LAND REFORMS.

34.21. The agrarian structure of the State at the beginning of the planning era was characterised by concentration of ownership of land in a few hands, existence of a number of intermediaries and exploitation of tenants and tillers of the soil by the big land holders. The Five-Year Plans laid stress on the development of agriculture and the need for the establishment of an egalitarian society. Government introduced a number of legislative measures to bring about agrarian reforms. The more important among them are : (1) Estates (Abolition and Conversion into Ryotwari) Act, 1948 and 1963, (2) The Madras Cultivating Tenants Protection Act, 1955, (3) Madras Cultivating Tenants (Payment of Fair Rent) Act, 1956, (4) The Madras Land Reforms (Fixation and Ceiling on Land) Acts 1961, 1970 and 1972. The implementation of these Acts have no doubt resulted in far reaching changes in the agrarian structure and brought the tillers of the soil into direct relationship with the Government and discouraged the farmers from owning large individual holdings.

34.22. The Ceiling Act of 1961 fixed the ceiling of agricultural land for a family consisting of not more than 5 members at 30 standard acres and for families with more than 5 members an additional 5 standard acres per member subject to an overall limit of 60 standard acres. The 1970 Act reduced the ceiling limit to 15 standard acres for a family of 5 members with an overall ceiling of 40 standard acres for any family above this size. By an amendment to the Act in 1972, the overall ceiling of 40 standard acres was brought down to 30 standard acres and a number of exemptions granted in the Act were also withdrawn. Up to the end of 1977, as a result of the implementation of the Ceiling laws a total

extent of 1.14 lakhs acres was notified as surplus. So far, Government have taken possession of nearly 80,000 acres, of which 79,000 acres have been distributed. A total of 48,000 persons were benefited by this land distribution of whom nearly 17,000 belong to Scheduled Castes. A few thousand acres which were notified as surplus could not be taken over by Government due to certain legal hurdles. A concerted effort is now being made to take over all the surplus lands and distribute the lands to the landless people, in particular to the persons belonging to the weaker sections of the society

Chapter 35

INTEGRATED RURAL DEVELOPMENT

35.0. One of the major objectives of organised planning in this State has been the uplift of the economically weaker sections of the society. However, it has not been possible to completely achieve this objective or for the poorer sections to share the benefits of developmental activities. Larger investments under the different plans and increased production have had very little impact on this segment of population and a major percentage of population still remain below the poverty line and without minimum essentials of life by way of food, cloth and shelter.

The Objective

35.1. Rural Development deals with the developmental planning in rural areas and lays emphasis on the improvement of the conditions of this strata of population. The weaker sections of a village society comprise of small and marginal farmers, share croppers, agricultural labourers, rural artisans and persons of Scheduled Castes and Scheduled Tribes. The approach in most of the rural development programmes have been target-oriented in the past and success or failure of a scheme or project was measured in terms of achieving the targets. Most of the schemes so far attempted have been oriented towards

pre-determined benefits to pre-specified groups. Economic viability of a scheme or the broad-based spread of benefits were never considered as essential. The Integrated Rural Development now conceived attempts to provide full employment and better standard of living through time bound programmes for the weaker sections of specific areas.

Origin of different schemes

35.2. From the beginning of the Fourth Plan, specific attention was being paid to the problems of rural uplift. During the Fourth Plan, the Small Farmers Development Agency (SFDA) and the Marginal Farmers and Agricultural Labourers Schemes (MFAL) were introduced to improve the condition of small farmers, marginal farmers and agricultural labourers by raising the output of small holdings and generating employment through subsidiary occupations.

35.3. During the Fifth Plan, the two schemes of SFDA and MFAL were merged and land-based and animal husbandry programmes were introduced in these schemes. During 1970-71 special schemes were initiated in areas where repeated occurrences of droughts were noticed. The major purpose of these schemes was to reduce the impact of drought, reduce the incidence

of scarcity and also attempt developmental schemes suitable to the area to improve the income-levels of small and marginal farmers and agricultural labourers. During the Fifth Plan, these schemes were recast under the name of the Drought Prone Area Programmes (DPAP) and a package of infrastructural and on-farm development activities were introduced for optimum utilisation of land, water, human and live-stock resources. Under this scheme also the individual beneficiary approach was introduced.

35-4. The construction of major and medium irrigation projects increased the ayacut area available for utilisation. The need for faster and optimum utilisation of this irrigation potential caused the creation of Command Area Development schemes. These were initially introduced in Central Sector in 1974 at the beginning of the Fifth Plan.

Specific Programmes

35-5. In addition to these general programmes, specific schemes of pilot projects are being undertaken in the State to study the possible alternatives of rural development strategy. The Growth Centre project in Namakkal Taluk in Salem District of 1970-74, where area development strategy on the growth centre concept was studied, the whole Village Programme of Mel Neelithanallur block in Sankarankoil Taluk in Tirunelveli District started in 1972, the Intensive Rural Employment Project of the Mangalur block of South Arcot District also commenced in 1972 and the relatively recent Rural Reconstruction Project of Somangalam Block in Chingleput District commenced in 1976 are projects that attempt solutions for a strategy that will achieve the major objective of assured participation of weaker sections in Rural Development and their sharing the benefits of higher investments and production.

Objective and content of Integrated Rural Development

35-6. The Integrated and Intensive Rural Development Programmes now contemplated are an attempt to include all these programmes and as a major objective of the programme generate additional employment and raise the income level of identified groups, namely, small and

marginal farmers, share croppers, agricultural labourers, rural artisans and persons belonging to Scheduled Castes and Tribes. Programmes for agricultural development using scientific techniques, programmes of animal husbandry as a subsidiary occupation, programmes of inland and brackish water fisheries to maximise employment potential to fishermen, programmes of social forestry to develop fuel and fodder, programmes of farm forestry to maximise use of land, programmes of cottage industries to benefit rural artisans, service sectors of rural economy as self-employment areas and labour programmes of skill formation for labour population to meet the needs of trained labour are schemes to be weaved together to form the base of the proposed intensive integrated development of the Blocks for the next five years.

Area Development

35-7. By the end of the Fifth Five Year Plan, programmes of different approaches to area development were tried. Programmes for problem based areas, viz., the Drought Prone Area Programme, the Command Area Development Programme, etc., the programmes of specific incentives, viz., Sub-plans for the Hill Area, etc., have been attempted. They covered the different facets of Area Development Programmes. At present the Drought Prone Area Programme is implemented in the districts of Ramanathapuram and Dharmapuri. Rural development programmes comprising a series of allied activities such as soil conservation, dry land farming-improvement of agriculture, development of orchards, creating irrigation potential, encouraging sheep breeding, dairying, poultry, rearing of cattle, developing pasture lands, and sericulture are implemented in the two districts. The entire expenditure on the above development schemes is met by Government of India. Loans are arranged with commercial and co-operative banks for the improvement of lands, purchase of milch animals, sheep and for the purchase of agricultural inputs. 25 per cent and 33-1/3 per cent of the loan amount given to small farmers and marginal farmers respectively are paid by the Government to the banks as subsidy to them.

35-8. The Small Farmers Development Agency Scheme is implemented in 142 blocks distributed over all the districts of the State except Salem,

Dharmapuri, Ramanathapuram and North Arcot. The expenditure on this scheme is met in full by the Government of India. Marginal farmers' and agricultural labourers' schemes are implemented in 25 blocks in the two districts of Salem and North Arcot.

overcome the constraints to rural development caused by the scattered rural settlements and the diffused dispersal of rural services.

* About Block Level Planning, please see also Chapter 36: 'Decentralisation in planning'.

35.9. It is proposed to intensify the Drought Prone Area Programme in the districts of Ramanathapuram and Dharmapuri. Work on the modernisation of irrigation channels in the project area will be taken up with a view to economise the use of water and extend irrigation facilities. Also, Small Farmers Development Agency will be implemented in the remaining Blocks during the 1978-83 Plan period.

Block level plan *: Need to be area based

35.10. Intensive Rural Development Programmes will be more area specific at grass root level because of the factor of economic and social linkages between rural settlements and considerations of viability in planning. Programmes will have to be location-specific and the primary local planning area must be preferably homogeneous in character. Local resources, manpower, institutional strength, and public participation should decide the plan programmes that will have full employment as an objective. However the Block-level planning will have to be built in the framework of District Plans. The District Plans will be suitably accommodated in the total State Plan. The District Plan will be for resource development and development of infrastructure. Creation of optimum support to Block-level plans including optimum location for Institutional centres will form the basis of infrastructure plan.

Rural Development, Urban Development and Growth Centres

35.11. An essential part of Area Planning would be the development of Rural Growth Centres. These are centres provided with necessary economic infrastructure and services. Integrated planning of rural growth centres to achieve a rural-urban balance is essential for mutually healthy development. Urban and rural growth centres linked in a graded hierarchy will help to

Part IV

THE PLANNING PROCESS
AND ORGANISATIONAL FRAMEWORK

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Chapter 36

DECENTRALISATION IN PLANNING

Decentralisation in Planning

36.0. 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.

36.1. 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 Councils 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

36.2. 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 a 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 villages 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 administrative and historical realism suggests that a District could be a unit for many development activities based on agricultural practices, land 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 net work 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 up to 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.

The Panchayat Administration: The effective Base for Decentralised Planning

36.3. 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.

36.4. 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 institutions 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 over-heads.

Just as federalism ensures, the advantages of 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 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

36.5. 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 one way 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.

36.6. 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 afore-mentioned and for special attention in the New Medium Term rolling plan for 1978—1983.

36.7. 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 infra structure 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.

36.8. 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

36.9 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.

36.10. 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

36.11. 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.

36.12. 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

36.13. 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

36.14. 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

36.15. 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.

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 37

ENVIRONMENTAL PLANNING

37.0. 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 soils 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.

37.1. 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).

37.2. The Draft Five-Year Plan, 1978-83 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.

37.3. During the Plan period 1978-83, 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.

37.4. 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) An 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.

37.5 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, 1978-83.

Chapter 38

PLAN FORMULATION, IMPLEMENTATION, MONITORING AND PLAN EVALUATION

Plan Formulation

38.0. The Rolling Plan concept as intended to be adopted during the Five-Year Plan, 1978-83 requires a new plan strategy with regard to time and also accurate information on the performance of Plan Programmes. It also requires constantly a feed back of information about the problems in execution, the reasons for shortfall in achieving the targets and also measures proposed to make good the deficiencies during the Plan period itself. This information would form the basis for the preparation of annual plans within the framework of a moving perspective. The success of the Rolling Plan thus depends largely on the extent to which the planning machinery at lower levels, for example, block level or the district level is able to cope with the requirements in the collection of information and the analysis to be made for re-phasing the on-going schemes.

38.1. 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.

38.2. 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, 1978-83 envisages considerable increase in the outlay on Agriculture, 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

38.3. 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.

38.4. The success of Rolling 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 his 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 Block Development Officer from the Directorate of Rural Development, one Planning Officer and one Research Assistant.

38.5. 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. 35 lakhs during 1978-83.

Plan Implementation

38.6. 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

38.7. 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 with close co-operation with the State Planning Commission in this respect. To make it more effective, a separate Planning Department at the Secretariat for co-ordinating these agencies with the State Planning Commission may bring the desired results.

Part V
ABSTRACTS

ABSTRACT OF SECTORAL ALLOCATIONS OF THE STATE PLAN OUTLAY

<i>Serial number and Sector/ Head of Development.</i>	<i>State Plan Outlay for 1978-83 approved by State Planning Commission.</i>	<i>Serial number and Sector/ Head of Development.</i>	<i>State Plan Outlay for 1978-83 approved by State Planning Commission.</i>
(1)	(2)	(1)	(2)
	(RS. IN CRORES.)		(RS. IN CRORES.)
I. Agriculture and Allied Programmes.	<u>343.01</u>	3. Ports and Harbours ..	5.20
1. Agriculture	123.32	4. Tourism	4.00
2. Minor Irrigation	47.73	VI. Social and Community Services.	<u>511.72</u>
3. Soil Conservation	18.36	1. General Education ..	75.00
4. Area Development	16.28	2. Technical Education ..	13.64
5. Animal Husbandry	35.32	3. Art and Culture	2.00
6. Dairy Development	20.00	4. Medical and Public Health	44.22
7. Fisheries	19.55	5. Water Supply and Sewerage	176.75
8. Forests	29.95	6. Housing	72.50
9. Community Development.	37.50	7. Urban Development ..	12.40
II. Co-operation	<u>29.82</u>	8. Welfare of Scheduled Castes, Scheduled Tribes and Other Backward Classes.	89.25
III. Water and Power Development	<u>1295.70</u>	9. Social Welfare	13.70
1. River Valley Projects, Irriga- tion and Flood Control.	200.16	10. Nutrition	1.00
2. Power	1095.54	11. Labour Welfare, Employ- ment Services and Crafts- men Training	9.75
IV. Industry and Minerals ..	<u>133.39</u>	12. Information and Publicity..	1.51
1. Large and Medium Industries.	71.35	VII. Miscellaneous	<u>17.28</u>
2. Mining and Metallurgical Industries	2.83	1. Statistics	6.00
3. Village and Small-Scale Industries	59.21	2. Evaluation	0.19
V. Transport and Communications	<u>187.20</u>	3. Strengthening of Planning Machinery	0.35
1. Roads and Bridges ..	102.00	4. Administrative Buildings ..	10.74
2. Road Transport and Inland Waterways	76.00	Total—State Plan Outlay :	<u><u>2523.12</u></u>

**ABSTRACT OF OUTLAYS ON CENTRALLY SPONSORED/
CENTRAL SECTOR SCHEMES IMPLEMENTED BY
THE STATE GOVERNMENT**

<i>Serial number and Head of Development.</i>	<i>Total Outlay on Centrally Sponsored/ Central Sector Schemes, 1978-83.</i>
(1)	(2)
	(RS. IN CRORES.)

1. Agriculture	8.32
2. Animal Husbandry	42.49
3. Fisheries	4.48
4. Forests	6.30
5. Co-operation	16.02
6. Roads and Bridges	58.29
7. Road Transport and Inland Waterways	2.10
8. Tourism	2.25
9. General Education (NAEP).	13.00
10. Medical (Hospitals and Dispensaries)	0.80
11. Public Health (Control of Communicable diseases)	18.84
12. Family Welfare	61.82
13. Housing	0.35
14. Welfare of Scheduled Castes, Scheduled Tribes and Other Backward Classes	5.90
15. Social Welfare	1.94
16. Nutrition	1.65
17. Other Social and Commu- nity Services (Rehabili- tation)	70.00

Total 314.55

Sub. National Systems Unit,
National Institute of Educational
Management

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