



7th
Five Year
Plan
1985—90

TAMIL NADU

State Planning Commission



**SEVENTH
FIVE-YEAR PLAN
1985—90**

TAMIL NADU

NIEPA DC



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STATE PLANNING COMMISSION

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FOREWORD

India has chosen the path of formalised planning for increasing the production of goods and services, making the best use of country's resources and ensuring that the wealth so created is distributed among the people, in as equitable a manner as possible. The successive Five-Year Plans aiming to remove poverty have yielded some results, though not to the expected levels. The efforts to combat the scourge of poverty and disease have to be on a continuing basis without any let up. Having achieved significant results during the Sixth Plan in reducing the levels of poverty, the attention during the Seventh Plan will be on consolidating the gains and making further inroads.

Though Tamil Nadu experienced severe adverse seasonal conditions during the last five years, the tempo of development and growth has been maintained. Failure of monsoon has had its impact on the power generation front too. The situation in Srilanka has cast a further burden on the Tamil Nadu economy in having to shoulder the responsibility of a large influx of refugees.

In spite of all these problems, Tamil Nadu has been in a position to achieve the objectives of Sixth Plan by and large, both financially and physically.

Self-sufficiency Scheme aimed at providing basic necessities like water-supply, roads, schools, dispensaries maternity and child welfare centres, etc., was implemented in an intensive manner over a period of three years in all the Panchayat Unions of the State. Basic amenities were brought within the reach of common man in every Panchayat.

Another pioneering effort during the Sixth Plan period was the launching of Chief Minister's Nutritious Noon Meal Programme with the objective of providing one square meal at least to the poor children of the State. It has brought about significant changes in the nutritional standards of the children and the enrolment of children to schools, has also recorded appreciable increase. This scheme has provided employment for thousands of women in their own villages. Special preference was given to destitutes and Adi Dravidars. The common feeding is a constructive effort on the part of the Government to break down social barriers which have placed lakhs of people in a disadvantageous position. The success of this Scheme has prompted many States to follow suit.

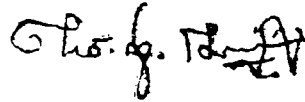
In implementing the New Twenty-Point Programme the State was generally in the lead. In two out of the three years, the State stood first. There could be no better testimony to the efficient implementation of the development programmes.

Family Welfare is another area where the efforts of the State are well appreciated and showing results. During the Plan period, the targets for Family Planning were fully achieved. In 1984-85, the State's outstanding performance was duly acknowledged with the grant of a prize of Rs. 2.5 Crores from the Government of India.

During the Seventh Plan, the emphasis is rightly on Programmes to provide food and work. Employment generation programme has been taken up with higher outlay. Emphasis has been laid on rural industries sector to sustain the labour force in rural areas. Power generation continues to receive the major attention of the Government receiving major share of the outlay. Provision of infrastructure receives greater attention during the Seventh Plan. Provision of basic amenities like water-supply has been given due importance. Large allocation has been earmarked for nutrition which would pave way for healthy citizens of tomorrow. A vigorous communications thrust is being given in the Family Planning Programme to teach the citizens the advantages of a planned family and how to achieve it.

Though we have come long way from the levels prevailing in the pre-independence days, a lot more remains to be done. The percentage of persons below poverty line still continues to be high.

Unemployment rate continues to cause concern. Our efforts to improve the situation of the people in the lowest strata of economy can never stop. Government of Tamil Nadu, which has received unstinted support of the people of Tamil Nadu, for the welfare programmes like Self-sufficiency Scheme and Noon Meal Programme, is confident of implementing successfully the Seventh Five-Year Plan.



FORT ST. GEORGE,
MADRAS.

[M. G. RAMACHANDRAN]
Chief Minister, Tamil Nadu.

PREFACE

State Planning Commission commenced its operations relating to the preparation of Seventh Five-Year Plan in October 1983. At a special meeting with Secretary, Union Planning Commission, the important aspects to be taken note of in the preparation of the Approach Paper for Seventh Five-Year Plan were discussed. The Commission also prepared a Paper to enable the State crystallise its views on the approach paper. Simultaneously, State Planning Commission constituted separate Working Groups to formulate the Plan for each sector. Twenty-three Working Groups chaired by a Member of the State Planning Commission were formed. Experts in the respective sectors were associated during the deliberation of the Working Group. Guidance to these Working Groups in the light of the Approach Paper and the deliberations of the National Development Council was provided. Taking note of the growth requirements of the State, the overall size was determined at Rs. 7,000 Crores. Sectoral distribution of allocations were worked according to sectoral priorities. The State Planning Commission examined the reports of the 23 Working Groups in its meeting held from August to November 1984. The Seventh Plan was given shape taking into account the objectives and priorities. A summary of the Draft Seventh Five-Year Plan was thereafter prepared and placed before Government, Union Planning Commission and other Central Ministries in December 1985 for discussion. Detailed sectoral proposals were also sent later to the Union Planning Commission for consideration by the Working Groups.

Taking note of the resources available and the need for a balanced development, Union Planning Commission recommended revision of outlays in many sectors and recommended an outlay of Rs. 5,750 Crores as against Rs. 7,000 Crores proposed by the Government. In conformity with the recommendations made by the Union Planning Commission, the Seventh Plan was reformulated by the State Planning Commission in consultation with the development needs of departments and Secretaries to Government concerned.

The Seventh Plan is proposed to be financed by way of a contribution of Rs. 4,312.14 Crores of State's own resources (inclusive of the Additional Resource Mobilisation target of Rs. 1,000.00 Crores) and Rs. 1,437.86 Crores of Central Assistance. The Seventh Plan envisages a mark up of 82.5 per cent over the originally approved Sixth Plan outlay of Rs. 3,150 Crores.

The State's Seventh Plan would aim at reducing the gap between the per capita State income and per capita national income substantially. In order to achieve this, an income growth of 5.3 per cent per annum during the Seventh Plan period has been envisaged. The index of per capita income which was 88.3 per cent in 1984-85 is expected to move up to 92.0 per cent in 1989-90.

As a result of our efforts taken during the Sixth Five-Year Plan, the percentage of people below poverty line has registered a fall by over 8 per cent. Though this downward trend augers well, the lot of the larger population below poverty line have to be improved by our concerted efforts. In the rural areas, the working population is still largely dependent on agricultural sector for providing employment. With the large area depending on monsoon for cultivation this population is able to get employment only in the few months of agricultural operations. Over the years this is leading to migration of labour to the urban areas seeking better employment opportunities. The urban services are put under great pressure leading to diversion of resources to stabilise these services. The absence of stable employment in the rural areas and attention paid in stabilising the services in urban areas lead to aggravation of this problem. This Seventh Five-Year Plan has been drawn up with the objective of increasing the agricultural production, and creation of employment in the rural areas to arrest the past trends in demographic developments. The Plan places thrust on anti-poverty programmes with "Food, Work and Productivity" as its development motto. Technological upgradation in industry and infrastructure have to be in consonance with the employment objectives of the Plan which aims at providing reliable employment opportunities in the rural areas. Shift in investment priorities towards items of mass consumption is called for. In this background the allocation for Irrigation and Power has been raised to Rs. 2,345 Crores which forms 41 per cent of the total outlay. The importance for the welfare activities has not also been lost sight of Rs. 1,013.25 Crores has been earmarked for the Minimum Needs Programme which assure certain basic standards of living for the people in rural areas.

The Seventh Five-Year Plan has been drawn keeping in mind the investments required in the social services sector. Water-Supply, Nutrition, Health are some of the important sectors which have received greater attention. Development with social justice has been the key objective of the Five-Year Plan. The Seventh Five-Year Plan has been formulated to achieve this goal. The programme envisaged will surely launch the State in this direction.

FORT ST. GEORGE,
MADRAS.

V. V. SWAMINATHAN,
(*Minister for Tourism, Publicity and
Electricity & Planning*).

SEVENTH FIVE-YEAR PLAN, 1985-90

CONTENTS.

	<i>Chapters.</i>	PAGES.
Part-A.		
1	A Review of Overall Development of the State since 1970-71	3-16
2	Review of the Sixth Five-Year Plan, 1980-85	17-27
3	Objectives and Strategies of the Seventh Five-Year Plan	28-34
4	Financial Resources of the Seventh Five-Year Plan	35-37
Part-B : Sectoral Plans.		
I. AGRICULTURE AND ALLIED ACTIVITIES—		
5	Research and Education	41-50
6	Agriculture—Crop Husbandry	51-72
7	Soil and Water Conservation	73-80
8	Animal Husbandry	81-97
9	Dairy Development	98-102
10	Fisheries	103-114
11	Forests	115-132
12	Investment in Agricultural Financial Institutions	133-135
13	Marketing, Storage and Warehousing	136-147
14	Special Area Programme for Rural Development	148-164
15	Community Development	165-175
16	Land Reforms	176
17	Special and Backward Areas	177-185
II. CO-OPERATION—		
18	Co-operation	189-200
III. IRRIGATION, FLOOD CONTROL AND POWER—		
19	Water Development—Irrigation and Flood Control	203-212
20	Minor Irrigation	213-227
21	Command Area Development	228-233
22	Power Development	234-244
23	New Sources of Energy	245-251
IV. INDUSTRY AND MINERALS—		
24	Village and Small Industries	255-270
25	Industries—Medium and Large	271-285
26	Mining and Metallurgical Industries	286-292
V. TRANSPORT—		
27	Ports, Lighthouses and Shipping	295-299
28	Roads and Bridges	300-307
29	Road and Inland Water Transport	308-311
30	Tourism	312-318

Part A

CHAPTER 1

A REVIEW OF OVERALL DEVELOPMENT OF THE STATE SINCE 1970-71.

Income and Production :

1.0. An analysis of the growth trends is attempted in this Chapter. Quite often the indicators do not reveal the factors behind the trends. As the agricultural sector forms a significant part of the economic activities, seasonal fluctuations cause noticeable variations in the economy. Without the proper background, the inferences are likely to be misdirected. Keeping this limitation in mind, it is however possible to make a review of the overall development of the State since 1970-71.

1.1. The behaviour of a few macro-economic indicators may be studied to evaluate the performance of the economy. Estimates of the Net State Domestic Product provide a comprehensive, single and the most reliable indicator of the overall performance of the State's economy.

1.2. Figures showing growth of State Income (Net State Domestic Product) and per capita income in the years 1970-71 to 1984-85 at current and constant prices are given in the Table 1. I below :

TABLE 1.I.

NET STATE—DOMESTIC PRODUCT AND PERCAPITA INCOME AT CURRENT AND CONSTANT PRICES.

Year.	State Income.		Per capita Income.	
	At constant prices (1970-71)	At current prices	At constant prices (1970-71)	At current prices
(1)	(2)	(3)	(4)	(5)
	(RUPEES IN LAKHS).		(IN RUPEES).	
1970-71	2,37,110	2,37,110	581	581
1971-72	2,49,075	2,69,617	599	648
1972-73	2,49,978	2,83,895	589	669
1973-74	2,60,934	3,43,231	603	793
1974-75	2,26,574	3,63,872	514	826
1975-76	2,67,904	3,72,740	597	831
1976-77	2,76,324	4,30,388	606	944
1977-78	3,03,090	4,70,987	654	1,017
1978-79	3,14,224	5,02,302	669	1,069
1979-80	3,18,263	6,09,524	668	1,280
1980-81	2,81,199	6,38,102	584	1,324
1981-82	3,29,121	7,98,478	674	1,635
1982-83	3,10,132	8,07,270	625	1,626
1983-84	3,24,183	9,00,151	642	1,783
1984-85	3,72,690	10,63,494	726	2,070

1.3. At current prices, the annual average compound growth rate of State income from 1970-71 to 1978-79 was 9.8 per cent. But estimated at constant (1970-71) prices, the growth rate during the same period was 3.6 per cent. The per capita income increased by 7.9 per cent at current prices and 1.8 per cent at constant prices from 1970-71 to 1978-79. The income from agriculture and allied activities showed a growth of 6.7 per cent at current and 2.1 per cent at constant prices during 1970-71 to 1978-79 while income from manufacturing (registered and unregistered) increased by 12.9 per cent at current and 5.3 per cent at constant prices during the same period.

1.4. The Sixth Five Year Plan envisaged that the aggregate income in the State would

increase at an annual rate of 6.2 per cent, the income from agriculture and allied sectors at 6.0 per cent and from the manufacturing sector (registered and unregistered) at 9.1 per cent annually during the plan period.

1.5. Against these targets, the achievements were as follows : The State income at constant (1970-71) prices increased at an annual compound growth rate of 3.2 per cent from 1979-80 to 1984-85. The income from agriculture and allied sectors showed a growth rate of 1.7 per cent and income from manufacturing (registered and unregistered) declined by a rate of 2.73 per cent. The following Table 1.II. shows the annual growth rates of State income, percapita income, income from agriculture and manufacturing at current and constant prices during the Sixth Plan period.

TABLE 1.II.
AVERAGE ANNUAL COMPOUND GROWTH RATES (PER CENT).

(1)	At current prices.		At constant prices (1970-71)	
	1979-80 to 1984-85. (2)	1980-81 to 1984-85. (3)	1979-80 to 1984-85. (4)	1980-81 to 1984-85. (5)
1 State Income (NSDP)	11.8	13.6	3.2	7.3
2 Percapita income	10.1	11.8	1.6	5.5
3 Income from agriculture and allied activities.	7.8	17.3	1.7	6.6
4 Income from manufacturing (registered and unregistered).	8.1	8.6	(—)2.73	1.1

1.6. The overall income generation in the State economy revolves round the income accruing from agriculture and allied activities and therefore, the declining trend in the Net State Domestic Product during the Sixth Plan period may be attributed mainly to a sharp fall in income from agriculture and allied activities. The substantial decrease was due to the failure of monsoons in 1980-81 and unprecedented and severe drought conditions the State had experienced in 1982-83. Consequently, the foodgrains production declined and the main crops accounting for the decline were rice, groundnut, sugarcane, banana and chillies not only in terms of production but also in area. But the negative contribution of agriculture could not be compensated by the manufacturing sector owing to the critical power position which pulled down the pace of growth in industrial production. The income from registered manufacturing sector declined during 1980-81 to 1983-84 (in real terms)

and only in 1984-85, there was a marginal increase whereas the income from the unregistered manufacturing sector steadily declined from 1980-81 onwards.

1.7. The aggregate state income data prepared by the Department of Statistics of the State Government are made up of five 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 1984-85 furnished in the following Table 1.III. A comparison of these with the corresponding figures relating to 1970-71 and 1979-80 brings out the changes in the composition of the State Income resulting from the growth of the economy.

TABLE 1. III
NET STATE DOMESTIC PRODUCT AND ITS COMPOSITION,
1970-71, 1979-80 AND 1984-85

(At current prices)

Sector. (1)	1970-71		1979-80		1984-85	
	Rupees in lakhs. (2)	Per cent to total. (3)	Rupees in lakhs. (4)	Per cent to total. (5)	Rupees in lakhs. (6)	Per cent to total. (7)
1 Agriculture and allied activities	90,456	38.15	1,73,276	28.43	2,52,902	23.78
2 Forestry and logging	816	0.34	1,940	0.32	2,110	0.20
3 Fishing	1,955	0.83	4,000	0.65	8,106	0.76
4 Mining and quarrying	1,286	0.54	2,123	0.35	4,632	0.44
Sub-total : Primary	94,513	39.86	1,81,339	29.75	2,67,750	25.18
5 Manufacturing						
5.1 Registered	26,462	11.16	92,293	15.14	1,60,147	15.06
5.2. Unregistered	19,409	8.19	68,881	11.30	78,118	7.35
6 Construction	12,315	5.19	27,209	4.47	45,885	4.31
7 Electricity, gas and water supply	3,749	1.58	9,448	1.55	27,753	2.61
Sub-Total : Secondary	61,935	26.12	1,97,831	32.46	3,11,903	29.33
8 Transport and Communication :						
8.1. Railways	2,843	1.20	6,104	1.00	11,041	1.04
8.2. Transport by other means	7,462	3.15	22,401	3.67	47,944	4.51
8.3. Communication	2,521	1.06	7,835	1.29	11,696	1.10
9 Trade, Storage, Hotels and Restaurants	32,969	13.90	1,10,539	18.14	2,35,335	22.12
Sub-Total : Transport, Communication and Trade	45,795	19.31	1,46,879	24.10	3,06,016	28.77
10 Banking and Insurance	5,068	2.14	18,311	3.00	40,698	3.83
11 Real Estate and Owner-ship of dwellings	8,003	3.37	17,984	2.95	44,708	4.20
Sub-Total : Finance and Real Estate	13,071	5.51	36,295	5.95	85,406	8.03
12 Public Administration	7,937	3.35	19,518	3.20	42,345	3.98
13 Other Services	13,859	5.85	27,662	4.54	50,074	4.71
Sub-Total : Community and Personal Services	21,796	9.20	47,180	7.74	92,419	8.69
14 Total Net State Domestic Product at Factor cost	2,37,110	100.00	6,09,524	100.00	10,63,494	100.00

1.8. The Net State Domestic Product (quick estimates) in 1984-85 was Rs. 10,634.94 crores. A broad sectoral break-up of the total income for 1984-85 at current prices shows that the services sector accounting for 45.49 per cent was the largest contributor followed by the secondary sector with its share of 29.33 per cent. The contribution of the primary sector was 25.18 per cent. 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 and there is a gradual shift in favour of the secondary and tertiary sectors. Looking at the relative contribution of the three sectors to State income over a period of time, it is evident that the share of the primary sector decreased from 39.86 per cent in 1970-71 to 29.75 per cent in 1979-80 and to 25.18 per cent in 1984-85. On the other hand, the share of the tertiary sector increased from 34.02 per cent to 37.79 per cent and to 45.49 per cent during the same period. The secondary sector's contribution though increased from 26.12 per

cent in 1970-71 to 32.46 per cent in 1979-80 declined to 29.33 per cent in 1984-85.

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

1.10. The income from agricultural sector at current prices increased from Rs. 904.56 crores in 1970-71 to Rs. 1,519.77 crores in 1978-79 representing an increase of 1.7 times. In the same period the total foodgrains production increased from 67.06 lakh tonnes in 1970-71 to 76.03 lakh tonnes in 1978-79 showing an increase of 13.4 per cent. This increase, however, was not steady. There was a decline in 1974-75 and in all the other years, there was a rise. The following figures in Table 1.IV relating to production of different groups of agricultural commodities, and the yield per hectare illustrate the progress made in the last 14 years in the agricultural sector.

TABLE 1. IV.
PRODUCTION OF PRINCIPAL CROPS AND YIELD PER HECTARE 1970-71 TO 1984-85.

Production : in 000 tonnes.		1970-71		1978-79	
Yield : kg / ha.		Production.	Yield.	Production.	Yield.
Item.	(1)	(2)	(3)	(4)	(5)
Rice		5,007	1,900	5,559	2,017
Cholam		543	732	636	912
Cumbu		312	658	454	1,112
Ragi		334	1,180	420	1,502
Other cereals		377	782	310	594
(a) Total cereals		6,573	1,423	7,379	1,627
Bengalgram		2	543	6	588
Redgram		29	461	51	690
Other pulses		102	241	162	305
(b) Total pulses		133	270	219	355
Total foodgrains (a) + (b)		6,706	1,312	7,598	1,475
Sugarcane (gur)		1,074	9,430	1,861	12,050
Chillies		121	1,454	81	760
Potatoes		86	7,382	75	7,124
Cotton (lint) *		323	196	568	278
Groundnut (unshelled)		989	1,004	1,129	1,148
Gingelly		43	323	46	352
Castor		4	415	4	407

Item.	1979—80		1980—81	
	Production.	Yield.	Production.	Yield.
	(6)	(7)	(8)	(9)
Rice	5,800	1,996	4,279	1,861
Cholam	652	903	451	762
Cumbu	329	881	264	805
Ragi	357	1,407	258	1,314
Other cereals	308	774	223	774
(a) Total cereals	7,446	1,602	5,475	1,476
Bengalgram	4	600	6	598
Redgram	43	632	35	573
Other pulses	148	279	135	285
(b) Total pulses	195	322	176	324
Total foodgrains (a) + (b)	7,641	1,455	5,651	1,331
Sugarcane (gur)	1,541	10,377	1,928	10,531
Chillies	62	630	40	552
Potatoes	76	7,533	88	8,410
Cotton (lint) *	387	235	260	201
Groundnut (unshelled)	1,063	1,062	768	912
Gingelly	43	351	33	329
Castor	4	415	4	414

*Bales of 170 kgs. lint.

Item.	1981—82		1982—83	
	Production.	Yield.	Production.	Yield.
	(10)	(11)	(12)	(13)
Rice	5,681	2,265	3,642	1,845
Cholam	552	785	405	602
Cumbu	310	922	208	702
Ragi	377	1,778	220	1,247
Other cereals	268	779	259	820
(a) Total cereals	7,188	1,752	4,734	1,378
Bengalgram	4	612	4	563
Redgram	46	591	38	471
Other pulses	138	291	199	493
(b) Total pulses	188	337	241	488
Total foodgrains (a) + (b)	7,375	1,582	4,975	1,266
Sugarcane (gur)	2,111	10,203	1,620	8,766
Chillies	48	632	52	653
Potatoes	123	12,103	71	7,475
Cotton (lint)*	261	205	221	203
Groundnut (unshelled)	1,042	1,208	712	939
Gingelly	33	357	24	309
Castor	5	424	2	390

Item.	1983—84		1984—85	
	Production.	Yield.	Production.	Yield.
	(14)	(15)	(16)	(17)
Rice	4,633	1,914	5,365	2,138
Cholam	527	680	526	766
Cumbu	321	934	320	992
Ragi	255	1,271	247	1,106
Other cereals	303	904	181	622
(a) Total cereals	6,039	1,482	6,639	1,655
Bengalgram	8	600	4	652
Redgram	58	631	51	667
Other pulses	156	313	193	362
(b) Total pulses	222	368	249	403
Total foodgrains (a) + (b)	6,261	1,338	6,888	1,488
Sugarcane (gur)	1,324	8,472	1,614	9,524
Chillies	49	770	48	675
Potatoes	100	10,449	125	14,887
Cotton (lint) *	288	264	585	393
Groundnut (unshelled)	929	1,046	986	1,027
Gingelly	33	324	36	358
Castor	4	409	5	414

* Bales of 170 Kgs. lint.

1.11. It may be seen from Table I.IV that production of all categories of agricultural goods increased appreciably from 1970-71 to 1978-79. The total production of cereals in 1970-71 was 65.73 lakh tonnes and it increased to 73.84 lakh tonnes in 1978-79. As regards commercial crops, there was an increase in the production of sugarcane (gur) from 10.74 lakh tonnes in 1970-71 to 18.61 lakh tonnes in 1978-79. Production of cotton (lint) however increased from 3.23 lakh bales in 1970-71 to 5.68 lakh bales in 1978-79. The production of groundnut (unshelled) increased from 9.89 lakh tonnes in 1970-71 to 11.29 lakh tonnes in 1978-79. In terms of percentages, the increase in the production of rice was 11.02 per cent, total cereals 12.34 per cent, total pulses 64.66 per cent, total foodgrains 13.38 per cent, sugarcane 73.28 per cent, cotton 75.85 per cent, groundnut 14.16 per cent and gingelly 7.00 per cent. The increase in production has been due more to improved productivity than to increase in the acreage under cultivation. Between 1970-71 and 1978-79, the percentage increase in the yield per hectare was 6.16 per cent in the case of rice, 27.78 per cent in the case of sugarcane, 41.84

per cent for cotton, 14.34 per cent for groundnut and 8.98 per cent for gingelly.

1.12. Analysing the production trends during the Sixth Plan period, it is noticed that two out of the five years since 1980-81 experienced pronounced dip in production but this depressing performance was substantially altered for the better during 1984-85. The production of rice declined from 58.00 lakh tonnes in 1979-80 to 53.65 lakh tonnes in 1984-85, touching a low level of 36.42 lakh tonnes in 1982-83. The total foodgrains production declined from 76.41 lakh tonnes to 68.88 lakh tonnes in 1984-85. Even though the rice production declined in 1984-85 as compared to the base year of the Sixth Plan, it could be considered as a much larger increase as compared to the previous two years. The area covered under paddy increased due to the comfortable carry over storage position.

1.13. There had been a specific pick-up in pulses production towards the end of the Sixth Plan period. Commercial crops particularly sugarcane and groundnut suffered sizeable reverses in production during 1980-81 to 1984-85 when

compared to the previous years. Even though the production of Sugarcane (gur) increased from 15.41 lakh tonnes to 16.14 lakh tonnes, the yield per hectare, however, declined from 10,377 kg./ha. to 9,524 kg./ha, during 1979-80 to 1984-85. The production of cotton dwindled since 1979-80 upto 1983-84 but picked up in 1984-85 when it reached a level of 5.85 lakh bales. There was a decrease in the production of groundnut from 10.63 lakh tonnes to 9.86 lakh tonnes and yield also decreased from 1,062 kg./ha. to 1,027 kg./ha. during the same period. In terms of percentages, the production of pulses increased by 27.69 per cent, sugarcane by 6.61 per cent, cotton by 51.16 per cent, whereas the production of rice declined by 7.50 per cent, total cereals by 10.84 per cent, total foodgrains by 9.85 per cent, groundnut by 7.24 per cent and gingelly by 16.28 per cent during 1979-80 to 1984-85. But the yield per hectare gives a different picture. While the yield of rice increased by 7.11 per cent, cotton by 67.23 per cent, gingelly by 1.99 per cent, sugarcane yield declined by 8.22 per cent and groundnut by 3.30 per cent.

1.14. The cumulative effect of the adverse factors like sub-normal summer rains, failure of

monsoons leading to reduced storages in the reservoirs, depletion of tanks and receding water tables was the drastic reduction in the area under principal crops. There was loss in terms of productivity too due to moisture stress in the critical stages of crop growth.

1.15. An analysis has been attempted about the price behaviour in respect of agricultural commodities since 1970-71. Table 1.V shows the wholesale price trends of the select agricultural commodities from 1970-71 to 1984-85. During the period 1970 to 1979, the year 1974-75 revealed an abnormal hike in prices and it also witnessed a steep fall in production touching a very low level. During 1970-71 to 1978-79, the wholesale price of fine variety rice increased by 46.87 per cent and that of medium variety rice by 70.03 per cent, while the rice production increased by 11.02 per cent. Sugarcane production increased by 73.28 per cent and the wholesale price of cane jaggery by 40.02 per cent and sugar by 51.52 per cent. The production of cotton increased by 75.85 per cent, that of groundnut by 14.16 per cent and gingelly by 7.00 per cent while the prices of the same increased by 128.02 per cent, 55.34 per cent and 49.34 per cent respectively.

TABLE 1. V.

ANNUAL AVERAGE WHOLESAL E PRICES OF PRINCIPAL COMMODITIES IN TAMIL NADU

Commodity.	1970-71	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(RUPEES PER QUINTAL).							
Rice I Sort ..	115.22	169.22	198.25	235.15	272.74	270.64	306.98	305.43
Rice II Sort ..	94.13	160.05	185.87	216.34	254.87	255.51	284.17	277.60
Cholam ..	71.72	92.57	105.69	126.24	155.31	141.37	186.72	173.88
Cumbu ..	61.17	88.28	102.41	128.85	147.79	140.81	186.68	159.59
Ragi ..	60.37	87.23	101.45	134.16	162.86	150.40	190.55	176.18
Bengalgram Dhall.	123.12	280.80	283.45	448.98	477.94	365.51	393.26	589.14
Redgram Dhall	166.32	461.61	465.68	474.31	530.26	571.41	678.60	658.88
Sugar ..	173.52	262.91	343.73	662.91	615.25	456.04	466.96	507.84
Cane Jaggery (II Sort).	100.50	140.72	213.07	322.72	260.10	179.76	336.04	318.90
Cotton lint ..	609.24	1,389.18	1,298.46	1,142.58	1,660.79	1,473.61	1,683.07	1,669.06
Groundnut (unshelled).	139.94	217.38	280.61	338.79	399.14	396.25	457.38	492.24
Gingelly seeds	229.53	342.78	443.83	544.77	569.01	613.62	668.78	719.12

1.16. The wholesale prices of all the agricultural commodities had shown an upward trend since 1978-79. There was an alarming rate of inflation in 1980 and it was reflected in the wholesale prices of almost all the commodities. Looking at the trends in the prices from 1979-80 to 1984-85 it is noticed that the percentage increase in the wholesale prices of fine variety rice was 54.06 per cent, medium variety rice was 49.35 per cent, sugar 47.74 per cent, cane jaggery 49.67 per cent, cotton lint 28.54 per cent, groundnut 75.42 per cent and gingelly seeds 62.03 per cent. There was a sudden spurt in prices at an accelerating rate in the years 1980-81, 1981-82 and 1983-84. The price of rice almost increased every year since 1979-80 and only in 1984-85, it showed a decline; that of sugar nearly doubled in 1980-81 and it declined afterwards. The price of cotton showed a hike in 1981-82 and came down in 1982-83. The prices of groundnut and gingelly showed a steady increase during 1979-80 to 1984-85.

Industry:

1.17. The growth of industrial production in Tamil Nadu may be assessed on the basis of the indices of industrial production with 1970 as base. Table 1. VI below shows the rate of growth in industrial production during the period 1970 to 1984.

TABLE 1. VI.
INDEX NUMBERS OF INDUSTRIAL PRODUCTION
IN TAMIL NADU.
(Base: 1970=100)

Year.	Indices of industrial production.	Percentage variation over the previous year.
(1)	(2)	(3)
1970	100.0	..
1971	119.7	(+) 19.7
1972	121.7	(+) 1.7
1973	117.0	(-) 3.9
1974	128.1	(+) 9.5
1975	128.0	(-) 0.08
1976	137.6	(+) 7.5
1977	143.1	(+) 4.0
1978	164.1	(+) 14.7
1979	172.7	(+) 5.2
1980	182.5	(+) 5.7
1981	201.7	(+) 10.5
1982	213.3	(+) 5.8
1983	195.9	(-) 8.2
1984	233.1	(+) 19.0

(From 1971 to 1975, the index numbers are estimated figures.)

1.18. It is seen from the above table that in Tamil Nadu the growth in industrial production had been positive in most of the years but the rate of growth was not steady. The years 1978, 1981 and 1984 were good years as far as industrial production was concerned, and the State recorded an industrial growth rate of 14.7 per cent in 1978, 10.5 per cent in 1981 and 19.0 per cent in 1984.

1.19. The tempo of industrial growth over the period 1971 to 1979 as revealed by the indices of industrial production was 4.7 per cent (annual compound) per annum. There was a marked slump in the index in 1973 due to stringent power position and the index remained almost stagnant in 1975 which was attributable to an unprecedented drought of 1974-75. The State's industrial sector achieved a thrust forward in the late seventies and the index crossed the 200 mark in 1981.

1.20. During the period 1979 to 1984, the average annual compound growth of industrial production was 6.2 per cent, but this concealed a negative growth of (-) 8.2 per cent in the year 1983. The industrial activity in 1983 slowed down mainly due to the power cuts imposed on industries. The number of registered factories increased from 6,215 in 1970 to 8,506 in 1978 and the employment increased from 4.06 lakh persons to 5.41 lakh persons during the same period. Again, the number of factories increased from 8,804 in 1979 to 11,920 in 1984 with an employment of 5.83 lakh persons and 7.83 lakh persons respectively.

Economic Overheads :

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

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

Irrigation :

1.22. The major problem which agriculture faces in Tamil Nadu is the shortage of water. The average rainfall in Tamil Nadu had varied in the years 1970-71 to 1978-79 between the low of 647.4 mm. in 1974-75 and the high of 1123.7 mm. in 1977-78. During the period 1979-80 to 1984-85, the lowest rainfall was recorded in 1982-83 as 652.6 mm. and the highest in 1983-84 as 1222.5 mm. Among the districts, Coimbatore and Periyar get the lowest rainfall (below 800 mm.) while Kanyakumari and the Nilgiris get the highest (1400 mm and above).

1.23. Because of low rainfall, agriculture in Tamil Nadu depends greatly on irrigation. Table 1.VII shows the extension of area under irrigation (source-wise) since 1970-71.

TABLE I.VII.

AREA IRRIGATED (SOURCE-WISE) IN TAMIL NADU.

Net area Irrigated by	1970-71.		1978-79.		1979-80.		1980-81	
	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1 Government Canals ..	883	34.07	919	31.99	931	31.20	888	34.55
2 Private Canals	1	0.04	1	0.03	1	0.03	1	0.04
3 Tanks	898	34.64	842	29.31	896	30.03	590	22.96
4 Wells (including tube wells) ..	774	29.86	1,069	37.21	1,118	37.47	1,067	41.52
5 Other sources	36	1.39	42	1.46	38	1.27	24	0.93
Total ..	2,592	100.00	2,873	100.00	2,984	100.00	2,570	100.00

Net area Irrigated by	1981-82.		1982-83.		1983-84.		1984-85.	
	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.	000 hectare.	Per cent to total.
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1 Government Canals ..	900	33.20	763	33.85	865	33.04	896	33.94
2 Private Canals	1	0.04	1	0.04	1	0.04	1	0.04
3 Tanks	738	27.22	517	22.94	807	30.83	715	27.08
4 Wells (including tube wells) ..	1,047	38.62	958	42.50	925	35.33	1,007	38.14
5 Other sources	25	0.92	15	0.67	20	0.76	21	0.80
Total ..	2,711	100.00	2,254	100.00	2,618	100.00	2,640	100.00

1.24. It is seen from Table I.VII that there has not been much increase in the area under irrigation since 1970-71. During the period ending 1978-79, tank irrigation showed a sharp decline in 1974-75 and the area under tank irrigation was at its high level in 1972-73 i.e. 9.49 lakh hectares and was 9.30 lakh hectares in 1973-74. It started declining afterwards and only in 1977-78, it once again reached a level of 9.10 lakh hectares. The area under government canals declined in 1976-77 to 6.76 lakh hectares from 8.83 lakh hectares in 1970-71 and there was not a steady increase in the after years. Well irrigation covered 7.74 lakh hectares in 1970-71 and it more or less steadily increased and reached a level of 10.69 lakh hectares in 1978-79.

107D-4-2A

1.25. During the period from 1979-80 to 1984-85, the total net area irrigated declined from 29.84 lakh hectares to 26.40 lakh hectares. Tank irrigation was at its lowest level in 1982-83 i.e., 5.17 lakh hectares and the decline was because of the drought conditions in the previous years. The area under government canals also steadily declined after 1979-80. The area under well irrigation was at its highest level in 1979-80 when it was 11.18 lakh hectares but it started declining afterwards reaching a level of 9.25 lakh hectares in 1983-84.

1.26. As regards land utilisation, the total geographical area according to village records was 130.05 lakh hectares in 1970-71, 130.01 lakh

hectares in 1978-79, 130.02 lakh hectares in 1979-80 and 129.95 lakh hectares in 1984-85. The net area sown increased from 61.69 lakh hectares in 1970-71 to 62.51 lakh hectares in 1978-79. It came down to 62.32 lakh hectares in 1979-80, and further to 52.59 lakh hectares in 1982-83. Only in 1983-84, it rose to 58.46 lakh hectares but declined to 57.88 lakh hectares in 1984-85. Of the area under principal crops irrigated in Tamil Nadu, rice accounts for more than two thirds. The cropping pattern in the State has not changed to any noticeable extent since 1970-71. Of the total area under cultivation, food crops accounted for 76.10 percent in 1970-71, 75.90 percent in 1978-79, 76.71 percent in 1979-80 and 74.83 percent in 1984-85. Rice had taken up about half the total area under food crops. The area under non-food crops was 17.65 lakh hectares (23.90 percent to total) in 1970-71 and 18.52 lakh hectares (24.10 percent) in 1978-79. It declined to 17.97 lakh hectares (23.29 percent) in

1979-80 and further to 17.84 lakh hectares (25.17 percent) in 1984-85.

Power generation :

1.27. Power forms the basic infrastructure for the industries. Besides, electricity has also been increasingly utilised in Tamil Nadu for irrigation purposes. In view of the limited hydro resources, Tamil Nadu has come to rely increasingly on thermal power. Tamil Nadu has achieved an excellent record in the generation and distribution of power, rural electrification and energisation of pumpsets. With the organised planning of industrial development in the Five Year Plans, a spectacular growth was recorded in respect of installed capacity for power. The figures given in Table I.VIII below relating to power generation and consumption illustrate the progress made by the State from 1970-71 to 1984-85.

TABLE I.VIII.

POWER GENERATION AND CONSUMPTION IN TAMIL NADU.

Year.	Installed capacity (MW) *	Generation (million units)				Consumption (m.u.).
		Hydro.	Thermal.	Purchases.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970-71	1,965	3,043	557	2,581	6,181	5,057
1971-72	2,075	3,745	618	2,449	6,812	5,380
1972-73	2,171	4,144	932	1,895	6,971	5,371
1973-74	2,254	3,702	1,171	2,232	7,105	5,355
1974-75	2,254	3,827	1,249	2,304	7,380	5,645
1975-76	2,364	4,405	1,317	2,384	8,106	6,268
1976-77	2,364	2,753	2,176	3,421	8,350	6,485
1977-78	2,424	3,768	1,852	3,293	8,913	7,485
1978-79	2,509	4,525	2,082	3,896	10,503	8,309
1979-80	2,719	5,533	2,041	2,841	10,415	8,190
1980-81	2,929	4,925	2,446	3,556	10,927	8,586
1981-82	2,899	4,658	3,174	3,843	11,675	9,135
1982-83	3,109	3,345	4,037	3,543	10,925	10,887
1983-84	3,344	2,948	3,981	3,448	10,377	10,349
1984-85	3,344	4,447	4,935	4,349	13,731	13,663

* (1) Includes 600 MW of Neyveli Thermal, upto 1982-83.

(2) Includes 600 MW of Neyveli Thermal and 235 MW of Kalpakkam Atomic from 1983-84 onwards.

1.28. It is seen that between 1970-71 to 1978-79, the total installed capacity of the State grid went up from 1965 MW to 2509 MW. In 1970-71, the power generation, both hydel and thermal, was at 3600 m.u. and by 1978-79, it had grown by an impressive 84 per cent reaching a level of 6607 m.u. The growth in the total power output had been steady except during the years 1973-74 and 1976-77, and the setback was primarily due to the failure of monsoons.

1.29. The hydel capacity of the grid remained virtually stagnant between 1971-72 and 1976-77 and the hydel component which accounted for 69 per cent of the total capacity in 1976-77 improved to 70 per cent in 1977-78 and 72 per cent in 1978-79. Between 1971-72 and 1975-76, the net addition to overall capacity (excluding Neyveli Thermal) amounting to 289 MW was entirely thermal, while between 1976-77 and 1978-79, the net addition of 145 MW to total capacity (excluding Neyveli Thermal) was hydel. The thermal generation showed a remarkable increase from 557 m.u. in 1970-71 to 2082 m.u. in 1978-79, a 273.8 per cent increase. Thermal power generation crossed the level of 1000 m.u. in 1973-74 and since then it has had its definite contribution to overall power generation in the State. The growth in thermal generation was continuous except for the year 1977-78. The 1976-77 level of thermal generation was an all-time high record of 2176 m.u. (up to the period 1978-79). The installed capacity of the thermal power which continued to be stationary at 540 MW between 1975-76 and 1978-79 was raised to 750 MW in 1979-80. The additional 210 MW originated at Tuticorin Thermal Station which was commissioned in July 1979. Power consumption increased from 5057 m.u. in 1970-71 to 5645 m.u. in 1974-75 and it increased afterwards reaching a level of 8309 m.u. in 1978-79.

1.30. From 1979-80 to 1983-84, the hydro generation recorded a steady decline from 5533 m.u. to 2948 m.u. due to the persistent and sizeable fall recorded in the performance of the hydel stations. In the year 1979-80, an impressive addition to hydro power generation of 1008 m.u. was achieved utilising the then existing capacity (1369 MW), while in 1977-78 and 1978-79, the addition to hydro power generated was accompanied by additions to installed capacity. From 73 per cent of the total generation in 1979-80 the relative contribution of hydel stations had steadily gone down to 43 per cent in 1983-84 the pace of decline being faster in 1982-83. The major improvement in hydro generation in 1984-85 was on account of better inflows to the hydel stations.

1.31. With hydro generation depending upon the vagaries of monsoons and the potential for hydel capacity has almost been fully exhausted, the gradual additions to thermal capacity over the years, particularly after 1979-80 have provided great relief to the State grid in times of setbacks. The hydro-thermal-nuclear mix of the state grid capacity had changed from 50:50:0 in 1979-80 to 41:52:7 in 1983-84. The pattern of growth in capacity clearly indicates that increasing reliance is placed on thermal and nuclear capacity. The thermal record exhibited a steady improvement since 1979-80 except for a marginal fall in 1983-84. With the commissioning of the first 235 MW unit at Kalpakkam nuclear station in July 1983, the installed capacity of the state grid had been stepped up to 3344 MW. The addition to the thermal power during 1984-85 was due to the better performance of Ennore and Tuticorin thermal stations and additional power purchased from Kalpakkam and NTPC. There was a steady increase in power consumption since 1979-80 and the percentage increase was 66.83 up to 1984-85.

1.32. As regards use of electric power for agricultural purposes, the figures in Table I.IX relating to the number of pumpsets energised and the number of towns, villages and hamlets electrified illustrate the progress made.

TABLE I.IX.

RURAL ELECTRIFICATION.

Year.	Number of pumpsets energised.	Number of towns and villages electrified.	Number of hamlets electrified.
(1)	(2)	(3)	(4)
1971 ..	5,29,932	11,714	30,299
1978 ..	8,09,606	15,961	47,378
1979 ..	8,40,557	15,964	47,431
1980 ..	8,87,277	15,989	47,439
1981 ..	9,19,162	16,025	47,448
1982 ..	9,45,520	16,050	47,468
1983 ..	9,65,017	16,075	47,487
1984 ..	9,82,606	16,112	47,502
1985 ..	10,33,556		63,648

1.33. As on 31st March 1985, out of 64,012 towns, villages and hamlets in the state, as many as 63,648 or 99.43 per cent of the total were electrified. Similarly, of the estimated total number of 12 lakh wells, agricultural pumpsets were energised in 10.34 lakhs or 86.17 per cent of the wells. The number of huts and Adidraavidar colonies electrified upto March 1985 was 6.36 lakhs and 26,137 respectively.

Roads:

1.34. In the construction of roads also (another important item of economic infrastructure), there has been noticeable improvement. The total length of roads in 1971 was 74,164 kms. of which 50,207 kms. or 68 per cent was surfaced and 23,957 kms. or 32 per cent was unsurfaced and motorable. It increased to 1,00,011

kms. in 1978 made up of 63,604 kms. (64 per cent surfaced and 36,407 kms. (36 per cent) unsurfaced. During 1980 to 1985, the total road length increased from 1,04,385 kms. to 1,28,249 kms. The surfaced road length increased from 57,787 kms. (55 per cent) to 71,372 kms. (56 per cent) and the unsurfaced road length from 46,598 kms. (45 per cent) to 56,877 kms. (44 per cent) during 1980 to 1985. (Table 1.X below).

TABLE 1.X.

LENGTH OF ROADS BY SURFACE AS ON 31ST MARCH EACH YEAR.

Year.	Surfaced roads.				Unsurfaced roads (motorable).	Total road length (5)+(6).
	Cement Concrete.	Bituminous.	Water bound Macadam.	Total.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1971	1,196	25,713	23,298	50,207	23,957	74,164
1978	1,123	35,593	26,888	63,604	36,407	1,00,011
1979	1,123	36,338	25,943	63,404	38,466	1,01,870
1980	417	32,200	25,170	57,787	46,598	1,04,385
1981	322	32,652	25,901	58,875	48,477	1,07,352
1982	322	34,011	31,068	65,401	53,210	1,18,611
1983	309	35,504	36,233	72,046	58,677	1,30,723
1984	291	38,084	32,902	71,277	56,889	1,28,166
1985	278	38,474	32,620	71,372	56,877	1,28,249

NOTE.—From the year 1980, the figures exclude roads maintained by Municipalities and Public Works Department.

Social Development—Education :

1.35. 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 since 1970-71 is reflected in the figures shown in Table 1. XI below :—

TABLE 1.XI.

PROGRESS OF SCHOOL EDUCATION.

Year.	Percentage of pupils to the total population in the age-group.		
	6-11.	11-14.	14-17.
(1)	(2)	(3)	(4)
1970-71	94.10	55.10	35.30
1978-79	94.25	58.25	38.46
1979-80	94.64	59.68	38.44

Percentage of pupils to the total population in the age-group.

Year.	Percentage of pupils to the total population in the age-group.		
	6-11	11-14	14-17
(1)	(2)	(3)	(4)
1980-81	95.22	61.42	39.90
1981-82	94.76	64.55	41.36
1982-83	96.20	66.03	42.57
1983-84	97.96	69.40	44.87
1984-85	98.66	72.18	47.45

(14-16 from 1979-80)

1.36. The total number of primary and middle schools in the state increased from 31,712 in 1968-69 to 33,130 in 1978-79 representing an increase of 4.47 per cent. The number of students enrolled in the age-group 6-14 increased from 61.46 lakhs to 78.23 lakhs in the same period or by 27.29 per cent. The number of teachers

in primary and middle schools increased from 1,54,140 in 1968-69 to 1,81,087 in 1978-79.

1.37. During the period 1979-80 to 1984-85 the number of primary and middle schools increased from 33,347 to 34,538 (by 3.6 per cent), the number of students in the age-group (6-14) from 79.95 lakhs to 93.63 lakhs (by 17.11 per cent) and the number of teachers from 1,79,103 to 1,83,154. The number of high and higher secondary schools increased from 3,226 in 1979-80 to 3,950 in 1984-85, the number of students in the age-group 14-16 from 6.34 lakhs to 8.52 lakhs and the number of teachers from 79,359 to 1,01,260.

1.38. The impressive achievement in school enrolment was mainly due to the impact of the Chief Minister's Nutritious Meal Programme, which was introduced in 1982. The additional enrolment of children in the primary and middle schools was 2.63 lakhs in 1982-83, 3.62 lakhs in 1983-84 and 2.98 lakhs in 1984-85. The rate of drop-outs at the primary school level has been coming down in recent years. From 40 per cent in 1977-78, it came down to 29 per cent in 1982-83 and further to 26 per cent in 1983-84.

Public Health :

1.39. An idea of the progress made in providing public health facilities can be had from the figures relating to number of hospitals, dispensaries, etc., available in the State in the last few years. The number of primary health centres increased from 365 in 1970 to 383 in 1979 and the bed strength from 2,190 to 2,298 during the same period. The number of district, taluk and non-taluk hospitals and dispensaries was 392 with a bed strength of 12,384 in 1979. From 1980 to 1985, the number of primary health centres increased from 383 with a bed strength of 2,302 to 436 with a bed strength of 3,340 and the number of district, taluk and non-taluk hospitals and dispensaries increased from 423 with a bed strength of 13,697 to 459 with a bed strength of 15,222.

Demographic trends and unemployment :

1.40. The population in Tamil Nadu increased from 412 lakhs in 1971 (census) to 484 lakhs in 1981 (census). It was estimated at 516 lakhs in 1985. This means that the population increased at the rate of 1.6 per cent per annum between 1971 and 1981 (compound growth rate). The birth rate per 1,000 of estimated mid-year population was 31.4 in 1971 and 26.1 in 1981. In fact, the birth rate showed an in-

crease upto 1972 when it reached 32.4 and then a steady decline. As against this, the death rate shows a haphazard trend upto 1975 and thereafter an appreciable downward trend. This is brought out in Table I. XII.

TABLE I.XII.

BIRTH RATES AND DEATH RATES DURING 1971 TO 1984.

Year.	Population in lakhs.	Birth rate per 1,000 of estimated Mid-year population.	Death rate per 1,000 of estimated Mid-year population.	Infant mortality per 1,000 of live births.
(1)	(2)	(3)	(4)	(5)
1971	412	31.4	14.4	61.4
1972	416	32.4	15.1	54.9
1973	424	30.0	14.1	55.4
1974	432	29.2	13.9	49.5
1975	445	30.7	15.0	46.7
1976	451	30.4	14.6	46.6
1977	458	29.8	13.7	47.6
1978	464	28.9	12.8	43.9
1979	472	28.1	12.0	96.8
1980	480	27.9	11.2	99.8
1981	484	26.1	10.9	81.2
1982	488	26.4	10.2	77.2
1983	492	..	..	..
1984	495	..	..	..

1.41. The density of population in Tamil Nadu was 317 per sq. km. in 1971 and 372 per sq. km. in 1981. 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 figures furnished by the Directorate of Employment and Training, Madras, the number of persons employed in the public and private sectors was 15.12 lakhs in 1970, 18.19 lakhs in 1979, 18.66 lakhs in 1980 and 21.2

lakhs in 1985. These figures show an increase of 20.30 per cent during 1970 to 1979 and 13.88 per cent during 1980 to 1985.

1.42. According to the estimates done by the Working Group on Manpower Planning, the work force in Tamil Nadu has been growing much faster at an annual growth rate of 2.5 per cent. The 32nd round of the National sample survey conducted during 1977-78 had estimated that the level of unemployment in Tamil Nadu was 16.1 per cent as against the country's average of 8.5 per cent. The Sixth Five Year Plan (1980-85) document of the Government of India states that while Tamil Nadu accounts for 8.65 per cent of the total labour force of the country, the share of the State in the total All India unemployment was 16.48 per cent. This is the highest figure for the States—Andhra Pradesh coming next with 12.37 per cent and Kerala with 11.09 per cent. Expressed as a percentage of the labour force, the figure for Tamil Nadu (15.6 per cent) seems, however, moderate, Kerala being in the worst position with more than 25 per cent.

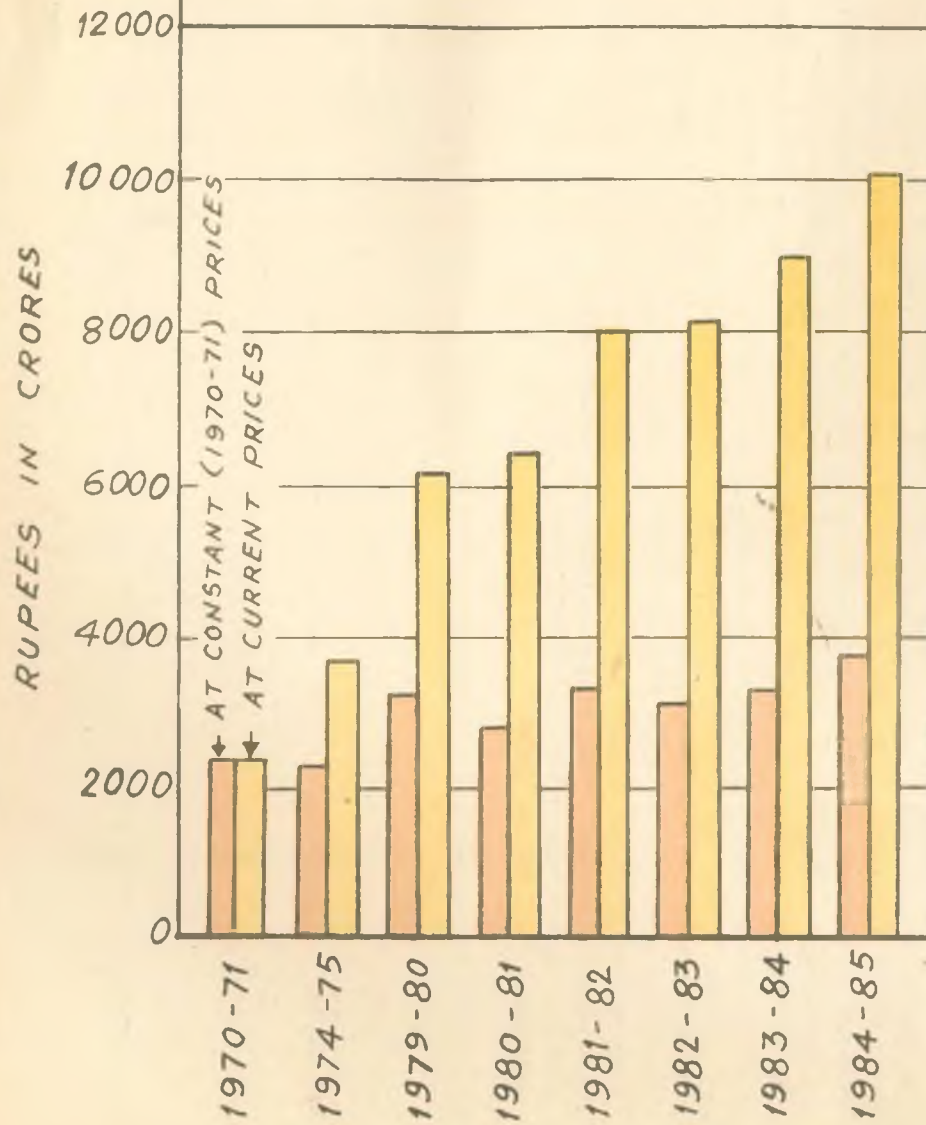
1.43. Of particular significance to Tamil Nadu is the fact that the problem of educated unemployed is becoming serious in the State and the number of women seeking jobs is also rapidly going up. Between 1970 and 1979 (as on 31st March), the total number of applicants on the live registers of the employment exchanges increased from 3.47 lakhs to 9.68 lakhs or by 178.96 per cent and the educated job-seekers (as on 31st December) increased from 1.79 lakhs to 4.79 lakhs or by 167.60 per cent. Even among the educated unemployed, the increase was greater in the case of S.S.L.C. holders. From the data supplied by the Directorate of Employment and Training, Madras, it is seen that between 1970 and 1979, while job seekers of the category of the S.S.L.C. or its equivalent increased from 1,44,009 to 3,13,569 that of graduates from 19,938 to 85,676 and post-graduates from 1,881 to 10,834.

1.44. Between 1980 and 1985, the total number of applicants on the live registers of the Employment Exchanges in Tamil Nadu increased from 10.06 lakhs to 17.58 lakhs (as on 31st March) or by 74.75 per cent, and the number of educated persons in the registers went up by 67.20 per cent or in absolute terms from 5.58 lakhs to 9.33 lakhs during the same period. Again between 1980 and 1985, the number of S.S.L.C. holders seeking employment increased from 3,44,337 to 5,29,727, graduates from 1,01,576 to 1,30,808 and post graduates from 14,184 to 31,315.

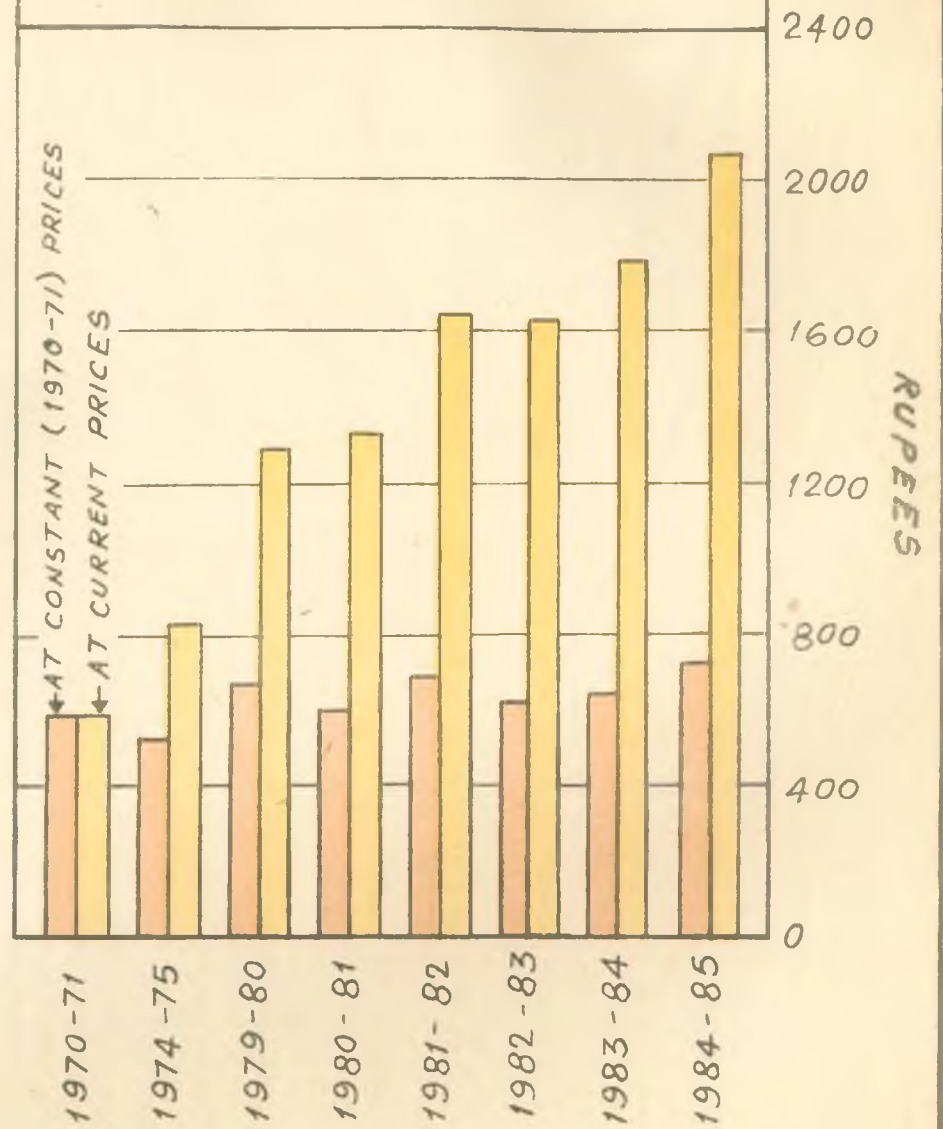
Employment of Women :

1.45. With urbanisation and spread of education, the size of the female work force has increased in the State. However, various factors operate against their recruitment, training and employment in a good number of jobs. The number of women employed in the organised sector increased from 2.21 lakhs in 1970 to 2.85 lakhs in 1979 showing a growth of 2.9 per cent and their percentage to total employment in the organised sector increased from 14.63 per cent to 15.68 per cent. The percentage of women employed in the public sector to total women employees was 41.88 in 1970 and 48.766 in 1979. The growth of women employment was not only higher during the period 1980 to 1985 i.e. 7.0 per cent but it was much faster than in the aggregate employment i.e. 2.6 per cent. The total number of women employed in the organised sector increased from 2.97 lakhs in 1980 to 4.17 lakhs in 1985 showing a percentage of 15.93 and 19.63 respectively to total employment in the organised sector. The percentage of women employed in the public sector also increased much from 49.28 per cent to 58.999 per cent or in absolute terms, from 1.46 lakhs to 2.46 lakhs.

NET STATE DOMESTIC PRODUCT

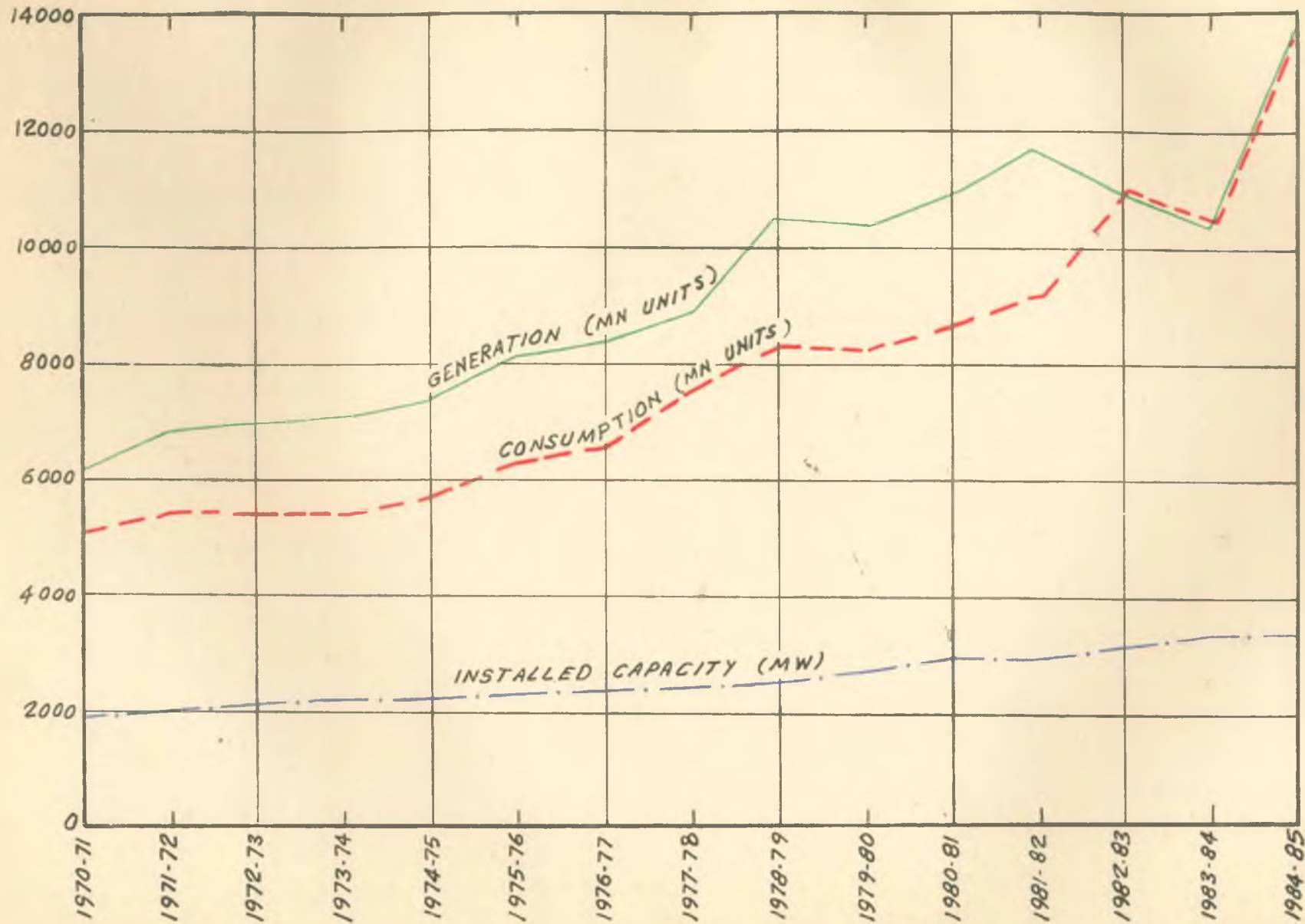


PERCAPITA INCOME

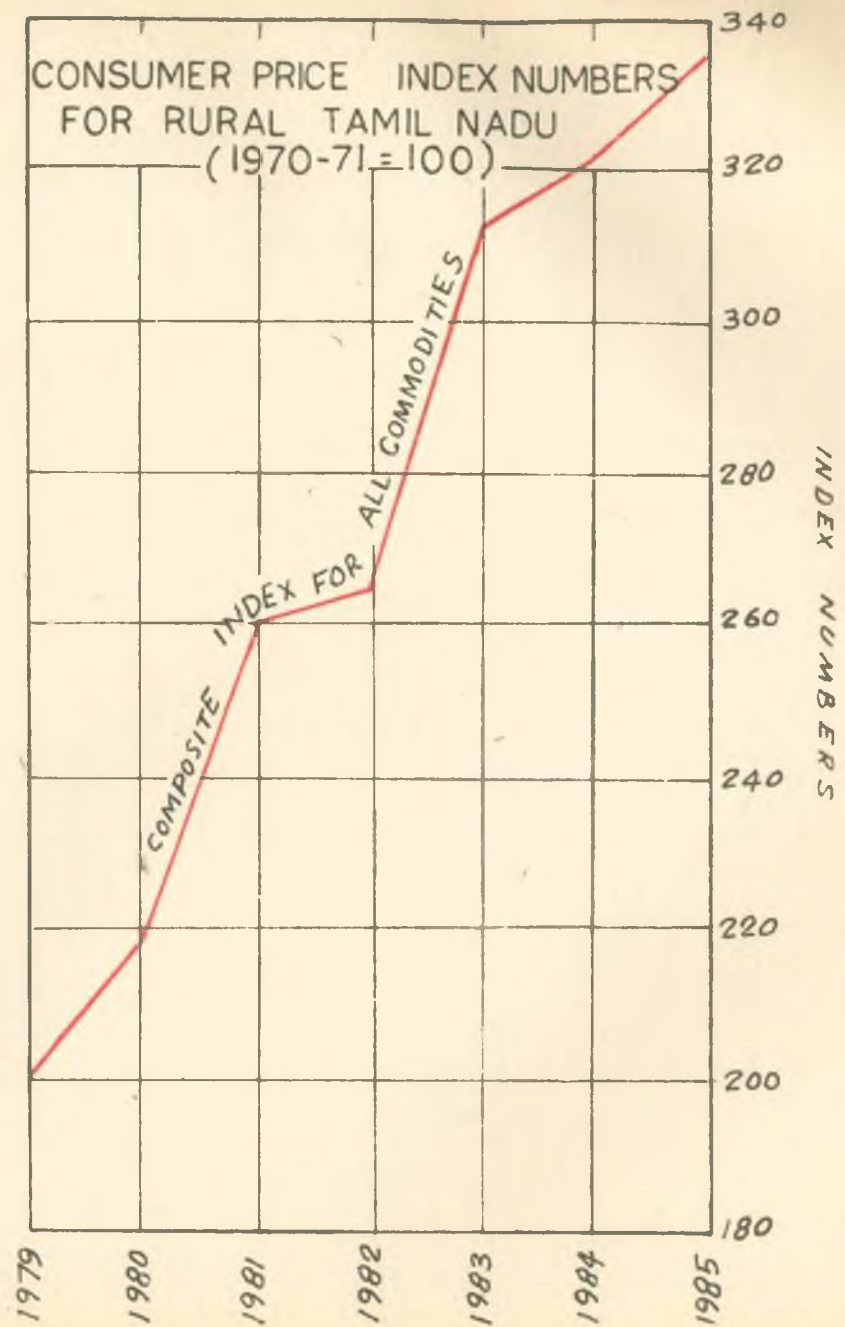
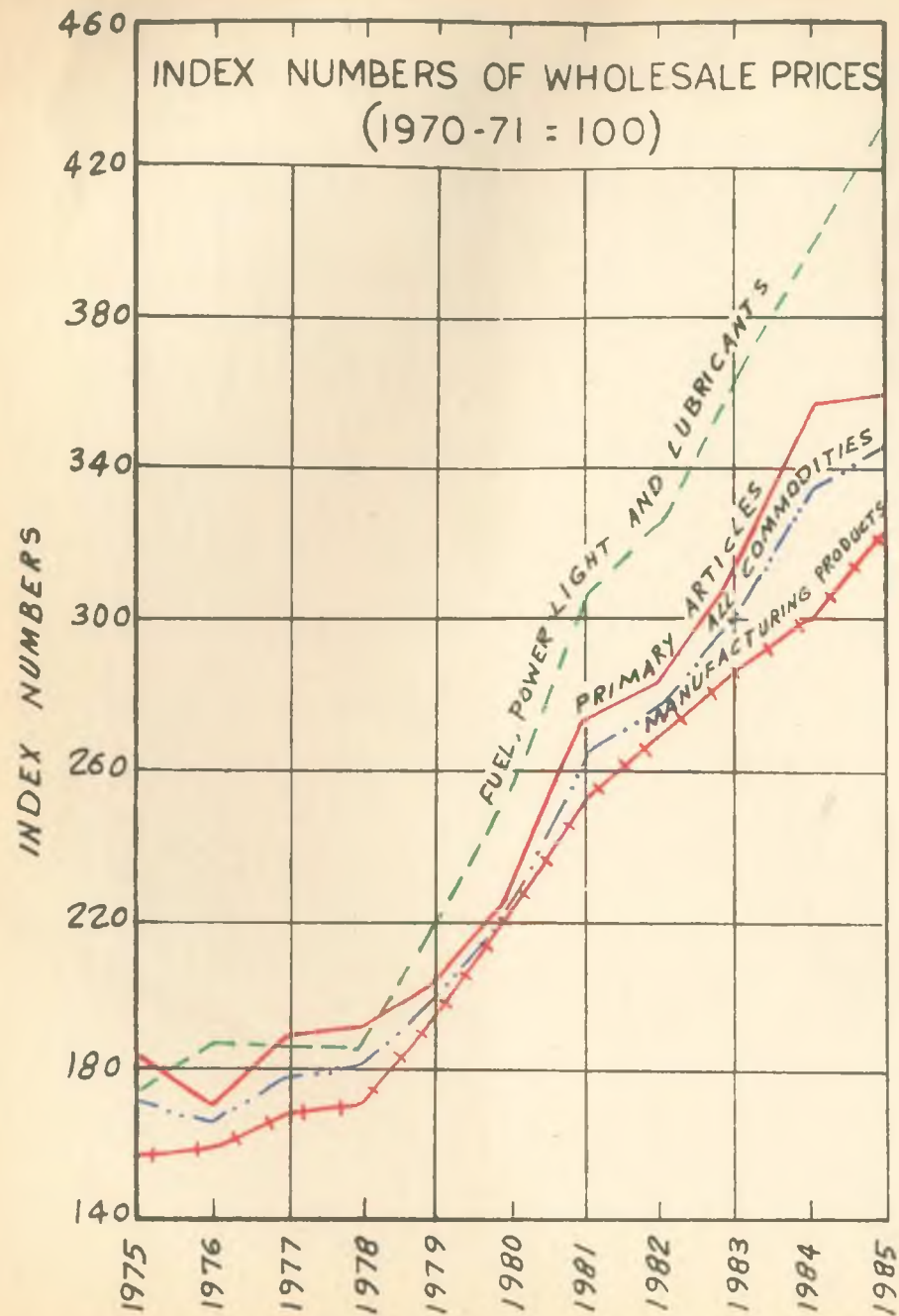


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POWER GENERATION AND CONSUMPTION



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CHAPTER 2.

REVIEW OF THE SIXTH FIVE YEAR PLAN 1980-85.

2.0. During the Sixth Five-Year Plan period, substantial progress could be witnessed in various fields of activity due to the implementation of the new and special programmes on agriculture and other fronts. Though there were a few shortfalls on account of the consecutive droughts, the economy recovered and had a period of sustained growth. The record during the plan period may be briefly reviewed.

2.1. The plan performance is of the order of Rs. 3,644.62 crores against the originally approved outlay of Rs. 3,150.00 crores. The thrust in the Sixth Plan was to implement the poverty alleviation and other welfare programmes vigorously with a view to lifting a sizeable number of the population above the poverty line. Investment allocation in the Plan has been weighed heavily in favour of core sectors like power with the objectives of maximising the growth potential of the economy.

2.2. The details of the outlay under the different sectors are presented in the Table 2. HI appended to the Chapter. It is seen that of the total expenditure of Rs. 3,644.62 crores, 26.55 per cent is on power development. The total expenditure on five heads i.e. Power, agriculture, transport and communication, water supply and sewerage and irrigation add up to Rs. 1,924.10 crores or more than half of the total expenditure during 1980-85. The expenditure during 1980-85 has fallen short of the outlay in the case of sectors like irrigation, power, roads and bridges, sewerage and water supply. On the other hand, in respect of sectors like agriculture, special area programme for rural development, forests, community development, industries, general education, medical and public health, welfare of scheduled caste/scheduled tribe/other backward classes and social welfare, the actual expenditure has exceeded the targetted outlay.

Irrigation:

2.3. During the Sixth Plan period (1980-85), it was proposed to create an additional irrigation potential of 66,000 hectares against which the additional potential actually created was 72,720 hectares. This was possible due to the early completion of the World Bank aided pro-

ject viz. "Modernisation of Periyar-Vaigai Irrigation System I Stage" in the Sixth Plan itself. Under major schemes, Parambikulam Aliyar Project Ayacut Extension scheme and modernisation of Periyar Vaigai Irrigation system II stage with the World Bank assistance, under modernisation schemes, modernisation of Anandanar Channels and its branches and extension of right bank canal of Thiruparappu anicut and modernisation of its entire stretch and 22 medium irrigation schemes were taken up during the Sixth Plan period.

2.4. The two major schemes implemented during the Plan period were "Modernisation of Periyar Vaigai irrigation system (I Stage) and a part under Parambikulam—Aliyar project ayacut extension scheme. Works on modernisation of Periyar—Vaigai irrigation system—II Stage were taken up in 1983 and it is under progress. Six out of the 22 medium irrigation schemes were completed and the remaining schemes are in various stages of execution. The additional irrigation potential created was 11,560 ha. in 1980-81, 8,300 ha. in 1981-82, 10,600 ha. in 1982-83, 18,640 ha. in 1983-84 and 23,621 ha. in 1984-85.

2.5. An Irrigation Management Training Institute to provide training facilities in Irrigation Water Management to all the Serving Officers of Public Works Department, Agriculture and other allied departments who are responsible for the development of irrigated agriculture in the State and to improve the irrigation system's efficiency has been set up in Tamil Nadu with the U.S. Aid for a period of seven years from 1983-84. The Training Institute is currently organising a number of training programmes with the expertise and services of Anna University, Tamil Nadu Agricultural University and Indian Institute of Management, Bangalore.

Power:

2.6. The additional generation for the VI Plan was targetted at 630 MW comprising 400 MW from Kadamparai pumped storage scheme (Hydro), 210 MW from the Tuticorin thermal extension scheme and 20 MW from Servalar

hydro electric scheme. However, the actual addition by the end of the Sixth Plan was 420MW consisting of the III unit of 210 MW in Tuticorin thermal plant, the II unit of 210 MW being the slippage from the V Plan. The shortfall in the generation during the Plan was due to the delay in the commissioning of the 2 Hydro electric schemes namely Kadamparai pumped storage scheme and Servalar. They are now expected to be commissioned during the Seventh Plan. Under rural electrification, as on 31st March, 1985, 63,648 towns, villages and hamlets, 26,137 Adi-draavidar colonies and 6.36 lakh huts were electrified and 10.34 lakh pumpsets were energised.

Agriculture-Crop production:

2.7. To meet the increasing demand for foodgrains, the Sixth Five Year Plan set the target of achieving 100.00 lakh tonnes of production of food-crops by the end of 1984-85 as against the production of 76.41 lakh tonnes in the base year 1979-80. The production of rice, the major staple food of the people in the State was proposed to be stepped up to 65.00 lakh tonnes in 1984-85 from the base level production of 58.00 lakh tonnes. The Plan also laid special emphasis on increasing pulses production from 1.95 lakh tonnes in 1979-80 to 5.00 lakh tonnes in 1984-85. Regarding commercial crops, it was proposed to increase the production of sugarcane (gur) to 25.00 lakh tonnes, cotton to 5.00 lakh bales and oilseeds to 14.60 lakh tonnes compared with the achievement of 15.41 lakh tonnes, 3.87 lakh bales and 11.36 lakh tonnes respectively in 1979-80.

2.8. For achieving this level of increased agricultural production, the main thrust during the Sixth Plan was through increased spread of high yielding varieties, increased and efficient use of production inputs, organised pest and disease control, adoption of a new system of agricultural extension namely Training and Visit system in all the districts in Tamil Nadu based on regular farm visits by full time trained extension personnel. etc. Apart from the above important strategies, the various improved production techniques were also disseminated to the different level farmers in order to reach a new high in productivity.

2.9. The increased production in pulses was aimed through higher coverage coupled with increased productivity. In oilseeds also, the extension activities were intensified with the formation of a separate Directorate.

The Directorate of Horticulture and Plantation crops proposed to increase the production of fruits and other horticultural crops by creating infrastructural facilities like nurseries, orchard-cum-nurseries, seed production centres, etc.

2.10. Against the targets fixed for the Sixth Plan, the achievements were as follows: The foodgrains production was 68.88 lakh tonnes in 1984-85 of which the production of rice was 53.65 lakh tonnes and pulses 2.49 lakh tonnes. The production of Sugarcane was 16.14 lakh tonnes, cotton 5.85 lakh bales, and groundnut 9.86 lakh tonnes during 1984-85.

Animal Husbandry and Dairy Development:

2.11. The plan envisaged establishment of 8 Intensive Cattle Development Projects and 5 Key Village Centres. Also opening of 20 Veterinary Hospitals and 100 Veterinary Dispensaries were sanctioned. Milk production had been raised to 2,846 thousand tonnes from 1,760 thousand tonnes in 1979-80. The Poultry Development Programme aimed at increasing egg production to 1,062 million from 782 million in 1979-80.

2.12. During the first four years of the plan, the Intensive Cattle Development Project came into operation in 3 places and 5 blocks were covered under Key Village schemes. Though the shortfall under the later schemes is only marginal, there is a rather big gap between target and achievement as regards Intensive Cattle Development Project (3 against 8).

Forestry:

2.13. During the Sixth Five-Year Plan, against the target of 2,21,712 ha. an area of 2,12,672 ha. was covered under afforestation under State sector. The physical targets under State Forestry Schemes were achieved to the extent of 96 per cent. In addition to State Forestry schemes, plantations were raised over 23,723 ha. under soil conservation schemes and over 29,503 ha. under Centrally sponsored Rural fuelwood, Western Ghat Development programme and Hill area Development programme. The total area raised with quick growing species under various development heads was 90,839 ha. Similarly under economic and commercial plantations, an area of 10,383 ha. and under social forestry including Centrally Sponsored scheme, rural fuelwood, State shelter belts scheme, 1,64,667 ha. of block plantations and 8,877 km. of strip plantations were raised. One of the

noteworthy features of the Sixth Plan was the launching of social forestry scheme on a massive scale under the SIDA aided Social forestry project from 1981-82. The major chunk of the plan outlay was set apart for this scheme and the scheme was implemented on a fast pace throughout the State with the fullest co-operation and awareness of the public especially the rural people. A Sandalwood oil factory was established at Tekkupattu village, Vaniyambadi Taluk in North Arcot District. The capacity of the factory is 400 to 500 tonnes of sandalwood producing 18 to 22 tonnes of oil per annum.

Fisheries:

2.14. The plan objective was to raise the marine and inland fish production to a level of 3.00 lakh tonnes and 2.10 lakh tonnes from the base level (1979-80) of 2.17 lakh tonnes and 1.60 lakh tonnes respectively. Though the State has achieved the overall financial target even without implementing any externally aided project, the physical achievement was 2.60 lakh tonnes in the case of marine fish and 1.70 lakh tonnes in the case of inland fish production. The externally aided project did not come through, as the Government of India had not selected this State for the purpose.

2.15. The main strategy adopted for raising the marine fish production included extension of assistance to the small scale fishermen for improving the operational efficiency of the traditional crafts, expansion of the fleet strength of trawlers for exploiting the deep sea resources, creation of adequate infrastructural facilities like fishing harbours, auction and packing halls, roads, workshops, etc. On the inland side, emphasis was laid on encouraging co-operatives to take up fish culture practices, revitalising the Fishermen Co-operative Societies enabling them to take up ambitious programmes availing institutional finance and to expand the marketing arrangement to ensure the availability of fish to the public at reasonable prices.

2.16. In respect of inland fisheries, two 10 ha. fish seed farms were created thus bringing the total fish seed farm area to 31 ha. By adopting induced carp spawning, the fish seed production was increased from 1,068 lakhs in 1980-81 to 1,776 lakhs in 1984-85.

2.17. As against the plan target for introducing 500 FRP boats, due to the reluctance of the commercial banks to extend loan assistance to the fishermen, not even a single FRP boat

could be introduced. Instead, 146 woode mechanised boats were introduced. Similarly only 220 traditional crafts could be mechanised against 500 boats envisaged in the plan.

2.18. Further, against a target for acquisition of 4 DSF Trawlers and 15 purse seiners, the Tamil Nadu Fisheries Development Corporation was able to introduce only 6 purse seiners. As against one major and 15 minor harbours, a major harbour at Madras and 2 minor landing facilities alone could be commissioned. The above shortcomings had affected the marine fish production in the State.

2.19. Similarly, the shortfall in the development of nursery space and related facilities and the establishment of additional Fish Farmers' Development Agencies had adversely affected the inland fish production in the State.

Industries:

2.20. The various industrial corporations namely, TIDCO, TANCEM, SIPCOT, THIC, ELCOT, TNPL, Tamil Nadu Salt Corporation, TANSI, TAMIN, TANMAG and Sugar Corporations have taken various developmental steps for the growth of major and medium industries in the State.

2.21. As on 31st December, 1984, TIDCO had 6 Public sector and 13 joint sector projects under production generating employment to 10,470 persons; also 4 public sector and 9 joint sector projects under implementation giving employment to 5,490 persons. Out of the 42 projects under production and implementation, 31 projects were implemented in the backward areas of the State.

2.22. Under the Tamil Nadu cements Corporation (TANCEM), 4 units are operated at present namely, 2 cement units at Alangulam and Ariyalur, and 2 Tamil Nadu Asbestos units. The production in Alangulam cement works increased from 3.01 lakh tonnes in 1980-81 to 3.40 lakh tonnes in 1984-85 (upto March 1985). The production in Ariyalur Cement works increased from 2.47 lakh tonnes to 2.84 lakh tonnes during the same period.

2.23. SIPCOT disbursed term loans to the tune of Rs. 86.85 crores during 1980-85 (upto March 1985) as against Rs. 6.28 crores in 1974-79, interest free sales tax loan of Rs. 16.14 crores during 1980-85 as against Rs. 4.72 crores during 1974-79; and IDBI Seed capital assistance of Rs. 2.90 crores during 1980-85.

2.24. The Government of Tamil Nadu introduced a special scheme to grant subsidy through SIPCOT for selected categories of industries like electronics, drugs and formulations of scheduled drugs, automobile ancillary units, solar energy based equipments and specified renewable energy devices. This is a unique scheme in the whole of the country effective from October 1981. SIPCOT has also taken up the development of industrial complexes at Manamadurai, Pudukkottai, Cuddalore, Gummidipoondi, Ranipet Phase II and Hosur Phase II and it allots plots for the setting up of industries. The extent of area developed upto March 1985 was 2,642.72 acres.

2.25. The TIIC which extends financial assistance to the small and medium industries disbursed a total of Rs. 186.98 crores during 1980-85 (upto March 1985) as against Rs. 42.56 crores during 1974-78. A significant feature is the steep increase in both the number as well as the amount of assistance granted to small scale and tiny sector industries. A special industrial development programme known as MUDP-II Scheme funded

by World Bank through Government of Tamil Nadu is implemented by TIIC acting as executive agency under the scheme for providing industrial sheds/production infrastructure at Mogappair and Padi.

2.26. ELCOT is a wholly owned State Government enterprise established with a view to catalyse the growth of electronics industries in the State. It is implementing the projects namely digital-electronics watches, aluminium electrolytic capacitors project, two-way radio/wireless communication project and metal/carbon film resistors project.

2.27. There were in 1980, 9,139 factories employing 6,03,715 workers and in 1984, the number of factories increased to 11,920 and the number of workers to 7,82,912. Another indicator of industrial progress is the quantum of power consumed by the industries. In 1980-81, industries accounted for the consumption of 4,036 mn units and in 1984-85, it was 5,400 mn units. The figures in the following Table 2-I present an overall view of the performance of select industries.

TABLE 2.I.

PRODUCTION IN SELECT INDUSTRIES.

<i>Industries.</i>						<i>Unit.</i>	1980	1984	
(1)						(2)	(3)	(4)	
I. Basic goods—									
Cement	000 Tonnes	..	3,072	2,452
Caustic Soda	Tonne	..	84,679	67,948
Mixed fertilisers	Tonne	..	8,56,700	11,98,621
Superphosphate	Tonne	..	1,53,710	1,72,401
Electricity	Mn. Kwtt	..	10,074	14,104
II. Capital goods—									
Body building	Number	..	1,902	2,500
Completed Motor vehicles	Number	..	3,498	5,810
Diesel engines	Number	..	56,565	61,702
Power Transformers	KVA	..	7,96,045	1,57,130
Electric Motors	Number	..	1,62,383	1,75,244

<i>Industries</i>	<i>Unit.</i>	1980	1984
(1)	(2)	(3)	(4)
III. Intermediate goods—			
Cotton yarn	Tonne ..	2,12,969	2,75,052
Tyres (all types)	000 Number ..	5,061	7,215
Camel Back	Tonne ..	1,984	1,919
IV. Consumer goods—			
Cotton Woven Piece goods	000 metres ..	1,58,133	1,17,302
Tea (Processed)	Tonne ..	74,006	86,127
Sugar (Refined)	Tonne ..	3,77,187	4,28,977
Bicycles	Number ..	3,75,323	8,91,985
Safety matches	000 gross— Boxes ..	88,860	1,22,013
Motor Cycle	Number ..	22,716	1,42,200
Wheat products	Tonne ..	2,60,170	3,51,023
Vanaspathi	Tonne ..	19,643	21,734
Refined oil	Tonne ..	2,716	6,730

2.28. Leaving out the industries under the direct management and control of the Central Government, the major industries in the State and private sector in Tamilnadu are Cotton textiles, sugar, cement and fertilisers. Their performance in the VI Plan period is briefly reviewed below :

Cotton Textiles.

2.29. Looking into the recent past, the cotton textiles industry in the State had to manage with recurring uncertainties in diverse directions. Inadequate supplies of cotton and power shortages besides, the industry was also faced with rising cost of production, labour problems and above all demand recession. Cotton yarn and cloth production had exhibited pronounced ups and downs from year to year.

2.30. It was beyond 1980 that there was a turn for the better in a comparative sense, although the recessionary gap in the industry persisted. The total installed spindleage in the State had increased from 50.80 lakhs in 1980 to 66.23 lakhs in 1984, while the number of looms had increased from 9.325 in 1980 to 10.170 in 1984.

2.31. The production of cotton yarn in 1980 was 215 mn. kgs. in the State accounting for 20.32 per cent of the total production in India. In 1983, yarn production in the State had increased to 263 mn. kgs. or 24.44 per cent of 1,076mn. kgs. of yarn produced in the whole country. It further increased to 332 mn. kgs. in 1984. There was a corresponding increase in the production of cotton cloth also from 158 mn. metres in 1980 to 198 mn. metres in 1984. The share of cotton cloth production to total production in India was 4.55 per cent in 1980 and 5.42 per cent in 1983. The production of all cloth (mixed, blended and cotton) increased from 1,713 mn. metres in 1980 to 2,370 mn. metres in 1984.

2.32. There are 11 sugar mills in co-operative sector, 8 in the private sector, 3 in Public sector and 1 under Government of India management in this State. The installed crushing capacity (as per 1983-84 season) was 44,550 tonnes per day of which 41 per cent was in the co-operative sector and 49 per cent was in the private sector. Sugar production had increased from 4.30 lakh tonnes in 1980-81 to 7.55 lakh tonnes in 1981-82,

decreased to 6.51 lakh tonnes in 1982-83 and further decreased to 4.24 tonnes in 1983-84. The area under sugarcane also decreased from 183 thousand ha. in 1980-81 to 156 thousand ha. in 1983-84 but increased to 192 thousand ha. in 1984-85. The cane crushed increased from 49.54 lakh tonnes in 1980-81 to 85.93 lakh tonnes in 1981-82 but decreased to 72.02 lakh tonnes in 1982-83. The fall in sugar production is due to lesser availability of sugarcane consequent on the severe drought conditions prevailed during 1982-83. In 1983-84, the quantity of cane crushed came down to 45.64 lakh tonnes. The following table shows the quantity of sugarcane crushed and the quantity of sugar produced:—

TABLE 2-II.

Year.	(IN LAKH TONNES.) Quantity of sugarcane crushed				
	Co-operative sector.	Public.	Private.	Under the management of G.O.I.	Total.
(1)	(2)	(3)	(4)	(5)	(6)
1980-81	.. 16.96	3.43	29.15	..	49.54
1981-82	.. 33.69	6.28	43.08	2.88	85.93
1982-83	.. 31.17	5.42	33.34	2.09	72.02
1983-84	.. 18.51	3.55	22.22	1.36	45.64
1984-85	.. ..	..	..	..	62.88

Year.	Quantity of sugar produced.				
	Co-operative sector.	Public.	Private.	Under the management of G.O.I.	Total.
(7)	(8)	(9)	(10)	(11)	
1980-81	.. 1.53	0.30	2.47	..	4.30
1981-82	.. 3.05	0.54	3.71	0.25	7.55
1982-83	.. 2.84	0.48	3.01	0.18	6.51
1983-84	.. 1.76	0.32	2.03	0.13	4.24
1984-85	.. ..	..	..	..	6.00

2.33. As per the policy decision taken by the State Government, the private sector is also encouraged to set up sugar mills. Accordingly,

eight applications received from the private entrepreneurs were recommended to the Government of India by the State Government. The Government of India have issued three letters of intent for setting up of new sugar mills in private sector and the two applications are under their consideration. Remaining 3 applications have been rejected by the Government of India. The Government of India have issued a letter of intent in September, 1984 for setting up of a 1,250 TCD sugar mill in Co-operative sector and this is being established at Thalainagar village of Mayiladuthurai taluk in Thanjavur district. It is expected that the factory will commence production in June 1986. The Ponni sugars Limited in private sector had commenced production in January, 1984.

Cement :

2.34. During the Sixth Plan period, 8 cement factories were functioning in the State. There was a moderate increase in the installed capacity from 41.22 lakh tonnes in 1980 to 42.39 lakh tonnes in 1983. The cement production however increased from 32.72 lakh tonnes in 1980 to 35.14 lakh tonnes in 1982 but came down to 26.43 lakh tonnes in 1983. The following table shows the cement production during the Sixth Plan:—

Year.	Installed capacity.	Production.	Capacity utilisation.	
(1)	(2)	(3)	(4)	
	(LAKH TONNES).			
1980	41.22	32.72	79.40
1981	43.17	34.64	80.20
1982	42.19	35.14	83.29
1983	42.39	26.43	62.00
1984	42.39	39.36	93.00

2.35. The level of capacity utilisation obtaining at 62 per cent in the aggregate for 1983 was the lowest on record since 1975. The nationwide coal shortage, restrictions on maximum demand in electricity and power cut imposed for H.T. power consumers, short supply of railway wagons were the major external constraints for the lower production level.

Fertilisers :

2.36. There are 10 fertiliser plants in the State and the number of mixing units is 109. The totalled licenced capacity is 5.69 lakh tonnes

of nitrogen and 3.06 lakh tonnes of phosphatic fertilisers. Production of fertilisers and capacity utilisation during the Sixth Plan were as follows :

Year.	Production of		Capacity utilisation (percent.)
	Nitrogen.	Phosphate.	
	(000 TONNES).		
1979-80 ..	416.4	169.0	79.4
1980-81 ..	441.4	197.4	84.0
1981-82 ..	412.9	206.9	79.7
1982-83 ..	477.7	210.4	88.6
1983-84 ..	412.0	312.4	75.0
1984-85 ..	539.0	320.0	..

Development of Infrastructure—Roads and Road Transport :

2.37. Improvement to unsurfaced roads on a large scale is necessary to make them fit for all weather traffic. It may be noted that development of the unsurfaced roads in rural areas was given great emphasis during the Fifth and Sixth Plan periods as a part of the Minimum Needs Programme. The basic objective was to connect all villages having a population of 1,500 and above with all weather roads. Both as a social objective and also to serve as a lever for economic development, distribution and extension of road network to rural areas received high priority during 1980-85. The total road length increased from 1,07,352 kms. in 1981 to 1,28,249 kms. in 1985 of which the length of surfaced roads increased from 58,875 kms. to 71,372 kms. during the same period.

2.38. The physical achievement in respect of various types of roads exceeded the target of the Sixth Plan. The length of various types of roads namely State highways, major district roads, other district roads and village roads together was 1,32,040 kms. in 1983-84 as against the target of 1,10,487 kms. fixed for the Sixth Plan. The total kilometrage of National highways is static from 1974 onwards (1,865 kms.) and no new national highways was added to this State.

2.39. In pursuance of the Government's policy of Nationalisation of passenger bus transport, 9 transport corporations were operating in the State upto 1982-83 and 3 more corporations were added in 1983 making a total of 12. The Union Planning Commission has ranked Tamil

Nadu State Transport Corporations among the best in the country. The fleet strength which was 7,073 in 1980-81 increased to 8,397 in 1983-84. The 12 corporations were operating, as on 31st December 1983, 8,442 buses out of the total of 13,559 buses in the State.

Education :

2.40. The achievement of the State under universalisation of elementary education has been particularly noteworthy. For the age-group 6-11 against the All India target of 95 percent by the end of Sixth Plan, the achievement in Tamil Nadu was 98.66 percent. Similarly under the age-group 11 to 14, the achievement was as high as 72.18 percent against the All-India target of 50 percent. The total additional enrolment during the Sixth Plan period was 13.67 lakhs.

2.41. The number of students in primary schools increased from 63.46 lakhs in 1980-81 to 70.44 lakhs in 1984-85 and the percentage of enrolment (6-11) increased from 95.22 to 98.66 during the same period. Similarly, the number of students in middle schools was 18.42 lakhs in 1980-81 and 23.19 lakhs in 1984-85, giving the percentage of enrolment as 61.42 and 72.18 for the respective years. The percentage of enrolment in the age-group 14-16 increased from 39.90 in 1980-81 to 47.45 in 1984-85. The number of teachers in primary middle, high and higher secondary schools increased from 2,66,857 in 1980-81 to 2,84,414 in 1984-85. The rate of drop-outs at the primary school level has come down in recent years. From 51 percent in 1973-74, it came down to 40 percent in 1977-78, to 30 percent in 1980-81 and to 26 percent in 1983-84.

2.42. Under the phased scheme for equipping high schools with science laboratories, 1,123 high schools were covered by the end of 1984-85. The number of higher secondary schools which were offering vocational courses increased from 944 in 1980-81 to 969 in 1984-85 and the number of students in vocational courses increased from 57,093 to 61,502 during the same period. The number of colleges of arts, science and commerce was 187 in 1980-81 and 193 in 1984-85 and the strength increased from 1,54,700 to 1,92,000 during 1980-81 to 1984-85.

2.43. Two more universities namely Bharatiyar University at Coimbatore and Bharathidasan University at Tiruchirappalli were established during the Sixth Plan period. The third new

University established in 1981-82 was the Tamil University set up at Thanjavur. Mother Teresa Women's University was established at Kodai-kanal for conducting research on women and women's Welfare and to utilise the research reports to provide consultancy service for the various women's organisations, both in the Government and private sector involved in women's welfare.

2.44. Under Technical education, the number of Engineering colleges increased from 13 with a student strength of 15,383 in 1980-81 to 31 with 16,295 students in 1984-85. Likewise, there were 45 Polytechnics and special institutions with 18,050 students in 1980-81 which increased to 113 with 39,215 students in 1984-85. At higher secondary level, there were 14 vocational schools with a student strength of 1,560 in 1984-85.

Health:

2.45. A number of improvements have been made in the district, taluk and non-taluk hospitals and dispensaries with a view to bring expanded and specialised medical services nearer the reach of the rural poor. The number of district, taluk, non-taluk hospitals and dispensaries increased from 423 in 1980-81 to 459 in 1984-85 and the bed strength increased from 13,697 to 15,222 during the same period. The number of primary health centres increased from 383 in 1980-81 to 436 in 1984-85 and the bed strength from 2,302 to 3,340 during the same period. To provide health care facilities even in the remote villages, mobile health services were extended from 24 Primary Health Centres in 1977-78 to 274 Primary Health Centres in 1984-85 in a phased manner.

2.46. Health sub-centres are established at the rate of one per 5,000 population in the plains and one per 3,000 population in the tribal and hill areas. As on 31st January 1985, 5,602 health sub-centres were functioning in the State. In rural areas, maternal and child health care services were rendered through 436 primary health centres and 5,602 health sub-centres. In urban areas 128 maternity homes and 373 maternity centres were functioning for this purpose.

2.47. Family welfare programme is being implemented on voluntary basis without compulsion in Tamil Nadu and the State stands first among other States in the country. The new technique viz. Laparoscopic technique which was introduced in the State towards the fag end of 1982-83 caught up well during 1983-84. Upto February 1985, 1,81,531 female sterilisations by

this technique were done; also 2,10,222 tubectomies and 24,392 vasectomies were done.

2.48. In order to create an awareness of dental hygiene among the rural children, the Government have introduced a scheme of free distribution of 30 grams of tooth powder monthly to each of the 54 lakh children through the feeding centres under the Chief Minister's Nutritious Meal Programme.

2.49. As a result of the expansion of health facilities over the years, the death rate per 1,000 population had come down from 12.0 percent in 1979 to 10.2 percent in 1982, the infant mortality rate from 96.8 percent to 77.2 percent and the birth rate from 28.1 percent to 26.4 percent.

2.50. The development of the traditional systems of medicine was accelerated during the Sixth Plan period by provision of the requisite infrastructure by way of hospital facilities, trained manpower, additional coverage of the population and reasearch facilities.

Housing :

2.51. The Government have always attached high priority to the housing sector in the development programmes under the Five-Year Plans. During the Sixth Plan, the Government implemented the housing programmes for various categories of people through social housing scheme, housing scheme for low income group, middle income group and higher income group, industrial workers, and Government Servants, rental housing scheme, etc.

2.52. The number of units completed during the Sixth Plan (1980-81 to 1984-85) totalled upto 56,888 consisting of 10,891 for low income group, 11,917 for middle/higher income group, 4,733 under Tamil Nadu Government Servants' rental housing scheme, 4,576 under Slum clearance, 636 for industrial workers, 21,656 for economically weaker sections, 2,479 under Police housing Scheme, etc.

2.53. During the Sixth Plan period, a target of completion of 2 lakh houses through the taluk and divisional level rural Co-operative housing societies at the rate of 40,000 houses per year was fixed. The target for the year 1984-85 was subsequently reduced to 28,000 and 1,86,523 houses were completed during the Sixth Plan period.

Water Supply:

2.54. During the Sixth Plan, the Madras city water supply was augmented by about 40 mld

from 220 mld. in 1980-81 to 260 mld. in 1984-85. Various schemes implemented for the improvement of the city water supply system were laying feeder mains, distribution mains to cover the unserved pockets besides extending water supply to the newly added erstwhile Panchayats. A UNDP aided study of [the conjunctive use of ground and surface waters and artificial recharge of the Arni-Kortaliar Basin and Palar Basin was undertaken. The first stage study of the Project has been completed and the second stage is in progress. During the Sixth Plan 15 of the sewage pumping stations which were more than 50 years old were identified and these pumping stations were modernised with higher capacity pumps, level controls etc. with the assistance of the IDA. Sewerage facilities were extended for the areas Guindy-Velacherry and Arumbakkam-Aminjikarai. The sewage treatment plants at Kodungaiyur from zones-I and II are under progress. During the Sixth Plan, 30 water supply works and 26 sewerage works were undertaken.

2.55. Under urban water supply schemes, during the Sixth Plan period (1980-81 to 1984-85), 76 schemes were brought to beneficial use and 68 towns were benefitted covering a population of 27.56 lakhs.

2.56. Priority was given to the Rural Water supply under self-sufficiency programme. The first phase was launched during 1980-81 in 69 Panchayat unions, II phase during 1981-82 in 150 Panchayat Unions and III phase during 1982-83 in 159 Panchayat Unions. During 1983-84 and 1984-85, the spillover schemes of all the 378 Panchayat Unions were undertaken. Great emphasis was placed on providing drinking water supply to the people. To the end of Sixth Plan, all the 7,226 problem villages had been completed. Out of 18,167 problem habitations, 15,082 habitations and out of 14,826 reclassified and new habitations, 4,891 habitations were covered by the end of March, 1985.

Krishna Water Project :

2.57. The Tamil Nadu Government have entered into an agreement with the Government of Andhra Pradesh on 18th April, 1983 for the implementation of the Krishna Water supply project for the drawal of 15 TMC of water from the river Krishna for Madras water supply. An advance payment of Rs. 47.00 crores had been made to Andhra Pradesh so far in three instalments towards the Tamil Nadu's share of the cost of components in Andhra Pradesh limits. The work of excavation of the canal from the Tamil Nadu Border to the Poondi Reservoir,

which has been taken up for execution, is in good progress.

Rural Employment :

2.58. Special Employment Programmes like NREP., IRDP., RLEGP., TRYSEM., DPAP and certain other programmes designed for rendering assistance to small and marginal farmers, agricultural labourers and rural artisans are all antipoverty programmes designed to lift certain sections of the rural population above the poverty line. These programmes are intended to create employment opportunities in rural areas. Besides, there are a large number of other public sector schemes which will contribute to the reduction of unemployment and under employment. An indication of the employment generation under the special employment programme during the Sixth Plan is given below.

2.59. In Tamil Nadu, 55 per cent of the rural population was estimated to live below the poverty line as at the commencement of the Sixth Plan. In the Sixth Plan, through a determined effort, about 13,96,016 families were assisted under Integrated Rural Development Programme as against the target of 11,30,100. Assuming that 40 per cent of families assisted under Integrated Rural Development Programme in the Sixth Plan would have crossed the poverty line, the percentage of people below poverty line as at the end of the Sixth Plan was estimated at 47.29 per cent.

2.60. National Rural Employment Programme has been extraordinarily successful in providing employment to rural landless agricultural labour and small and marginal farmers. The employment generation under National Rural Employment Programme was 1798.05 lakhs mandays during 1980-81 to 1984-85.

2.61. Rural landless Employment Guarantee Programme (RLEGP), a labour-oriented Scheme and launched by the Government of India in 1983-84 with 100 percent grant to the States, aims at providing employment to atleast one member of every landless household upto 100 days in a year, giving higher preference to landless labourers. This programme aims at creating durable assets, while at the same time providing agricultural labour adequate employment.

2.62. The programme of Training of Rural Youth for Self-employment (TRYSEM) which had been formulated at the national level is being implemented in Tamil Nadu from September, 1979 onwards. Industrial Training Institutes numbering 28 have so far been established

in the State to train the rural youth in engineering and semi-engineering trades on a full time basis, with the object of enabling them to organise their own units of production. Care is taken to choose such trades which can be established with the help of locally available resources entirely. Under TRYSEM, so far, 1,66,102 persons were trained, 1,39,392 persons got self-employment and wage employment.

2.63. The one-job for one family scheme implemented in Tamil Nadu is intended to take care of the residual employment. The scheme is being implemented vigorously among the weaker sections of the society. The Chief Minister's Noon Meal Programme had provided employment to 1.06 lakh women in rural areas.

2.64. The merit attributable to organised sector employment relates to the fact that it is this sector which offers opportunities of full time work coupled with continuity and security of service and fair wages too. The employment in the organised sector (Public and Private) increased from 1865.7 thousands as on 31st March, 1980 to 2124.8 thousands as on 31st March, 1985.

Special Component Plan:

2.65. A special feature of the Sixth Plan was the formulation of a Special Component Plan for the Development of Adi-Dravidar population. The aim of the Plan is to help 50 per cent of the Adi-Dravidar families to rise above the poverty line and to provide basic amenities like drinking water, electricity, health, schooling, etc. in the Adi-Dravidar habitations. During the Sixth Plan, 8.90 lakhs of Adi-Dravidar families had been covered through various economic development programmes against the target of 9.00 lakh families.

Twenty Point Programme :

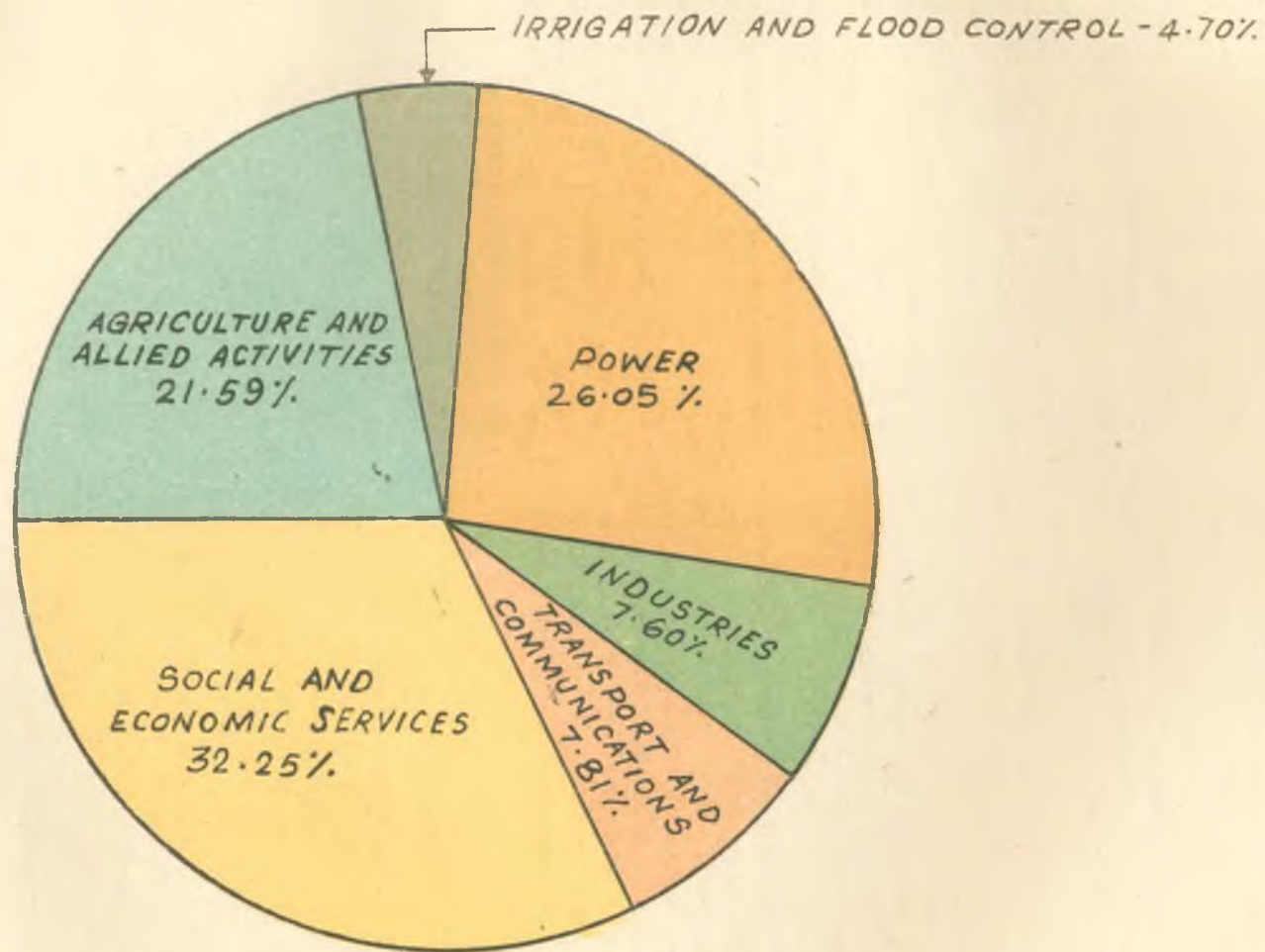
2.66. Tamil Nadu has been in the forefront in implementing the New Twenty-Point Economic programmes. In 1982-83, it secured the first place in the country. In 1983-84, it slipped to the fourth position. With special efforts and constant monitoring, Tamil Nadu had once again regained the first position in 1984-85. This represents a significant achievement of all round progress in different sectors. Up to the end of March, 1985, Tamil Nadu had achieved more than cent per cent of the target in respect of IRDP (102.85), NREP (112.84), RLEGP (105.45), surplus land allotted (101.34), bonded labour rehabilitated (120.09), Adi-Dravidar families benefited (122.17), house-sites allotted (117.20), slum population covered (107.29), trees planted (105.41), biogas plants set up (175.40), pumpsets energised (319.98), sterilisation (106.10) etc.

Science and Technology :

2.67. Recognising that Science and Technology have to be an integral part of the daily life of the masses, the following centres under the administrative control of the Department of Electronics, Science and Technology have been constituted: Tamil Nadu State Council of Science and Technology, Tamil Nadu Science and Technology Centres, Centre for Entrepreneurship Development and Institute of Remote sensing.

2.68. The establishment of these centres will effectively nurture the development of the Electronics Industry and foster the application of Science and Technology to progressively eliminate backwardness, relieve rural unemployment, banish poverty, accelerate economic development, encourage entrepreneurship and create a scientific awareness among the people.

EXPENDITURE DURING THE SIXTH PLAN PERIOD



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TABLE 2—III.

PROGRESS OF SIXTH PLAN OUTLAY

				(RUPEES IN CRORES)		
<i>Serial number and sector.</i>				<i>Sixth Plan Outlay proposed (1980-85.)</i>	<i>Expenditure in 1980-85.</i>	<i>Difference between (2) and (3).</i>
(1)				(2)	(3)	(4)
1	Agriculture-Crop husbandry	..	..	122.03	196.63	+ 74.60
2	Minor irrigation, Soil Conservation, Marketing, Food, Research, Land Reforms, etc.	..	..	83.71	105.53	+ 21.82
3	Animal Husbandry	..	..	33.53	24.80	— 8.73
4	Dairy Development	..	..	5.80	3.79	— 2.01
5	Fisheries	..	..	24.00	10.63	— 13.37
6	Forests	..	..	59.00	63.34	+ 4.34
7	Community Development	..	..	120.00	265.93	+ 145.93
8	Special Area Programme for Rural Development	..	..	86.00	99.26	+ 13.26
9	Co-operation	..	..	25.33	26.12	+ 0.79
10	Irrigation and Flood Control	..	..	177.79	161.33	— 16.46
11	Power	..	..	1,022.80	967.57	— 55.23
112	Large Industries and Mining	..	..	91.77	172.48	+ 80.71
113	Village and Small Industries	..	..	80.00	120.71	+ 40.71
114	Transport and Communication	..	..	234.50	295.69	+ 61.19
115	Education including Technical Education and Art and Culture	..	..	93.00	162.45	+ 69.45
116	Medical and Public Health	..	..	67.80	116.02	+ 48.22
117	Water Supply and Sewerage	..	..	495.75	302.88	— 192.87
118	Housing and Urban Development	..	..	188.42	265.14	+ 76.72
119	Labour and Labour Welfare	..	..	3.97	7.25	+ 3.28
20	Welfare of Scheduled Castes/Scheduled Tribes/other Backward Classes	..	..	80.30	101.19	+ 20.89
21	Social Welfare	..	..	13.50	42.77	+ 29.27
22	Nutrition	..	..	26.00	105.89	+ 79.89
23	Miscellaneous— Social and Economic Services, Information and Publicity, Public works and Scientific Services	..	..	15.00	27.22	+ 12.22
				3,150.00	3,644.62	+ 494.62

CHAPTER 3.

OBJECTIVES AND STRATEGIES OF THE SEVENTH FIVE-YEAR PLAN.

Approach to All India Plan (1985-90) :

3.0. The National Development Council in its meetings held on 12-13th July, 1984 has enunciated that the guiding principles of the Seventh Five-Year Plan continue to be growth, equity and social justice, self-reliance, improved efficiency and productivity. The Central theme of the Seventh Plan revolves around the three basic needs viz. Food, work and productivity. The approach to the Seventh Plan underlines the need to have growth coupled with employment generation so as to ensure growth being achieved in a non-inflationary manner. These considerations along with the prime consideration that the Seventh Plan must largely achieve the objectives of the consolidation Plan in respect of drawing upon the maximum possible extent from the infrastructure already created, and investments made in the past plans. With these macro considerations and the concomitant micro-considerations in view, the National Seventh Plan objectives have been listed as under :

- (i) decentralisation of planning and full public participation in development ;
- (ii) maximum possible generation of productive employment ;
- (iii) alleviation of poverty and reduction in inter-class, inter-regional and rural-urban disparities ;
- (iv) attainment of self-sufficiency in food at higher levels of consumption ;
- (v) higher level of social consumption, particularly in education, health, nutrition, sanitation and housing ;

- (vi) self-reliance through export promotion and import substitution ;
- (vii) acceleration of the voluntary adoption of the small family norm and a positive roll for women in economic and social activity ;
- (viii) reduction in infrastructure bottle-necks and shortages, and improvement in capacity utilisation and productivity throughout the economy ;
- (ix) efficiency, modernisation and competition in industry ;
- (x) conservation of energy and promotion of non-conventional energy sources ;
- (xi) integration of Science and Technology into the main stream of development planning ; and
- (xii) ecological and environmental conservation.

3.1 The formulation of the Tamil Nadu's Seventh Five-Year Plan (1985-90) will, by and large, follow the framework of the objectives of the National Plan with minor adjustments as may be necessitated by local considerations and needs.

Growth rate observed over previous plan periods :

32. Before determining the growth rate targets of Tamil Nadu for the Seventh Plan, it will be useful to analyse the trend in growth observed in the economy over the previous plan periods. The following data gives the State Domestic Product movement at current and constant prices for the period 1970-71 to 1984-85 :

Movement of Net Domestic Product.

Year.	Net State Domestic Product.		Annual Growth (Per cent).	
	Current Prices.	Constant (1970-71) prices.	Current Prices.	Constant (1970-71) prices.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS.)				
1970-71	2,37,110	2,37,110	..	..
1971-72	2,69,617	2,49,075	13.7	5.0
1972-73	2,83,895	2,49,978	5.3	0.4
1973-74	3,43,231	2,60,934	20.9	4.4
1974-75	3,63,872	2,26,574	6.0	(—) 13.2
1975-76	3,72,740	2,67,904	2.4	18.2
1976-77	4,30,388	2,76,324	15.5	3.1
1977-78	4,70,987	3,03,090	9.4	9.7
1978-79	5,02,302	3,14,224	6.6	3.7
1979-80	6,09,524	3,18,263	21.3	1.3
1980-81	6,38,102	2,81,199	4.7	(—) 11.6
1981-82	7,98,478	3,29,121	25.1	17.0
1982-83	8,07,270	3,10,132	1.1	(—) 5.8
1983-84	9,00,151	3,24,183	11.5	4.5
1984-85	10,63,494	3,72,690	18.1	15.0
Annual growth rate for V Plan (1979-80 over 1974-75) .. .. .	..	..	10.9	7.0
Annual growth rate for the VI Plan (1984-85.. over 1979-80) .. .. .	..	..	11.8	3.2

3.3 It may be seen that during the Fifth Plan the economy of Tamil Nadu grew at the rate of 7.0 per cent per annum at constant prices and 10.9 per cent per annum at current prices. During the Sixth Plan, however the rate of growth was 3.2 per cent per annum at constant prices and 11.8 per cent per annum at current prices.

3.4. The per capita income of Tamil Nadu was Rs. 335 in 1960-61 as against the per capita national income of Rs. 306. The national per capita income rose to Rs. 2,344 in 1984-85, whereas the State Per Capita, had increased to only Rs. 2,070. The Index of per capita income has fluctuated from 84.9 in 1980-81 to 93.9 in 1981-82 to 86.4 in 1982-83, 81.8 in 1983-84 and 88.3 in 1984-85. Tamil Nadu's Seventh Plan would aim at reducing the gap between the per capita state income and per capita national income substantially. In

order to achieve this, a rate of growth of 5.3 per cent has been envisaged during the Seventh Plan period.

Pattern of Income growth desired :

3.5. According to the Quick estimates, the State income for the base year of the plan 1984-85 is Rs. 10,634.94 crores. This will rise to about Rs. 13,768.19 crores at the end of 1989-90. The aggregate income in the State which would increase to Rs. 13,768.19 crores in 1989-90 from Rs. 10,634.94 crores in 1984-85 records an annual (compound) growth rate of 5.3 per cent. The population which is 513.70 lakhs in 1984-85, will rise to 560 lakhs in 1989-90 and the per capita income of the State is expected to increase from Rs. 2,070 in 1984-85 to Rs. 2,459 in 1989-90 i.e., the aggregate income envisaged in Tamil Nadu would increase the per capita income by 3.5 per cent

per annum during the Seventh Plan, the index of per capita income moving up to 92.0 per cent in 1989-90 from 88.3 percent in 1984-85.

Growth in Sixth Plan—

3.6 The Sixth Plan had witnessed an aggregate growth of 3.2 per cent in the Economy. The performance at the sectoral level is indicated in the table below :

<i>N S D P at Constant (1970-71) prices.</i>			
<i>Sector.</i>	1979-80	1984-85	<i>Growth rate. (%)</i>
<i>(RUPEES IN CRORES).</i>			
1 Agriculture and allied Activities.	950.51	1,032.67	1.7
2 Construction.	142.14	165.97	3.1
3 (a) Mining ..	7.91	9.59	3.9
(b) Manufacturing.	888.62	773.77	(—) 2.7
4 Electricity ..	57.33	76.59	6.0
5 Transport and Communication.	196.34	217.85	2.1
6 Other services.	939.78	1,450.46	9.1
Total ..	3,182.63	3,726.90	3.2

Taking into account the growth potentials of the different sectors and the inter-sectoral linkages as well as the need to promote the diversification of the State's economy, sectoral rates of growth for the Seventh Plan have been determined which will ensure an overall growth of 5.3 per cent. The rates are given below :—

Movement of State income during VII Plan at 1984-85 prices :

<i>Sector.</i>	<i>State income in 1984-85.</i>	<i>Projected growth rate (percent).</i>	<i>State income in 1989-90.</i>
<i>(RUPEES IN CRORES).</i>			
(1)	(2)	(3)	(4)
1 Agriculture and Allied activities.	2,631.18	3.0	3,050.26
2 Construction	458.85	5.0	5,85.62
3 Mining and Manufacturing.	2,428.97	6.0	3,250.51
4 Electricity ..	277.53	6.0	371.40
5 Transport and Communication.	706.81	6.5	968.39
6 Other Services	4,131.60	6.0	5,542.01
All Sector	10,634.94	5.3	13,768.19

3.7. In the pattern of growth suggested, the tertiary sector will continue to increase its position in the economy. In the case of Primary, while the absolute amount of State Domestic Product generated will continue to increase, its share in the total state income will decline from 25.2 per cent in 1984-85 to 22.2 per cent in 1989-90. In the case of the secondary sector, there will be a slight increase from 29.3 percent in 1984-85 to 30.5 per cent in 1989-90, as will be seen in the following table.

<i>Sector.</i>	<i>Structural composition (per cent).</i>	
	1984-85	1989-90
(1)	(2)	(3)
Primary	25.2	22.2
Secondary	29.3	30.5
Tertiary	45.5	47.3
All Sectors	100.0	100.0

Human Resources Development :

3.8. The gravity of the problem of unemployment needs no special emphasis. Employment has to take top priority in any planning exercise. Progressive reduction of unemployment has been one of the key objectives of successive plans. The development strategy of the Seventh Plan has been aimed at direct attack on the problems of poverty, unemployment and regional imbalances. It has been recognised that setting up of technologically modern industries in the organised sector alone will not lead to significant reduction of unemployment. The thrust of the programmes to be taken up in the Seventh Plan will have to be directed towards creation of additional employment opportunities in the rural areas. The activities under rural development and poverty alleviation programmes have been maintained at the same levels as in the Sixth Plan period.

3.9. The employment status of the State in 1981 is that, against a total population of 484.08 lakhs, 190.26 lakhs were main workers, 11.72 lakhs were marginal workers, giving a total worker population, or labour force of 201.98 lakhs. Of these, the 32nd round of N.S.S. estimates that Tamil Nadu had an unemployment rate of 16 per cent in 1977 and on the assumption that this rate holds good in 1981, the number of unemployed is reckoned at 32.90 lakhs. The Sixth Plan which started with a population of 476.32 lakhs is

expected to add an additional 40.10 lakhs of population, at a growth rate of 1.6 per cent. At this rate of growth, an addition of 43.48 lakhs of population is expected to be added during the Seventh Plan and the population at the end of the Seventh Plan is expected to reach 559.90 lakhs. It is reckoned that 222.68 lakh persons were in the labour force of the population of 484.08 lakhs in 1981. The estimate of labour force for the terminal year of the Sixth Plan is expected to be in the order of 237.55 lakhs and 257.55 lakhs at the end of 1989-90. It is found that while the population is growing with an annual growth of 1.6 per cent, the employment is growing much faster with an annual growth rate of 2.5 percent, with the result, a gradual reduction in aggregate unemployment is expected in seventh Plan.

3.10. The growth of employment under Organised Sector has remained low. Projections of employment show that at the present rate of growth, the organised sector can provide roughly about 2.79 lakhs regular additional jobs during the Seventh Plan. The annual growth during the Seventh Plan would be 2.3 per cent. The total employment under organised sector is expected to reach 26.18 lakhs by the end of the Seventh Plan. This would leave large number of educated youths for absorption in the unorganised sector and self employment remains the only potential source. What is required now is not only massive investment in labour intensive industries by the public sector, but a matching contribution by the private sector coupled with the structural alteration in the employment policy not only to sustain the current level of increase in employment but to push the growth rate further. Priority sectors have to be identified and programmes with employment content have to be formulated and implemented.

3.11. According to the calculations made in the "Report of the working group on Man Power Planning, 1984", the employment potential in the Seventh Plan period will be of the order of 27.61 lakhs. The estimate of employment and unemployment for the terminal year of the Sixth and Seventh Plan is shown below :

(IN LAKHS.)

I. Beginning of the Sixth Plan (1980-81)—

1. Population (as on 31st March 1980)	476.32
2. Labour force (46 per cent of item 1)	219.11
3. Employment (Main workers) ..	184.49
4. Estimated number of unemployed	34.62

(IN LAKHS).

II. End of Sixth Plan (1984-85)—

1. Population (Projected) in 1985 ..	516.12
2. Labour force	237.55
3. Estimated number of employed ..	208.78
4. Unemployed	28.77

III. End of Seventh Plan (1989-90)—

1. Population	559.90
2. Labour force	257.55
3. Addition to labour force during the Seventh Plan	20.00
4. Back-log of employment at the end of the Sixth Plan	28.77

Total number of labour force who have to be provided with employment during the Seventh Plan .. 48.77

The expected additional employment generation during the Seventh Plan .. 27.61

Unemployment at the end of Seventh Plan 21.16

3.12 The need for dovetailing employment opportunities with the education system has often been discussed in different forums. The new Education Policy would place the highest emphasis on expansion of vocational training programmes to provide skill training at different levels. In this context it would be necessary to give serious thought (i) to the net-working of institutions engaged in technical education and training like the higher technical education institutions like polytechnics, Industrial Training Institutes, etc., and (ii) participation of industries and employers in identifying training needs and in helping the organisation of relevant purpose-built training programmes as would meet the requirements of trained man power in the country. Another important reform relates to delinking of degrees from jobs. The new design for education not only gears the education system to meet the challenges of emerging areas of Science and Technology but also promotes the education process to encompass the development of the country's human resources so as to promote the realisation of the full potential of the individual, and increase his usefulness to the development of country.

Planning Process and implementation

3.13 The State Planning Commission is entrusted with the responsibility of formulating annual and medium term plans in collaboration with the Planning and Development Department. For this purpose, the State Planning Commission will make a detailed assessment of the material, financial and human resources available in the State including technical personnel and investigate the possibilities of augmenting such of these resources as are found to be deficient in relation to the State's requirements. For drawing up the Annual and Five-Year Plans the State Planning Commission has been continuously engaged in the collection of data and assessment of the needs. The Commission also proposes to undertake special studies to assess the effectiveness of implementation of plan schemes by employing professionals in the different fields and to determine the priority areas of planning.

3.14 In formulating the annual plans the Commission makes an objective assessment of the departmental proposals competing for inclusion in the plan. Taking into consideration the resources position, care is taken to eliminate infructuous schemes and schemes weighted heavily towards creation of staff. The emphasis is on control of non-productive expenditure. Emphasis is also placed on expanding employment opportunities. Programmes are drawn up for the weaker sections of the community to ensure their social and economic achievement. The social consumption of essentials, particularly by the poor, is sought to be increased through affective implementation of the Minimum Needs Programme. The Special Component Plan and Tribal Sub-Plan for the benefit of the Scheduled Castes and Scheduled Tribes have been drawn up and the implementation aspects are monitored closely. The amount of flow from State plan to these sub-plan are determined after detailed discussions. Tamil Nadu has been in the forefront in implementing the new Twenty Point Programme. The programme incorporates within it, measures for the upliftment of the poor, key development programmes, rapid growth of the core sectors, as well as measures to introduce structural changes in favour of the poor and down-trodden. The programme is monitored carefully by the Planning and Development Department in Government, regularly.

3.15 Special Emphasis has been given to the implementation of programme of Development of Science and Technology, New and Renewable sources of Energy. Integrated Rural Energy

Programmes and programme of Environment protection. The Seventh Plan has been prepared keeping in view that such programmes receive a major thrust.

3.16. The Government have created a "Data Bank and Plan model Building" in Planning and Development Department and constituted two committees, viz., "Advisory Committee for Data Bank" and "Committee on Econometrics Model Building". The Advisory Committee for Data Bank reviews the data that is available, and the data to be collected and stored, to be made available to Planning and Development Department, various Secretariat Departments and Heads of Departments from time to time. The Government in Planning and Development Department are also preparing models of investment allocation, with their implications for growth and distribution, so that at the policy making level choices can be clearly indicated between various programmes within socio-political and other constraints.

Decentralisation of Planning :

3.17. As part of the Perspective Plan exercises the State Planning Commission had prepared district perspective plans for the period 1972-84. District Planning cells were set up in the year 1972 for each district under the District Collectors and the cells were entrusted with preparation of District Plans. Each district Planning cell formulated a District Plan for each Development District of the revenue district concerned. In all, 23 Development District Plans were formulated. The District Planning cells were disbanded after the work was completed.

3.18. It is recognised that problems such as eradication of poverty and unemployment can be tackled if the approach is made at the micro level. For this purpose, the present system of planning has to be decentralised. The Union Government has been for some years consistently insisting on the State Governments to have this as their ideal. The best way of putting this idea into practice is to have plans prepared at the District and block levels. Some of the States have accepted this principle and have gone ahead by constituting local agencies for the purpose. But so far, Tamil Nadu has made little headway in this regard.

3.19. At present in Tamil Nadu, District Development Councils are functioning under the District Collectors. The councils do not formulate plans but review and oversee implementation of Plan programmes and projects. The National Committee on the Development of Backward

Areas (usually referred to as the Sivaraman Committee) in its report has observed that "there are similar types of schemes run concurrently by different departments resulting in overlapping and duplication of work. There are too many parallel and vertical lines of control without any horizontal linkage resulting in high degree of centralisation at the head office". To avoid duplication and overlapping the Government have created the District Rural Development Agency and entrusted it with the task of co-ordinating and implementing all programmes relating to Rural Development. The Government of Tamil Nadu recognises that Planning should be broad based to enlist the co-operation of the people and involve them at both the formulation, and implementation stages.

3.20. In Tamil Nadu the existing machinery for Planning at the District and Block levels is not adequate to provide full attention for Planning, implementation and review of development programmes. Also, one could not ignore the role of the elected representatives of the political system which could negate the attempt to infuse a broad based participation in development schemes. Taking into account the limitations and drawbacks on the existing system the Government is seriously considering creating a suitable machinery for decentralised planning during the Seventh Plan. Now as a preliminary step, an exercise to assess the impact of various programmes in a district with reference to the local needs has been undertaken by State Planning Commission.

Monitoring and Evaluation :

3.21. Each development department has monitoring officers who review the progress of the development schemes from time to time. The Government in Planning and Development Department and Finance Department review the financial progress of the development programmes at regular intervals with a view to identify shortfalls in performance and give guidance to the implementing authorities to take remedial measures. The Directorate of Evaluation and Applied Research attached to the Planning and Development Department of the State Government functions as a separate department and undertakes post evaluation studies allotted to it by the State Evaluation Committee.

3.22. The State Planning Commission proposes to take up studies in certain areas to draw inferences on the usefulness or otherwise of ongoing schemes to help in formulating plans

beneficial to a larger section of the people. The establishment of a data bank in the State Planning Commission for monitoring of plan schemes is under consideration of the Government.

Environmental Planning :

3.23. The aim of environmental planning is to develop an inter-disciplinary approach, to give meaning to developmental plans, and to create confidence in people to tackle environmental problems. The State Government has set up the Tamil Nadu Pollution Control Board in February 1982 to enforce the provisions of the Water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (Central Act 14 of 1981) in the matter of control of water, land and air pollution in the State. As per water (Prevention and Control of Pollution) Act, 1974, the consent of the Board has to be obtained for the discharge of sewage/trade effluent into any stream or well or on land. The Air (Prevention and Control of Pollution) Act, 1981 provides that consent of the Board has to be obtained for operating any industrial plant for the purpose of any industry included in the schedule to the Act.

3.24. During the Seventh Plan, the Board will undertake survey of the major rivers. The objectives of the study will be (i) to identify the point and non-point source of pollution and preparation of pollution load maps ; (ii) to identify the existing water uses along the river and its tributaries ; and (iii) to assess the existing water quality and programme action plan for control of Pollution. The Board is responsible for preservation of the quality of air and control of air pollution. This requires monitoring and assessment of air quality in major cities, industrial towns and industrial complexes. It is proposed to set up ambient air quality monitoring station in Madras, Madurai, Coimbatore, Tirunelveli, Salem, Tuticorin, Mettur and in the vicinity of cement plants in the State.

3.25. The State Government has also formed an apex advisory body, viz., the Tamil Nadu State Environmental Committee. Developmental projects costing Rs. 50 lakhs and above have to be referred to the Committee for review with reference to their impact on environment.

Public Distribution System :

3.26. A sound public distribution system, apart from keeping market prices under control, would

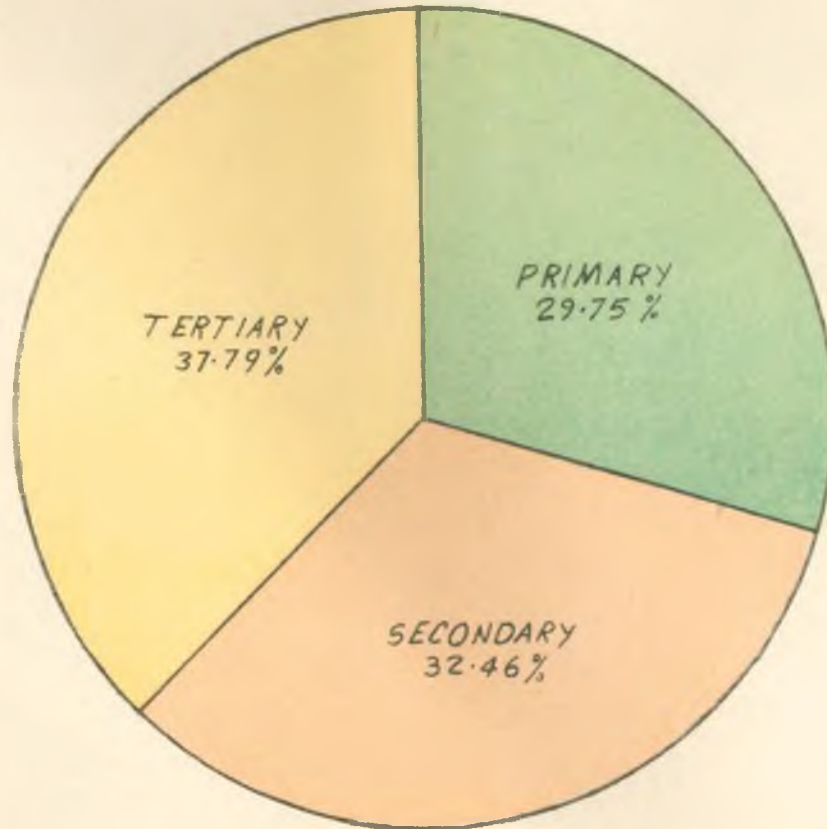
have to ensure supply of essential consumer goods of mass consumption to people at reasonable price, particularly to the weaker sections of the community. A system should be developed, on a permanent basis as a strategy to control prices, reduce fluctuations in them, and achieve an equitable distribution of essential consumer goods.

3.27. The Public Distribution system in Tamil Nadu is extremely well developed. There are 20,723 fair price shops serving 119.65 lakhs card holders. Essential commodities are distributed through the fair price shops with a view to enabling the general public to get the commodities at the prices fixed by the Government. The prices of all essential commodities are monitored daily at Government level. The prices of consumer items other than ration commodities including vegetables are being reviewed by the Commissioner of Civil Supplies and Consumer Protection every week, and a report is sent to Government. Wherever an increase in prices is noticed, steps are taken to hold the price line. The Tamil Nadu Civil Supplies Corporation which was mainly performing the role of a wholesaler is also involved in retail distribution of essential

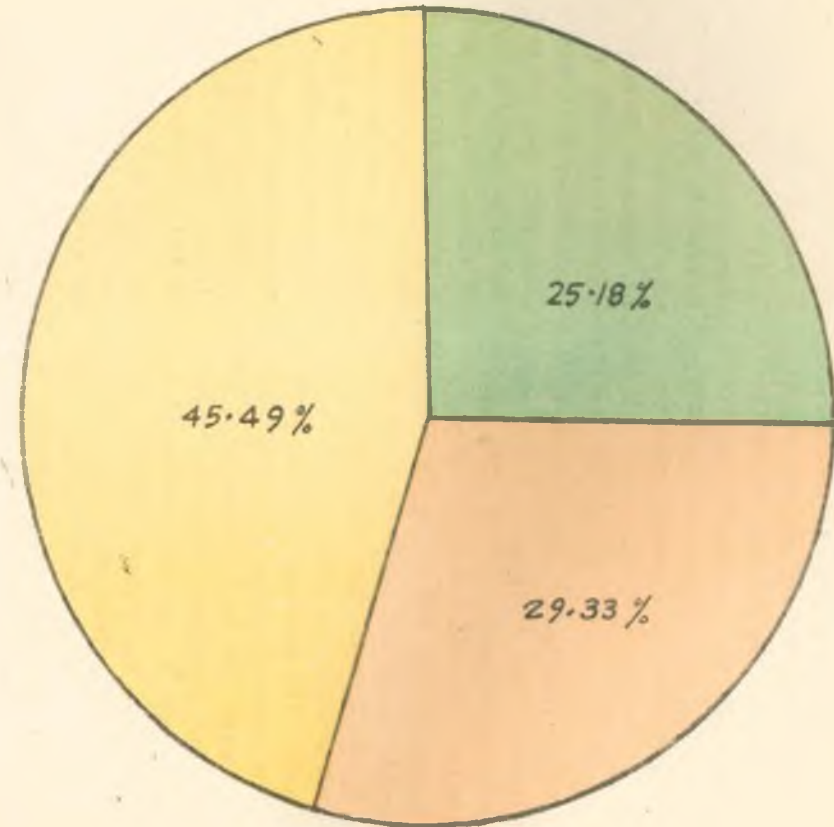
commodities in the four districts, viz., South Arcot, Thanjavur, Tirunelveli and Dharmapuri. It was decided to restrict the role of the Tamil Nadu Civil Supplies Corporation to that of a wholesaler because the volume of wholesale business handled by the Civil Supplies Corporation was very large and adequate attention had to be paid to wholesale business. However, Government decided to transfer all the Fair Price shops run by the Civil Supplies Corporation to the co-operatives with effect from 1st July 1984. The Corporation acts as an agent of Government for procurement of Paddy and rice under the Direct Purchase Scheme and also under the Levy Scheme. During 1984-85, the Corporation procured paddy and rice required for the Public Distribution System and for other Welfare Schemes implemented by the State Government through 680 Direct Purchase Centres and nearly 147 Levy Collection Centres in Thanjavur district and certain taluks of Tiruchirappalli, Padukkottai and South Arcot districts. During 1984, the total quantity procured by Tamil Nadu Civil Supplies Corporation in Samba and Kuruvai seasons was of the order of 10.55 lakh tonnes. The Corporation has its own scientific storage godowns having a capacity of 3.20 lakh metric tonnes.

NET STATE DOMESTIC PRODUCT AND ITS COMPOSITION

1979-80



1984-85



17/3/87 3643

CHAPTER 4.

FINANCIAL RESOURCES OF THE SEVENTH FIVE YEAR PLAN.

4.0. The State's Seventh Five-Year Plan has been fixed at Rs. 5,750 crores. When compared to Sixth Plan of Rs. 3,150 crores, the size of the Seventh Plan is substantially higher. The States' own resources for the Seventh Plan at 1984-85 levels of taxation, will be Rs. 3,312.14 crores. The components of the total are given in the Annexure. Against the Plan size of Rs. 5,750 crores, the available resources at current levels were thus only Rs. 3,312.14 crores, leaving a gap of Rs. 2,437.86 crores.

4.1. The assistance from the Government of India to the States is made with reference to Gadgil Formula. Under this 20 per cent of the assistance is earmarked for the backward States, i.e., the States whose per capita income is below the national average in the specified years. The Union Planning Commission has accepted that the State is especially handicapped in as much as it was not included in the backward States even though average per capita income for the years 1976-79 was fractionally lower than the national average and agreed to provide additional allocation of market borrowings to the State Government during the Seventh Plan period and to enhance the allocation of Central assistance keeping in view these factors.

4.2. The Central assistance indicated by the Union Planning Commission for the Seventh Plan is Rs. 1,437.86 crores as against Rs. 664.80 crores for the Sixth Plan. There is substantial increase in the Central assistance mainly because of adhoc increase allowed by the Union Planning Commission. So also under market borrowings the limit has been increased substantially. The opening Market Borrowings limit of Rs. 2,58.22 crores in the Sixth Plan period has been increased to Rs. 750.28 crores during the Seventh Plan period. This will help considerably to perform a large Plan size of Rs. 5,750 crores.

Central Assistance (1985-90).

	(RS IN CRORES.)
(1) Modified Gadgil Formula ..	} 14,54.49
(2) For Externally Aided Schemes ..	
Total ..	1,454.49
Adjustment of Advance Plan Assistance	(—) 16.63
Net Central Assistance	1,437.86

4.3. This level of Central Assistance has left the State no choice but to raise additional resources to the tune of about of Rs. 1,000 crores for the fulfilment of the Plan. These resources have to be raised by the State Government and the State Public Sector Corporations.

4.4. Excluding the additional resources effort the resources with the respective agencies and the State Government would be as follows, —

	(RS. IN CRORES.)
State	32,85.12
Electricity Board	(—) 1,68.32
Transport Corporations	1,95.34
Total ..	33,12.14

4.5. The target for additional resources effort to perform a plan of Rs. 5,750 crores, is, therefore, Rs. 1,000 crores. The Electricity Board is having resources only of Rs. (—) 168.32 crores. The Tamil Nadu Electricity Board makes a negative contribution of Rs. 513.18 crores to the Plan. Transport Corporations show a contribution of Rs. 195.34 crores to the Plan. This clearly points out the need for a major resources effort by the Electricity Board in the Seventh Plan.

4.6. The State Electricity Board has been incurring heavy losses. The Union Planning Commission has suggested that there is an urgent need for rationalising the tariff structure particularly with regard to the agricultural tariff in view of the agricultural consumption being sizable at 26.3 per cent. The main factor for Electricity Boards negative contribution is that all the input prices have been going up steeply while the tariff has not kept pace with these increases. The Board has also been required to sell a major segment about 26 per cent of its energy output to farmers at a heavily subsidised rate. The Board has not been able to achieve a desirable efficiency in operation particularly in running thermal plants. Though the Electricity Board is taking series of measures to tone up the generation and distribution system, it would not be possible to contribute effectively to the Plan without raising tariffs. During the Seventh Plan period the Electricity Board should undertake an additional resources effort of atleast

Rs. 5,50 crores. Besides this, the Board would have to take additional measures to neutralise the effect of all cost increase in the Seventh Plan. Even with all this, the Electricity Board would have total resources of Rs. 381.68 crores only.

4.7. Transport Corporations in Tamil Nadu have a good record of efficient management and good financial performance. The Transport Corporations have been in a position to generate internal resources adequately and coupled with institutional finance funded their expansion plans adequately in the past. However, in the recent past, several increases in fuel prices and other auto parts and spares have completely changed the position and forced these corporations into losses. Consistent with the Plan targets, these Corporations will have to undertake an additional resources effort of atleast Rs. 100 crores during the Seventh Plan period so that the internal resources generated by the Corporations is atleast Rs. 295.34 crores. All further price increases of inputs have to be

neutralised by suitable adjustments in tariffs. In addition to this, all efforts should be taken to improve the operating efficiency of the Corporations.

4.8. In view of the inability of the Electricity Board to raise adequate resources to perform power outlay, it is quite necessary for the State Government to undertake itself a high target of additional resources mobilisations. During the Seventh Plan period, the Additional Resources Mobilisation to be performed by the State Government is Rs. 350 crores. It is hoped that the State Government will be in a position to ensure realisation of a major part of the additional resources target by measures taken already and would be in a position to complete its resources effort projected in the Plan.

4.9. To summarise, the overall resources position and the targets of additional resources effort are given below:—

(1)	<i>Resources at 1984-85 tariff tax level but inclusive of Sixth Plan Capital receipts.</i>	<i>Resources effort in Sixth Plan.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)
(RUPEES IN CRORES.)			
1 State and other enterprises	4722.98	350.00	5072.98
2 Electricity Board	(—)168.32	550.00	381.68
3 Transport Corporations	195.34	100.00	295.34
Total	4750.00	1000.00	5750.00

4.10. In order to enable the Electricity Board to perform its plans, there will be considerable budget support from the State to the Electricity Board. The overall resources position analysed in a different fashion is as below:—

	(RS. IN CRORES.)
1. Total State's and State enterprises, resources at 1984-85 level of tariffs fares rates, fares including Sixth Plan Capital receipts	3312.14

2. Additional resources effort by the State and its enterprises ..	1000.00
3. Central assistance	1437.86
Total	5750.00

4.11. While finalising the size of the State Plan for 1985—90 as Rs. 5750 crores, no separate provision was ear-marked for externally aided programme. The total size of the State Plan will therefore, be of the order of Rs. 5750.00 crores

for the Seventh Five-Year-Plan period as detailed below :—

ANNEXURE.

Resources for the Seventh Five-Year Plan 1985—90.	1985—90 <i>Estimates.</i>	
		(RS. IN CRORES.)
I. State Budgetary resources other than the negotiated loans and State enterprises market borrowings:—		
1. Balance from current revenues at 1984-85 rates of taxation ..	2097.90	
2. Contribution of Public Enterprises at 1984-85 fares and tariffs—		
(a) State Electricity Board ..	(—)513.18	
(b) Road Transport Corporations.	177.63	
(c) Others	15.00	
3. Loan from market by the State Government (net)	447.70	
4. Share of Small Savings ..	436.50	
5. State Provident Funds ..	145.91	
6. Miscellaneous Capital Receipts (net)	(—)140.94	
Total ..	2666.52	
II. Opening Deficit/Withdrawal from Reserve	(—) 19.62	
	<u>2646.90</u>	
III. Negotiated loans and State Enterprises Market Borrowings :		
1. By State Government —		
(a) Loans from L.I.C. for Housing	52.83	
(b) Loans from R.B.I. ..	19.67	
(c) Loans from I.D.B.L. ..	104.39	
2. By T.N.E.B.—		
(a) Loans from L.I.C... ..	56.00	
(b) Loans from R.E.C... ..	28.84	
3. By other Enterprises :		
(a) Loans from L.I.C.—		
(i) Water Supply	83.22	
(ii) Road Transport ..	17.71	
4. Guaranteed Market Borrowings (net)—		
(i) Tamil Nadu Electricity Board.	260.02	
(2) Others	42.56	
Total—III ..	<u>665.24</u>	
IV. State Resources at 1984-85 level of Taxation, tariff, fares etc. ..	3312.14	
V. Additional Mobilisation of Resources in 1985—90—		
1. State	350.00	
2. Electricity Board.	550.00	
3. Transport	100.00	
	<u>1000.00</u>	
VI. Total State Resources (IV+V).	4312.14	
VII. Central Assistance (1985—90) }		
1. Modified Gadgil Formula. }		
2. For Externally aided Schemes }	1437.86	
VIII. GRAND TOTAL	<u>5750.00</u>	

Part B

SECTORAL PLANS

I Agriculture and Allied
Activities

CHAPTER 5.

RESEARCH AND EDUCATION.

Preamble :

5.0. The Tamil Nadu Agricultural University situated at Coimbatore which has developed a large net work of Research Institutions in every District of the State has been fully entrusted with the developmental activities relating to Agricultural Research and education. It runs Educational Institutions leading to the award of Graduate and Post-Graduate degrees in the fields of Agriculture, Animal Husbandry, Fisheries, Horticulture, Agricultural Engineering, etc. Specialisation leading to Post-graduate degrees, exist in a number of highly technical and advanced

scientific levels. It also runs regional research centres located at various places in the State to conduct research on specific crops and agricultural practices.

Sixth Plan Performance :

5.1. Under the Sixth Plan, Rs. 13 crores (Existing schemes, Rs. 407.45 lakhs and New schemes, Rs. 892.55 lakhs) were proposed to be invested on Agricultural Research and Education.

5.2. The expenditure has been only Rs. 11.99 crores. (71.4 per cent) as shown below :

<i>Proposed Plan Outlay.</i>	<i>Utilisation of Funds.</i>					
	1980-81.	1981-82.	1982-83.	1983-84.	1984-85.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN LAKHS)					
1300.00	247.05	157.35	172.81	222.82	399.31	1199.34

5.3. Patterns of expenditure proposed and achieved in the Sixth Plan Period were :

	<i>Proposed.</i>	<i>Achieved.</i>
	(RS. IN LAKHS)	
Agricultural Schemes ..	474.52	748.62
Veterinary Schemes ..	229.27	332.34
Fishery Schemes ..	165.08	110.49
ICAR Schemes ..	170.00	} Included in the above schemes
Civil Works ..	261.13	
Others		7.89
Total ..	1,300.00	1199.34

* Contributions to ICAR Schemes and expenditure on Civil works are accounted for under the relevant schemes.

Review of Physical Progress :

5.4. The University carried over 35 schemes into the Sixth Plan period from earlier years. Of these, nine schemes relate to transfer of activity from the Department of Agriculture under the Government to the Tamil Nadu Agricultural University.

5.5. Fifty-eight Agricultural schemes and 12 veterinary projects were proposed as new ventures, besides 20 items of expenditure under capital outlay.

5.6. The new schemes proposed in the Sixth Plan emphasise development of contingency cropping patterns to overcome adverse seasonal conditions, adoption of soil conservation measures, use of improved implements and increasing cropping efficiency by better utilisation of inputs.

5.7. The work under the Animal Husbandry section includes selective breeding of sheep, fodder development, Pig rearing, Veterinary practices and Training of Farmers in Animal Husbandry section.

5.8. Work under the programmes undertaken during the earlier plan periods numbering 90 under Agriculture, 46 under Veterinary and 15 under fisheries are still in progress.

5.9. For the sake of brevity, the progress of these studies is presented in the form of summary reports of only specific results grouped under the Heads, "Crop Improvement", "Crop Management", "Crop Protection", "Animal Sciences", "Fisheries", "Agricultural Engineering", "Agricultural Economics", "Sericulture", "Forestry" and "Educational Programme".

Crop Improvement :

5.10. The University released five new rice varieties viz., Paiyur-1, Ponmani, CO-42 and CO-44, besides IR-50. New improved varieties in a large number of crops were also released such as Co.H.1., Maize, X-5 cumbu, M.C.U.-10 Cotton, and TNB-1 Cotton, TMV, 3, 4 and 6 Sesamum, CO-1 Sun Flower, CO-1 Gingelly, TMV-4 Castor, CC-1 Sun-hemp (Green manure), CO-4 Greengram, CO-4 Redgram, CO-10 Lab-Lab, CO-4 Cowpea, CO-2 Chillies, CO-1 Turmeric, CO-1 Fenu-greek, CO-2 Coriander, CO-4 Onion, CO.C. 8201 Sugarcane, CO-3 Sweet Potato, CO-3 Papaya, CO-1 Bottlegourd, PKM-1 Ribbed Gourd, CO-1 Pomagranate, CO-4 Papaya, CO-2 Ash Gourd, CN-1 Cumbu-Napier Grass, and PKM-1 Sapota.

5.11. Mutant progenies in Eucalyptus were developed through irradiation. Experiments are in progress to identify new species of plants suitable for Tamil Nadu. Promising root stocks of several fruit crops have also been located. Hibiscus varieties "Thilagam" and "Punnagai" with Carmine red double and apricot-yellow flowers were also released. Notable fodder varieties developed include *Desmanthus virgatus* (hedge lucerne—"Veli masal"), African tall maize, Cowpea cultivar DPI 1283 and *Cenchrus* variety FD 384.

5.12. Materials selected for advanced trials include a high yielding mutant, No. 3 in groundnut, shoot webber and "Pourdary-mildew-resistant", Sesamum varieties, a clonal selection of mango, several promising vegetable lines, etc.

Crop Management :

5.13. Progress achieved relate to improvements in the cultural practices for rice, millets, pulses, oil-seeds, cotton, and sugarcane.

5.14. *Rice*.—Coir-pith application at 10 tonnes per hectare along with 75 per cent of the recommended NPK—increased IR-20 yields by 62 per cent in high PH soils (pH 8.6); inoculation of 'Azospirillum' and BGA either alone or in combination resulted in a saving of 35 per cent nitrogen; growing Azolla along with rice helped save 30 to 40 Kg. of nitrogen per hectare; zinc sulphate and gypsum applications to correct respective deficiencies of zinc and calcium were useful solutions in certain problem areas; and slow release of applied nitrogen in chemical form was achieved through coal tar coating of granules.

5.15. *Millets*.—Improved agricultural practices relating to millets, such as raising seedlings for transplantation in sand, compartmental bunding, broad beds, furrows and ridges to conserve moisture, use of press mud at 50 tonnes per hectare for ragi and increase in cumbu yield by mixed cropping with cowpea on dry land black soils were established. Wheat varieties, DWR-39 and HD-2189 were found suitable for Coimbatore, Periyar and Dharmapuri districts as well as for Thalavadi, Kolli and Yercaud hills. The appropriate ratio (6 : 2) for inter-cultivation of Sunflower in blackgram for maximum monetary returns was established.

5.16. *Pulses*.—Pelletising blackgram seeds, Super-Phosphate, pre-soaking, greengram with Pottassium-di-hydrogen phosphate, and sowing soaked pulse seeds instead of dry seeds were found to increase gram yield. Appropriate strains of rhyzobia for treating redgram seeds and cowpea, were identified. Significant response to soil application of Manganese sulphate in soyabean crop was also observed.

5.17. *Groundnut*.—Favourable response in groundnut crop were observed by practices such as straw mulching, application of coir waste and calcium sulphate (gypsum). TMV-3 Sesamum, benefited by an intercrop of cowpea and greengram, and also by the application of nitrogen fixing organisms, such as Azato bacter and Azospirillum.

5.18. *Cotton*.—A practice for achieving uniform seed sprouting in rainfed cotton was evolved by chemical treatment. Appropriate fertilizer schedules and practices were also established for cotton under different situations.

5.19. *Sugarcane*.—Revised manurial schedule, optimum depth of planting and rhyzobial inoculation, were determined for the sugarcane,

5.20. *Horticultural crops*.—Remarkable yield increases were registered by the use of growth hormones, in tomato, application of fertilizers and farmyard manure in the appropriate ratio in CO-1 brinjal, methods to overcome effects of soil salinity in chillies cultivation, foliar application of Pottassic fertilizers in CO.1 and "Pusa Sawani" bhendi, intercropping in tapioca with blackgram for higher monetary returns, suitability of Poultry manure for cauliflower, hormone treatment of Poovan banana in Palar basin for reaping an additional income of Rs. 5 per bunch, 0.1 per cent boric acid spraying for PKM-1 Sapota for increasing the fruit yield, successful air-layering of "ber" at

Periyakulam with IBA—lanolin paste, combating chlorosis in mandarins with zinc sulphate spray, determining that 30 X 20 cms, is the optimum spacing for chrysanthemum flowers, determining that 60 per cent available moisture was the critical level in irrigating jasmine, optimum spacing of 180 X 180 cm. for cardamom, fertilizer schedule for turmeric, cashew, hormone treatment for berry setting in coffee, fertilizer practices for pyrethrum, geranium, and several other horticultural species, formed the important findings under horticulture.

5.21. Crop Protection.—Pest and disease management in rice, millets, pulses, oilseeds including coconut, cotton and other horticultural crops contributed a large share of achievements during the period.

5.22. Animal Sciences.—Diagnosis of poultry diseases and screening of feed ingredients for toxic substances were continued under the Poultry Research and Development Centres at Madurai, Ramanathapuram and Tiruchitapalli. Problems of infertility and sterility were studied in the Livestock Research and Development Centres, in Dharmapuri, Periyar and Tirunelveli districts. Madras Veterinary College engaged itself in fundamental and applied research relating to mineral and protein utilisation, besides analysis and advice on private feed formulations.

5.23. A Livestock and Research Centre in Kanyakumari district, Poultry Development and Research Centres at Tiruppur (Coimbatore district) and Vellore (North Arcot district), besides a Poultry Production Training Centre for running short-term course in poultry farming for farmers at Madurai, were started.

5.24. Thirty-three cross bred bulls and 12 heifers were distributed to farmers, and 18 per cent increase in milk production was achieved in Murra buffalo foundation stock. In the age group 2 to 3 years, it was determined that bulls produced semen of better quality during the South West Monsoon season. Cost of production of milk (feed and fodder cost) was found to be lower at 92 paise per Kg. of milk in Cross bred Cows as against Rs. 1.59 per Kg. of milk in buffaloes. A simplified procedure, for the diagnosis of rinderpest was worked out.

5.25. Sheep.—Indigenous species of sheep belonging to Tamil Nadu were characterised documented and the results were published. August—September was found to be the most favourable season for mating, resulting in high

lamb crops. Twenty-nine per cent increase in net productivity was realised in sheep crossed and back-crossed with Madras Red Rams for mutton production. Best quality mutton was obtained by slaughtering sheep at 18 Kg, body weight. In addition, this stage was also the most profitable. It was established that stall feeding of sheep with cut green fodder and concentrate was possible.

5.26. Sheep breeding Research Station, Sandynallah was successful in establishing a new synthetic breed (Sandyno. A1) out of exotic Merino, and Nilgiris, in the ratio of 5:3.

5.27. Serological studies revealed the first record of toxo plasmosis in sheep breeds of Tamil Nadu.

5.28. Nilgiris lines produced the highest number of twins among the different genetic groups studied.

5.29. Swine.—White Yorkshire was improved to gain 63 Kg. of body weight in 154 days and 95 Kg. in 210 days. Market age of 154 days, however, was found more economical.

5.30. Poultry.—ICAR broiler strains, IR-2, IR-3, IC-2 and IC-3 were evaluated. Meyer and Forsgate, two eggger strains of White Leghorn were developed to yield 215 eggs per year with improved feed efficiency. Cobb was established as a better strain than Samrat among commercial broilers.

5.31. Mineral mixture at 2% in broiler ration was found more than adequate.

5.32. A package of practices for profitable broiler production was evolved. Several small feeding practices which help improve economic broiler production like use of Livogen, and Wormicides for tape worms were evolved. A low cost, debeaker for poultry was also designed and fabricated.

5.33. Fisheries.—Commercially important fish species available in Tuticorin were evaluated. Effect of sewage pollution of fish species was studied and it was found that *Tilapia mossambica* and *Crassostrea Madraseosis* were found capable of withstanding a 50 per cent sewage concentration in the medium. Pullavali brackish water was found suitable for shrimp and crab culture. A floating pen for mariculture of fin fish was designed, as also traps for crabs. Predator control, regular feeding, and provision of hide-outs enable high survival rates in prawn culture. A tent type solar dryer was also designed and fabricated. An aerial trap for capture of mullets

was developed. A survey of fishing grounds was conducted. A book on "Sangallakkiathil Meen Valam" was compiled.

5.34. Agricultural Engineering.—Design and fabrication of low cost roofing materials using farm-by-product were attempted. Several prototypes of processing equipment, for extracting leaf protein, chilly seeds, dehusking arecanut, Poultry feed pelletising, a hand mill for dhall production, cycle powered winnowing machine, a pulse thresher and crop dryers using agricultural waste, were fabricated and tested. Work on development of 'Biogas' plants for different sizes and solar cookers continued.

5.35. Agricultural Economics.—Market studies, farm surveys, a pilot project for optimisation of resource use, a techno-economic survey for development of horticulture in Dharmapuri and investigation into social forestry formed the important activities.

5.36. Agricultural Extension and Tribal Sociology.—A study of tribal farmers and the role performance of farm leaders and village organisations like Panchayat, Co-operatives and schools constituted an important activity. Socio-economic aspects relating to adoption/rejection of improved varieties and similar studies on success or failure of schemes with similar objectives were dealt with, besides study of pest management practices and DPAP scheme in Ramanathapuram.

5.37. Linguistic treatment of messages revealed the effectiveness of the model generated by the University, for extension literature. 2500 technical terms in Agricultural Botany were translated into a Tamil glossary.

5.38. Seed technology, crop seasons and dry farming research continued to be other important activities under the University.

5.39. Sericulture.—Two promising lines of silk worms, U.5 and U.8 with better larval and cocoon characters and filament length were identified. Mulberry strain, MR-2 was identified as the best for cocoon weight and filament length. Fertilizer schedule for mulberry cultivation was also determined.

5.40. Forestry.—Experiments are in progress to identify new tree species suitable for Tamil Nadu. Mutant progenies in Eucalyptus developed through irrigation are under Study.

5.41. Educational Programmes.—Expansion of Post-graduate courses under all disciplines, increase in the intake of students in the different colleges, besides, award of increased scholarships for students and for the publication of Science Books were proposed.

5.42. The number of students enrolled under the different disciplines during the Sixth Plan period is furnished below :

Sl. No. & Courses	1980—81	1981—82	1982—83	1983—84	1984—85
(1)	(2)	(3)	(4)	(5)	(6)
Under Graduate :					
B.Sc. (Ag.)	217	212	212	231	388
B.Sc. (Hort.)	40	40	40	43	39
B.E. (Agri.)	50	53	75	78	78
B.V.Sc.	116	116	115	127	117
B.F.Sc.	20	20	20	20	20
B.Sc. (Home Sci.)	15	14	19	20	8
Post Graduate :					
M.Sc. (Agri.)	140	140	157	194	192
M.Sc. (Hort.)	14	13	19	19	19
M.V.Sc.	57	47	43	18	29
M.E. (Ag.)	7	13	7	5	2
M.F.Sc.	..	..	4	5	6
M.Sc.	10	..	..	..	..
Ph.D. (Ag.)	36	44	43	45	..
Ph.D. (Vety.)	9	6	10	9	..
Ph.D. (Hort.)	5	4	5	5	..
Post Graduate Diploma :					
Sericulture	..	40	39	40	..
Plant Protection	..	..	..	..	..
Plantation Crops	..	..	..	4	4

5.43. The new degree/diploma courses introduced under Plan schemes are : Sugarcane production, Agricultural Marketing Management, Food Science and Nutrition, Fisheries Science, Veterinary Public Health and Epidemiology, Therapeutics, Preventive medicine, Veterinary Pathology and Sericulture,

5.44. In 1981-82, two more Krishi Vigyan Kendras, one at Madurai and the other at Coimbatore, were established. In 1982-83, a Chair in Agricultural Marketing Management was instituted, with assistance from State Agricultural Marketing Board. A new department of

Agro-Energy and a Regional Centre on Bio-Energy were started in the faculty of Agricultural Engineering.

Programmes for Seventh Plan :

5.45. The outlay proposed for the Seventh Five-Year Plan is Rs. 1,300 lakhs, i.e. about 40 per cent more than the amount utilised in the Sixth Plan. State expenditure under this Head of Development is only a small part of the total outlay on the schemes involved, as the TNAU financial assistance from different agencies in addition to the State finances besides deploying its own internal revenues (*Vide* Table below)

ABSTRACT OF OUTLAY PROPOSED BY THE TAMIL NADU AGRICULTURAL UNIVERSITY DURING THE SEVENTH PLAN PERIOD (1985-90).

(1)	Staff Expenditure.	Other Expenditure.	Capital.	Loan.	Total.
(2)	(3)	(4)	(5)	(6)	(6)
(RUPEES IN LAKHS.)					
I. STATE SCHEMES—					
(a) Ongoing Schemes—					
(i) Agriculture	325.20	106.77	..	..	431.97
(ii) Veterinary	289.98	135.60	..	..	425.58
(iii) Fisheries (including new College).	48.84	24.20	..	..	73.04
Sub Total					930.59
(b) New Schemes—					
(i) Agriculture	24.00	1,04.00	..	..	1,28.00
(ii) Veterinary	27.00	81.00	..	..	1,08.00
(iii) Fisheries	4.32	1.09	..	..	5.41
Sub Total					241.41
(c) Capital and Civil Works—					
Existing :—					
(i) Agriculture .. .. .	..	..	40.00	..	40.00
(ii) Veterinary .. .. .	..	..	24.00	..	24.00
Sub Total					64.00
(d) Expenditure on Committed Schemes	..	..	64.00	..	64.00
GRAND TOTAL (a+b+c+d)					13,00.00
II. CENTRALLY SPONSORED SCHEMES (PARTLY FINANCED)—					
(a) Ongoing Schemes :—					
Share of 25 per cent to be borne by the University	163.06	32.61	..	..	195.67
(b) New Schemes .. .. .	..	..	..	..	..
III. CENTRAL SECTOR SCHEMES (FULLY FINANCED)					
..
IV. CONTINUATION OF COMMITTED SCHEMES FUNDED BY DIFFERENT AGENCIES DURING 1985-90					
.. .. .	102.39	51.19	..	..	153.58

YEARLY PHASING OF THE PROPOSED OUTLAY ON THE NEW SCHEMES ARE
AS BELOW :

SEVENTH FIVE-YEAR PLAN (1985-90) OUTLAY

*Outlay envisaged in the Seventh Five-Year
Plan (1985-90)*

Serial number and name of the Scheme.	Revenue				Total.
	Staff expenditure.	Other expenditure.	Capital.	Loan.	
(1)	(2)	(3)	(4)	(5)	(6)
	(RUPEES IN LAKHS)				
<i>Agriculture :—</i>					
1. Establishment of Agricultural College at Killikulam, Tirunelveli	24.00	104.00	..	..	128.00
<i>Veterinary— :</i>					
1. Establishment of a Veterinary College ..	27.00	81.00	..	..	108.00
<i>Fisheries :—</i>					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin	1.17	0.38	..	..	1.55
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin	1.17	0.38	..	..	1.55
3. Preparation of certain smoke cured fishes, Tuticorin	1.98	0.33	..	..	2.31
<i>Total—Fisheries</i> ..	4.32	1.09	..	..	5.41
GRAND TOTAL	55.32	188.09	..	..	241.41

1985-86

Serial number and name of the Scheme.	Revenue				Total.
	Staff expenditure.	Other expenditure.	Capital.	Loan.	
(1)	(7)	(8)	(9)	(10)	(11)
	(RUPEES IN LAKHS)				
<i>Agriculture :—</i>					
1. Establishment of Agricultural College at Killikulam, Tirunelveli
<i>Veterinary :—</i>					
1. Establishment of a Veterinary College
<i>Fisheries :—</i>					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin
3. Preparation of certain smoke cured fishes, Tuticorin
<i>Total—Fisheries</i>
GRAND TOTAL

SEVENTH FIVE-YEAR PLAN (1985-90) OUTLAY—cont.

Serial number and name of the Scheme.	Revenue		1986-87		
	Staff expenditure.	Other expenditure.	Capital.	Loan.	Total.
(1)	(12)	(13)	(14)	(15)	(16)
(RUPEES IN LAKHS)					
Agriculture—					
1. Establishment of Agricultural College at Killikulam, Tirunelveli
Veterinary—					
1. Establishment of a Veterinary College
Fisheries—					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin
3. Preparation of certain smoke cured fishes, Tuticorin
Total—Fisheries
GRAND TOTAL

Serial number and name of the Scheme.	Revenue		1987-88		
	Staff expenditure.	Other expenditure.	Capital.	Loan.	Total.
(1)	(17)	(18)	(19)	(20)	(21)
(RUPEES IN LAKHS)					
Agriculture—					
1. Establishment of Agricultural College at Killikulam, Tirunelveli	8.00	34.00	..	..	42.00
Veterinary—					
1. Establishment of a Veterinary College	8.00	27.00	..	..	35.00
Fisheries—					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin	0.36	0.11	..	..	0.47
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin	0.36	0.11	..	..	0.47
3. Preparation of certain smoke cured fishes, Tuticorin	0.62	0.10	..	..	0.72
Total—Fisheries	1.34	0.32	..	..	1.66
GRAND TOTAL	17.34	61.32	..	..	78.66

SEVENTH FIVE-YEAR PLAN (1985-90) OUTLAY—*contd.*

<i>Serial number and name of the scheme.</i>	<i>Revenue 1988-89</i>				
	<i>Staff Expenditure.</i>	<i>Other Expenditure.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
(1)	(22)	(23)	(24)	(25)	(26)
(RUPEES IN LAKHS.)					
<i>Agriculture—</i>					
1. Establishment of Agricultural College at Killikulam, Tirunelveli	8.00	34.00	..	..	42.00
<i>Veterinary—</i>					
1. Establishment of a Veterinary College ..	9.00	27.00	..	..	36.00
<i>Fisheries—</i>					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin	0.39	0.13	..	..	0.52
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin	0.39	0.13	..	..	0.52
3. Preparation of certain smoke cured fishes, Tuticorin	0.66	0.11	..	..	0.77
<i>Total—Fisheries</i>	1.44	0.37	..	..	1.81
GRAND TOTAL	18.44	61.37	..	..	79.81

<i>Serial number and name of the scheme.</i>	<i>Revenue 1989-90</i>				
	<i>Staff Expenditure.</i>	<i>Other Expenditure.</i>	<i>Capital.</i>	<i>Loan.</i>	<i>Total.</i>
(1)	(27)	(28)	(29)	(30)	(31)
(RUPEES IN LAKHS.)					
<i>Agriculture—</i>					
1. Establishment of Agricultural College at Killikulam, Tirunelveli	8.00	36.00	..	—	44.00
<i>Veterinary—</i>					
1. Establishment of a Veterinary College ..	10.00	27.00	..	..	37.00
<i>Fisheries—</i>					
1. Nutrient Chemistry and Proper utility of sewage, Tuticorin	0.42	0.14	..	..	0.56
2. Mercury Pollution in Tamil Nadu Coastal Waters, Tuticorin	0.42	0.14	..	..	0.56
3. Preparation of certain smoke cured fishes, Tuticorin	0.70	0.12	..	..	0.82
<i>Total—Fisheries</i>	1.54	0.40	..	..	1.94
GRAND TOTAL	19.54	63.40	..	..	82.94

CAPITAL AND CIVIL WORKS DURING SEVENTH PLAN (1985-90).

		(RUPEES IN LAKHS).					
		1985-86	1986-87	1987-88	1988-89	1989-90	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<i>Agriculture—</i>							
1. Cost of 50 acres of additional land to Coconut Research Station, Veppankulam	4.00	6.00	..	10.00	
2. Cost of 50 acres of additional land to Agricultural Research Station, Vellore	5.00	5.00	..	10.00	
3. Construction of Laboratories, quarters and hostel for trainees at cotton and Millet Experiment Station, Kovilpatti	5.00	5.00	10.00	20.00	
TOTAL—AGRICULTURE						40.00	
<i>Veterinary</i>							
1. Construction of Dormitory for trainees at Sandynallah	3.00	2.00	3.00	8.00	
2. Construction of staff quarters for Livestock Research and Development Centre, Dharmapuri	5.00	5.00	..	10.00	
3. Construction of buildings for Laboratory and staff quarters for Livestock Research and Development Centre, Nagercoil	2.00	4.00	..	6.00	
TOTAL—VETERINARY						24.00	
GRAND TOTAL—CAPITAL AND CIVIL WORKS						64.00	

AGRICULTURE

1. Establishment of Agricultural College at Killikulam, Tirunelveli :

5.46. At present, 212 candidates are admitted to the Agricultural Colleges at Coimbatore and Madurai every year. Of the 212 seats, 21 seats are reserved for the students sponsored by the Government of India. As such, 191 seats are available for candidates from Tamil Nadu. Of these, about 175 students complete the course successfully every year. About 60-70 graduates join the post-graduate programme in various Universities and the rest of them (100-110) are available for jobs. Their main avenue for the employment is the State Department of Agriculture.

5.47 Consequent on the introduction of various developmental projects including T. & V. Programme in the recent times, there has been an increasing demand for agricultural graduates for employment in the State Department of Agriculture.

5.48 The manpower requirement of agricultural graduates in the next five years will be around 6,390. Only 800 agricultural graduates will be available from the existing Agricultural Colleges in this University and the one in Annamalai University, Annamalainagar.

5.49 The existing Agricultural Colleges are offering post-graduate degree programmes and are involved in research and extension activities. Considering the heavy rush for admission into B.Sc. (Ag.) degree course, 35 seats have been increased during 1983-84. There is no further scope for increasing the admission strength in the undergraduate degree programme in the existing colleges. Therefore, the need for the establishment of one more Agricultural College in the State is keenly felt.

VETERINARY AND ANIMAL SCIENCES

1. Establishment of a Second Veterinary College, Namakkal.

5.50 At present out of 116 candidates admitted every year in the B.V.Sc. degree programme at

Madras Veterinary College, Madras, only 88 seats are made available for the candidates of Tamil Nadu. About 15-20 graduates join in the Post-Graduate degree programme and the rest of them, i.e., about 60 will be available for jobs. Most of them are employed in the State Department of Animal Husbandry and Dairy and Poultry Development Corporations.

5.51 In recent times, there has been an increasing demand for Veterinary graduates for employment in the State Department of Animal Husbandry and in various corporations.

5.52 It is seen that the gap between the requirement and availability is widening year after year. With the limited infrastructure facilities at the Madras Veterinary College being situated in the heart of the metropolis, there is no further scope for increasing its admission strength. Further, no other Veterinary College is also available in the State. Therefore, it is felt that there is an urgent need for the establishment of one more Veterinary College in the State.

FISHERIES :

1. Nutrient chemistry and proper utility of sewage, Tuticorin.

5.53 Sewage waters are well known for their very high concentration of plant nutrients. Realising the beneficial quality of sewages, many researchers have adopted sewage-fed fish culture to profitably utilise this waste energy resource. There is a definite lacuna between the present knowledge of hydrochemistry of waste waters and utilisation of waste energy for protein production.

5.54 A thorough knowledge on the nutrient chemistry of sewage water will help to boost the production of fish and algae from sewage-fed aquaculture practices. The model evolved from observations will be the first hand information in this line. The project will provide details regarding the procedures to be adopted to utilise the sewage nutrient for fish culture practices to best advantage.

2. Preparation of certain smoke cured fishes, Tuticorin.

5.55 The Central Marine Fisheries Research Institute has launched several schemes for the culture of many varieties of fishes and shell fishes like sel, Oyster, etc. The survey conducted by fishing vessels of Explorator Fisheries Project has shown that there are great potentialities for squid fishing. These varieties are highly priced in foreign countries like Japan, U.S.A., and many other European countries. They are preferred if they are smoked and cured. Therefore, if methods of smoking can be standardised and popularised, these smoked products can be exported resulting in valuable foreign exchange. Internal markets can also be explored for smoke cured products.

3. Mercury pollution in Tamil Nadu coastal waters, Tuticorin.

5.56 Mercury is a non-essential but highly toxic heavy metal poisoning potential hazards to the biological fertility of aquatic systems. This pollutant enters coastal waters due to mercury electrode process in chloralkali industry and usage of mercury based fungicides, coal and mineral oils. Bio-accumulated mercury is a potential danger to human beings. Consumption of mercury contaminated marine fin fish and shell fish leads to the out-break of a non-infectious neurological fatal illness known as Minameter disease.

5.57 Heavily industrialised areas like Tuticorin, especially with a chlor-alkali factory and Thermal Power Project (releasing residual water as ash) deserve a thorough study. The present project is also aimed at making seasonal surveys in some selected industrialised regions of Tamil Nadu Coastal belt. This project besides providing valuable information of mercury pollution, would be also of much use to identify coastal zones ideal for mariculture practices.

CHAPTER 6.

AGRICULTURE—CROP HUSBANDRY.

6.0 Agriculture is the largest sector accounting for about 37 per cent of Net State Domestic Product and hence it is crucial for economic development. It must therefore, grow sub-serving the general goal of removing poverty, inequality in income distribution, unemployment and regional disparities. For all this, agriculture has to generate enough surpluses in foodgrains, raw materials and investible funds to support and sustain the complementary growth of industries.

Land Utilisation :

6.1 The net area sown (all crops) in the State having a land spread of 13 million hectares has stagnated more or less at a 6.3. m. ha. land, the gross area going a little beyond 7.7. m. ha. The area irrigated has also been more or less at a static level of 2.9 m. ha. nett and 3.2. m. ha. gross.

6.2 The possibility of bringing additional area under cultivation is a point for examination. The current fallows have been indicating a slight upward trend. In 1979-80 it remained at a level of 1.3. m. ha. (10 per cent of the total land spread). Cultivable waste and other fallow lands remained at 0.33. m. ha, and 0.42 m. ha. respectively.

Year.	Net area sown.	Gross area sown.	Current fallows.
(1)	(2)	(3)	(4)
(MILLION HECTARES.)			
1961-62 ..	6.02	7.27	0.98
1979-80 ..	6.23	7.71	1.30
1980-81 ..	5.36	6.47	2.12
1981-82 ..	5.74	6.91	1.69

6.3 Thus there is some scope (about one m. ha.) to extend area under crops, by reducing area under current fallows. Therefore, more intensive cultivation of available land must be the goal during the Seventh Plan. Intensive cultivation requires (i) irrigation, and (ii) improvement in productive potentials of the crops, both irrigated and rainfed.

Irrigation :

6.4 Tamil Nadu has harnessed more than 95 per cent of surface water and there is very little scope for further irrigation from this source. But there is definite scope to increase gross area irrigated through better water management practices. Creation of command area development agencies would help more efficient distribution of available supplies and educating farmers on better methods of water management would help more efficient use on farm. There is scope to increase producti-

vity per unit of water used. Thus, modernisation of irrigation systems, introduction of irrigation and water management technologies can to a certain extent improve the wet-dry ratio (which remains presently at 52 : 48 on gross area basis and 49:51 on net area levels) in the future. The (food) productivity improvement coefficient on conversion of a unit of dry land into a unit of wet land is anywhere from 2 to 3 in Tamil Nadu conditions, but conversion from dry to wet based on surface irrigation is almost at an end.

6.5 The underground water for irrigation is, therefore the one base for the improvement of the wet dry ratio in Tamil Nadu.

6.6 Tamil Nadu is currently exploiting 40 per cent of its ground water potentials. Additional filter point tube wells can be sunk in Thanjavur and parts of South Arcot and Tiruchirappalli districts and deep bore wells in Tiruchirappalli, Pudukkottai, Ramanathapuram and Tirunelveli districts. This may increase area irrigated by wells from 1.25 m. ha. at present to 1.50 m. ha. by 1990.

6.7. Construction of farm ponds in the dry tracts of Coimbatore, Salem, Dharmapuri, Ramanathapuram and Tirunelveli may help conservation of run-off water. There are 40,000 tanks irrigating about 0.90 m. ha. and they need desilting to use their full capacity.

6.8 At farm level, advanced methods of irrigation such as sprinkler and drip irrigation and other crop production practices may help more efficient use of water by farmers. All these measures may increase area irrigated by 0.47 m. ha.

Productivity of crops :

6.9. The present level of productivity of various crops in Tamil Nadu State is as follows :—

Rice	2,160 kg. per ha.
Cholam	876 kg. per ha.
Cumbu	1,130 kg. per ha.
Ragi	1,560 kg. per ha.
Maize	2,227 kg. per ha.
Other minor millets ..	535 kg. per ha.
Total cereals	1,176 kg. per ha.

6.10 Efforts should be made to step up productivity of rice, cholam and cumbu further.

6.11 While the stabilisation of productivity has been achieved under rice, particularly in the acceptance by the farmers of the high yielding varieties and the agronomic input formulae, quite some distance remains to be covered under other crops especially those in rainfed.

Sixth Plan performance :

6.12 The Sixth Five-Year Plan period has been, for Tamil Nadu mostly a period affected by drought. The North-East Monsoon of 1981 was indifferent to the point of affecting Agricultural operations. Both the monsoons South-East and North-East were deficient/failed in 1982. The

South-West Monsoon of 1983 was delayed badly almost to the point of wrecking the Khariff 1983 cropping operations.

6.13 The North East Monsoon of 1983 also was correspondingly delayed and its real impact in 1983 was to create a flood havoc in the Rice bowl districts of Thanjavur, Trichirappalli and South Arcot.

6.14 From September 1981 to January 1984 the agricultural operations had to be erratic, the weather practically nullifying the projections made for the Sixth Plan period.

PRODUCTION.

SIXTH PLAN.

Serial number.	Item.	Unit.	Base level 1979-80.	1980-81 Drought year.	1981-82.
(1)	(2)	(3)	(4)	(5)	(6)
1	Production :				
	Rice	Lakh MT.	58.00	42.79	56.81
	Millets	"	16.46	11.96	15.07
	Pulses	"	1.95	1.76	1.88
	Sugarcane (gur)	"	15.41	19.28	21.11
	Cotton (Lint)	Lakh Bale	3.86	2.60	2.61
	Oilseeds	Lakh MT.	11.25	8.40	11.43
2	High Yielding variety Coverage :				
	Paddy	Lakh Ha.	23.59	19.33	22.53
	Millets	"	6.50	6.20	7.27
3	Distribution of Seeds :				
	Paddy	MT	7,970	8,263	1,1511
	Millets	"	897	750	840
	Pulses	"	2,099	2298	2183
	Cotton	"	774	426	601
	Oil Seeds	"	2,465	3,859	6,728
4	Distribution of Fertilizer	N Lakh MT.	3.35	2.86	3.07
		P "	0.97	0.84	0.91
		K "	1.06	1.09	1.09
		Total	5.38	4.79	5.07
5	Distribution of Application	Dust MT	7,430	6,717	6,466
		Liquid			
		Lakh			
		Litres	1.86	1.65	1.90

						1982-83	1983-84	1984-85	
						Drought year	Flood year	Terminal	
						year.			
1	Production	..	..	..	..
	Rice	..	..	..	..	Lakh MT.	36.42	44.48	54.42
	Millets	..	..	..	..	"	10.92	15.60	14.75
	Pulses	..	..	..	..	"	2.41	2.55	3.42
	Sugarcane (gur)	..	..	..	..	"	16.99	15.03	20.36
	Cotton (Lint)	..	..	..	..	Lakh Bale	2.21	2.99	5.75
	Oilseeds	..	..	..	..	Lakh MT.	7.99	10.58	13.64
2	High Yielding Variety Coverage :								
	Paddy	..	..	..	..	Lakh Ha.	15.71	22.82	23.05
	Millets	..	..	..	..	"	6.44	7.73	8.15
3	Distribution of Seeds :								
	Paddy	..	..	..	..	MT.	11,238	22,113	14,143
	Millets	..	..	..	..	"	768	989	1,500
	Pulses	..	..	..	..	"	2,166	2,639	2,498
	Cotton	..	..	..	..	"	382	361	351
	Oilseeds	..	..	..	..	"	9,057	12,301	10,729
4	Distribution of Fertilizers	..	..	..	..	N Lakh MT	2.69	3.37	3.94
						P "	1.01	1.25	1.38
						K "	1.02	1.24	1.59
						Total ..	4.72	5.86	6.91
5	Distribution of Application	..	..	..	..	Dust MT.	5,287	8,543	8,022
						Liquid			
						Lakh			
						Litres	1.99	4.31	5.53

6.15 Apart from the routine efforts of the department to provide quality inputs, technical guidance, etc., the following new ventures have been added to the efforts of the department during this Plan period.

(1) 5 Metric Tonnes per hectare:

6.16 A Production programme for paddy has been launched during 1984-85 with a view to make even the ordinary farmer to achieve the realistic goal of 5 metric tonnes/hectare.

(2) Training and Visit System:

6.17 With the experience gained on the implementation of Pilot Project on Training and Visit System, in Periyar Vaigai Modernisation Project, the State launched the Training and Visit System with financial Assistance from World Bank. Scheduling the Visit of Extension personnel to villages; limiting operational jurisdiction to the

manageable level, single line of command, periodical training in latest innovations, problem solving and feed back, etc., are the main objectives of this programme to provide quality extension service to the farming community.

6.18 To concentrate on the production of oil, seeds, horticultural and plantation crops and to improve upon the Soil and Water Conservation marketing facilities, separate Directorates were established during this Plan Period. Besides, to enforce the Seed Act, a separate Seed Certification Department has also been set up.

6.19 To analyse the problems of farmers and to guide the Government, a high level Committee 'Agricultural Welfare Committee' was set up. The Committee after analysing the problems of farmers in depth recommended various relief measures like reduction in electricity tariff and waiver of penal interest on the Co-operative Society loans, etc.

6.20 With a view to encourage farmers to produce more, supply of fertilisers worth Rs. 35 per quintal of paddy is given as production incentive to the tune of Rs. 10 crores.

6.21 As an alternative strategy during the period of drought, contingency crop planning was taken up for implementation.

6.22 With a view to increase production, regular summer programmes are drawn up and implemented to grow, light duty crops like millets, oilseeds and pulses in large areas.

6.23 Integrated Pest Management has been taken up in the state with a view to bring in scientific and need based plant protection of crops.

6.24 Project 'Three P' for 'Productivity', 'Profitability' and 'Prosperity' have been

arranged in 198 locations of districts with the goal and Rural Prosperity.

(a) Better Land and Water Management Practices.

(b) Appropriate crop pattern, and

(c) Suitable Management techniques are demonstrated.

6.25 Selected Operation Programme for increasing production in crops like Jowar, Bajra Cotton and Pulses have been launched in large scale blocks of more than 1,000 ha. with a view to create a mass impact on farmers.

6.26 A look at the following table will reveal the relationship between the extent of Millet/Oilseed crops and rice areas.

PRODUCTION PEAKS.

(1)	Acreage. (2) (M.HA.)	Production. (3) (M.MT.)	Productivity. (4) (KG/HA.)
<i>Rice.</i>			
1966-67	2.69	3.79	1410
Best Production year 1979-80	2.90	5.80	1996
Best Productivity year (1973-74)	2.70	5.56	2057
1981-82 (Drought)	2.46	5.58	2262
1982-83 (Drought)	1.77	3.30	1859
 <i>Total Millets.</i>			
	Area. (1) (M.HA.)	Production. (2) (M.MT.)	Productivity. (3) (KG/HA.)
1966-67	1.9	1.55	814
Best Production year (1976-77)	2.0	1.94	936
Best Productivity year (1978-79)	1.78	1.82	1020
1981-82 (Drought)	1.55	1.43	923
1982-83 (Drought)	1.35	1.17	866

PRODUCTION PEAKS—cont.

(1)	Acreage. (L.HA.) (2)	Production. (L.MT.) (3)	Productivity. (KGS/HA) (4)
<i>Total Pulses.</i>			
1966-67	4.33	1.12	259
Best Production year (1978-79)	6.16	2.19	355
Best Productivity year (1980-81)	5.44	1.76	381
1981-82 (Drought)	7.37	2.68	353
1982-83 (Drought)	7.71	2.61	338

Sugarcane.

kgs of gur/ha.

1966-67	0.90	8.31	9225
Best Production year (1980-81)	1.83	19.28	10,535
Best Productivity year (1978-79)	1.54	18.61	12,050
1981-82 (Drought)	1.89	19.18	10,148
1982-83 (Drought)	1.75	17.00	9,714

Groundnut.

1966-67	9.94	8.83	849
Best Production year (1971-72)	11.19	12.53	1,120
Best Productivity year (1977-78)	9.26	11.50	1,242
1981-82 (Drought)	8.63	10.42	1,208
1982-83 (Drought)	7.58	7.12	939

(1)	1973-74 (Best Rice Year)		1976-77 (Best Millet Year)		1979-80 (Best Oilseed Year)	
	Acreage. Production.		Acreage. Production.		Acreage. Production.	
	(M.HA.)	(M.MT.)	(M.HA.)	(M.MT.)	(M.HA.)	(M.MT.)
	(2)	(3)	(4)	(5)	(6)	(7)
Rice	2.70	5.56	2.28	4.25	2.90	5.80
Total Millets	1.69	1.53	2.07	1.94	1.74	1.64
Total Oilseeds	1.27	1.30	1.16	0.95	1.162	1.125
.. .. .	5.66	8.39	5.51	7.14	5.802	8.565

(1980-81 to 1982-83 have been drought years.)

6.27. The years above have been chosen to show how an increase in a good millet coverage has occurred as a result of a decrease in area under rice. Such an increase in Millet coverage always reduces the total food production in the State because per acre productivity of Rice and Millets is about 2 : 1 and therefore a diversion of area from rice to millets in poor rain-fall years suppresses the food production in a corresponding proportion.

6.28. It would be simplistic to draw the inference that the State is not in a position to increase the area coverage of one crop without correspondingly reducing the others to a certain extent. The figures for the year 1979-80 show out in bold relief that an improvement in acreage mix is still possible by improving the acreage, under both the crop groups, within limits.

6.29 With the maximum area that can be aimed for these major crop-groups and with the best productivity that has been achieved, the food production targets can be as follows :—

	<i>Best area</i> (M.HA.)	<i>Best Productivity.</i> (KGS./HA.)	<i>Best Production.</i> (M.T.)
Rice	2.90	2,262	6.55
Millets	2.07	1,020	2.11

6.30. Therefore to attain a food crop production level of 7.4 M. tonnes of rice and 2.7 M. tonnes of millets would mean an improvement in the productivity level of Rice and Millets to 2550 kgs./hectare and 1,352 kgs./hectare respectively.

6.31 The State has laid for itself a target of 5 tonnes/Ha. of paddy in 1983-84, which in terms of rice is 3.3 tonnes of Rice/Hectare. Taking the Rainfed Rice Productivity in the districts of Ramanathapuram, Chingleput, etc., into account, the resultant goal of 2,600 kgs/hectare of Rice is within reach. Similar is the position in the case of Millets.

Seventh Plan (1985-90) :

6.32. The base year figures and the growth figures for the Seventh Five-Year Plan are as follows :—

	<i>Final year of VI Plan.</i>	<i>Final year of VII Plan.</i>
Rice ..	54.42 L.Mt.	75 L.Mt.
Millets ..	14.75 L.Mt.	30 L.Mt.
Pulses ..	3.42 L.Mt.	6 L.Mt.
Sugarcane (Gur)	20.36 L.Mt.	29 L.Mt.
Cotton (Lint) ..	5.75 L.Bales.	5.5 L. Bales.

Whole Farm Approach :

6.33. For optimization of farm production to maximizing farm income, it is necessary to take a whole farm approach and choose a product mix most appropriate for the resource situations of the farms, so that farming efficiency is improved. Improving efficiency in management of farms with the present level of illiteracy of farms and organisational pattern of farm production which is private and on small scale requires massive efforts and it must be achieved through persuasion, incentive and supporting services. This would require the continuation of Training and Visit System and combining it with such efforts as farm planning, contingency planning and area planning, all directed at achieving higher income and its more even distribution.

Marketing

6.34. A major stumbling block in agricultural development is the farm risk and the conservative attitude of farmers associated with it. Farmers suffer from both production (yield) risks due to unpredictable climate and price risks due to market uncertainties. While crop improvement and crop practices are designed to reduce yield risk, the price risk goes unattended. Therefore, farmers must be assured reasonable price for their products vis-a-vis farm inputs, without hurting the interest of consumers. Support prices, input subsidies and regulation of marketing are intended to serve this purpose, but appear to be ineffective if the past experience is any indication.

6.35 It is therefore necessary to take up comprehensive market research to reorganise markets for farm products and inputs to identify specific problems and to suggest solutions thereof. Systematic research into the marketing problems of farmers will help formulation of appropriate policies. Particularly the objectives of removing rural poverty and unemployment (large part of it is in agriculture) requires scheme to help large section of landless agricultural labour. The Minimum Wages Act and other labour legislations help them. But a wage-product price parity would enable farmers to pay reasonable wages without reducing demand for labour. Market research has, therefore, to cover labour and other input markets also.

Input Planning.**Seeds :**

6.36. The levels of multiplication and distribution of certified/quality seeds at the end of the Sixth Five-Year Plan period are as follows :—

	M.T.	Percentage of replacement. (per cent)
Paddy	14,143	10
<i>Millets</i>		
Ragi	226	15
Cholam (Var)	161	7
Hybrid Cholam	157	40
Hybrid Cumbu	432	40
Hybrid Maize	128	40
Pulses	2,498	10

It is proposed to step up to the following levels by 1989-90:—

Paddy	20,250	15
<i>Millets</i>		
Ragi	282	20
Cholam (Var)	230	10
Hybrid Cholam	235	60
Hybrid Cumbu	684	60
Hybrid Maize	192	60
Pulses	2,850	10

6.37. This would enable the State to quantitatively meet the seed replacement requirements of the farmers to a certain extent.

6.38. The Tamil Nadu Agricultural University and the Anna Pannai in Kudumiamalai mostly supply the Breeder Seeds and the parent seeds required for the States needs. The State has presently 45 State Seed Farms located in different districts to cater to the production of foundation and certified seeds of paddy, millets pulses, cotton oilseeds, etc. There will be 15 Seed Processing Centres in 1984-85 with a processing capacity of 16,000 tonnes of seeds. The storage godowns, and the seed testing laboratories have to be correspondingly matched with the production of certified seeds.

6.39. Therefore the present base level of infrastructure under the seed multiplication programmes has to be virtually doubled.

Units. 1984-85 1988-89

State Seed Farm (Acreage) acres ..	3,081	5,243
Seed Processing Units (Capacity M.T.) ..	16,000	22,000
Temperature and Humidity Controlled godown (MT) ..	2	2
Seed Moisture Metres (Nos.)	35	50
Seed Testing Laboratories (Nos.)	3	7

Hybrid Seed Multiplication:

6.40. At present the production and distribution level in respect of Hybrid seeds is to cover 40 per cent of the normal area. During the end of the Seventh Five-Year Plan, it is proposed to cover 60 per cent of the area through distribution of hybrid seeds by the Department.

6.41. At the end of the Sixth Five-Year Plan, distribution of hybrid seeds by the Department was as follows :—

Hybrid Cholam ..	157 M. T.
Hybrid Cumbu ..	432 M. T.
Hybrid Maize ..	128 M.T.

6.42. At the end of the Seventh Five-Year Plan, the following quantities of hybrid seeds would be distributed by the Agriculture Department :—

Hybrid Cholam ..	235 M.T.
Hybrid Cumbu ..	648 M.T.
Hybrid Maize ..	192 M.T.

Chemical Fertilisers:

6.43. Consumption level reached during 1984-85, 6.91 lakhs tonnes of N, P and K. It is proposed to achieve a level of 6.35 lakhs tonnes during 1985-86, 6.70 lakh tonnes during 1986-87, 7.05 lakh tonnes during 1987-88, 7.40 lakh tonnes during 1988-89 and 7.775 lakh tonnes during 1989-90 of the Seventh Five-Year Plan period. Increasing the offtake of fertilisers for dryland crops, stepping up the consumption level of Non-Hybrid irrigated millets like ragi and irrigated pulses will be concentrated upon for increasing the consumption of fertilisers. Enforcement of quality control measures will be continued during Seventh Five-Year Plan.

Bio-Fertilisers.

6.44 Nitrogenous fertilisation is one of the most important nutrients in increasing the production of rice. Biological Nitrogen fixation system through Bio-fertilizers like Blue Green Algae, Azolla, etc. could be considered potential systems for increasing rice production as an alternative renewable and cheap source. While Blue Green Algae can fix up to 25 kg. of atmospheric nitrogen, azolla can fix up to 30 to 60 kg. of N. per hectare besides adding 4 to 8 tonnes of green matter to the soil.

6.45 At present there is a scheme for the multiplication and distribution of Blue Green Algae with production Centres at Tirurkuppam, Aduthurai and Ambasamudram. The basic inoculum obtained from the above production centres is further multiplied in the SSF's and private holdings and distributed for mass coverage. The present production programme of 1,000 tonnes of inoculum to cover one lakh hectare of paddy under mass spread will be continued.

6.46 Leguminous crops like various pulses and groundnut have capacity to utilise atmospheric, elemental nitrogen through a process of symbiotic fixation with the aid of rhizobium in the root nodules. It has been estimated that 30 to 50 kilograms nitrogen is fixed per hectare of these crops when inoculated with rhizobial cultures. In the Sixth Five-Year Plan Bacterial Culture Production Centres in Cuddalore is preparing 7.5 lakh packets of rhizobial culture azotobacter and azospirillum for various legume crops.

6.47 In the Seventh Five-Year Plan, it is proposed to start another production centre in Ramanathapuram. This centre will produce besides rhizobium azotobacter, azospirillum and phosphobacterium which are independent bacteria. When inoculated in the needy soils, the independent bacteria like azotobacter will fix elemental nitrogen to form substances which are easily available to all crops. The phosphobacterium will solubilize the reverted or fixed insoluble phosphate, thus making it available to crops.

6.48 The proposed centre will produce 3 lakh bacterial culture packets per year on "no loss/no gain" basis.

Micro Nutrients:

6.49 The use of micro nutrients mixture has been demonstrated to increase crop yields in Tamil Nadu, especially in groundnut, cotton,

millet, coconut and some horticultural crops. During the Sixth Five-Year Plan, micro nutrients mixtures were prepared in one centre established at Kudumianmalai. 500 Metric Tonnes of micro nutrients mixture was prepared every year to cover an area of 5 per cent of the total area under groundnut crop.

6.50 During the Seventh Five-Year Plan, order to cover 20 per cent of the area under groundnut and a limited area under other crops like cotton, millets, and horticultural crops two more centres are proposed to prepare 500 Metric Tonnes of micro nutrients mixture each per year.

6.51 Crop Yields are not only the function of crop varieties but also the function of soil fertility, prevailing climatic conditions and other crop husbandry practices. In the wake of High Yielding Varieties Programme, the soil fertility management received adequate attention. During the Seventh Five-Year Plan period it is contemplated to develop location specific crop-technology as against the area package approach of the previous plans. Soil testing and allied programmes will be one of the major components of the above and soil fertility evaluation study, and detailed survey of soils are therefore proposed.

6.52 An innovative scheme of this department is to use the Indian Satellite User Cell for soil mapping in the State.

OILSEEDS.

6.53 Tamil Nadu occupies a significant place next only to Gujarat in the country in the production of oilseeds. After rice, oilseeds is the most important agricultural commodity grown in Tamil Nadu. Normally oilseeds are grown in about 12 lakh hectares with an annual production of 12 lakh M.Ts. in Tamil Nadu. Groundnut is the major oilseed crop cultivated in about 80 per cent of the total area cultivated under oilseeds. The other oilseeds crops are sunflower, gingelly and castor.

Groundnut :

6.54 The normal area under this crop is around 11.00 lakh hectares, which forms about 14.67 per cent of the total cultivated area. Normally 11 lakh M.Ts. of groundnut is produced annually in the State.

6.55 Production depends on the rainfed crop which is more than 75 per cent of the area grown under groundnut. The normal area of groundnut

under irrigated conditions is 2.50 lakh hectares and this has been increased to 4.00 lakh hectares in 1983-84.

Gingelly :

6.56 The normal area under this crop is 1.18 lakh hectares and production is 0.36 lakh M.Ts. Being a low-water duty crop, there is good scope for raising this crop as a contingency crop at times of drought and as a supplementary oilseed crop in command areas when there is surplus water in the reservoirs over and above the normal requirement of the regular ayacut crop.

Sunflower :

6.57 This crop was introduced in this State during 1973-74 and 1974-75. The area under this crop has gradually increased to around 1.14 lakh hectare during 1983-84, from a meagre 0.30 lakh hectare in 1979-80.

Castor :

6.58 India is the third largest producer of castor next to Brazil and USSR. It is a minor oilseed mainly grown as a mixed crop in about 10,000 hectares annually. This crop has its predominant areas in the districts of Salem, Dharmapuri and Coimbatore. Castor is raised only under rainfed conditions. It is also sown as a border crop in garden land areas.

Coconut :

6.59 This is one of the major perennial oilseed crops of this state. There is vast scope for planting more coconut trees to augment the production of edible oil. Tamil Nadu stands third in area coverage under coconut in the country with 1.31 lakh hectares. In productivity, it stands first with an average production of 10,528 nuts per hectare.

6.60 During the base year of the sixth Five Year Plan i.e., 1979-80 a total area of 11.83 lakh hectare was covered under all oilseeds with a production of 11.13 L.Mts.

6.61 The total area under all oilseeds have increased to 14.85 L.Ha. with a total estimated production of 15.18 L.Mts. during 1983-84. However a production loss of 0.62 L.Mts. is estimated due to the floods in December 1983 January-March 1984. During 1984-85, the base year for the

VII Five Year Plan it is programmed to cover a total area of 14.67 L.Ha. with a production of 14.60 L.Mts. under all oilseeds as detailed below :—

Serial number and crop.	Target for 1984-85.	
	Area. L.Ha.	Production L.Mts.
(1)	(2)	(3)
1 Groundnut	11.65	13.25
2 Gingelly	1.60	0.65
3 Sunflower	1.25	0.62
4 Castor	0.17	0.08
Total	14.67	14.60

6.62 It is programmed to increase this to 15.85 L.Ha. with a total production of 18.98 L.Mts. during 1989-90, the terminal year of the VII Five Year Plan as detailed below :

Serial number and crop.	Area L.Ha.	Production L.Mts.
1 Groundnut	12.50	17.00
2 Gingelly	1.60	0.81
3 Sunflower	1.50	1.02
4 Castor	0.25	0.15
Total	15.85	18.98

Farms and Nurseries :

6.63 For the production of quality seeds the Department of Oilseeds maintains one breeders seed farm, two foundation seed production centres, three Zonal Nucleus Seed Farms and Four Seed centres. It maintains 23 small coconut nurseries and 5 big coconut nurseries for production of "Tall" variety seedlings and 5 nurseries for production of "T × D" hybrid variety seedlings and 2 nurseries for production of "D × T" Hybrid variety seedlings. Besides this, the department also maintains 17 parasite breeding centres to produce and release parasite to control biologically the virulent black headed caterpillar pest on coconut.

Distribution of seeds :

6.64 Availability of required quantity of quality seeds is very essential for attaining any sustained increase in production and productivity in oil

seeds. The main constraint experienced in the production of Groundnut in this state is the non-availability of adequate quantity of Breeder seeds of groundnut. The capacity of the only breeder seed farm maintained by this Department is about 12 M.Ts. of breeders seeds annually. With the co-ordination and help of the Tamil Nadu Agricultural University, Coimbatore around 40M.Ts. of oilseeds will be produced against the requirement of 70 M.Ts. during 1984-85. This requirement will considerably increase during the seventh plan period.

6.65 Up to 1983-84, no appreciable quantity of certified class seeds of Groundnut could be procured. Distribution of Groundnut seeds covers 5 per cent of the total area and it is programmed to cover 1 per cent of this area with certified seeds during 1984-85 and to cover this entire area with certified seeds during the seventh plan period. Required additional infrastructural are to be provided for this vital purpose.

6.66 All the oil seeds and pesticides are at present being stocked at the block level in the depots of the Agriculture department with the staff of the T.&V. programme. The inadequacy of stocking space is another lacuna impeding smoother distribution of seeds and pesticides. At present four district level godowns are being constructed in the area of seed centres at Tiruvannamalai, Villupuram, Gobi and Dindigul and a sum of Rs. 80.00 lakhs has been sanctioned for the construction of 20 small godowns in the year 1983-84, for stocking oilseeds. The construction of small godowns in the block areas for this purpose is also felt necessary.

6.67 Coconut seedlings produced at the departmental nurseries are being distributed through the Agricultural depots at the block level. There are no infrastructure, i.e., preservation platforms now to stock and preserve the seedlings in the depots. It is felt essential to provide this facility for efficient distribution of a seedlings.

Development of other Oilseeds—

6.68 Efforts have been taken to introduce cultivation of soyabean in this State during 1983-84 by distributing 200 minikits of seeds.

Similar minikits were distributed during 1984-85. The cultivation of Soyabean will be intensified in Tamil Nadu during the seventh plan period.

Performance during the Sixth Five-Year Plan period—

6.69 A total outlay of Rs. 1723.54 lakhs was provided for oilseeds and coconut in this state for the Sixth Five-Year plan. Against this an expenditure of Rs. 3678.72 lakhs has been incurred.

National Oilseeds Development Programme—

6.70 Under the National Oilseeds Development Programme sponsored by the Government of India being implemented from 1984-85, subsidies are extended to oilseeds farmers extensively for seeds, fertilizers, irrigation, agricultural implements, plant protection chemicals and equipments, which will go a long way in assisting the farmers in increasing production of oilseeds in this State.

Coconut Development Board Scheme :

6.71 The Coconut Development Board is also assisting this State in the Development of coconut by financing the implementation of the following schemes:

1. Scheme for establishment of Giant Nursery for production of DxT Coconut seedlings.

2. Scheme for establishment of a Regional Coconut Nursery for production of Tall seedlings in 50 : 50 ratio.

3. Area Expansion programme to give interest subsidy to the farmers for meeting the interest portion of the loan amount required for raising coconut and for maintenance cost for 1,000 ha. in a phased manner and to cover in 3 years.

4. Improving the Irrigation facilities in the existing Government Coconut Nurseries by providing financial assistance as full grant.

5. Scheme for establishment of a Community Nursery for production and distribution of coconut seedlings.

6. Establishment of a D x T coconut Nursery at Manur.

SEVENTH FIVE-YEAR PLAN (1985-90)—OUTLAY.

6.72 The outlay provided for the Seventh Five-Year Plan for Agriculture-Crop Husbandry is Rs. 2,00,00.00 lakhs. The Departmentwise provision is as follows :—

I. DEPARTMENT OF AGRICULTURE

(Total Outlay : Rs. 1,11,60.00 lakhs.)

A. ONGOING SCHEMES :

<i>Serial number and Scheme.</i>	<i>Seventh Plan Outlay.</i>
	(RS. IN LAKHS.)
I. Multiplication and Distribution of Seeds —	
1. State Seed Farms	1,12.00
2. Procurement and distribution of paddy seeds	15,00.00
3. Multiplication and distribution of pulses seeds	625.00
4. Seed processing Units	22.50
II. Manure and Fertilisers —	
5. Preparation and distribution of Micro Nutrient mixtures	75.00
6. Production and distribution of B.G.A.	20.00
III. Plant Protection—	
7. Crop and Plant Protection	10,75.00
8. Mass ground spraying	2,50.00
9. Pesticide Testing Laboratories	35.00
IV. Commercial Crops—	
10. Sugarcane Development	5.00
11. Sugarcane Seed Multiplication Scheme	30.00
12. Cotton Development	1,75.00
V. Dryland Development—	
13. I. D. A. D. P.	36.50
VI. Land Utilisation—	
14. Crop yield competition	7.50
15. Scheme for purchase and distribution of improved implements	1,00.00
VII. Extension and Farmers Training—	
16. Farmers training centre	50.00
17. Documentary films	15.00
18. Agricultural information Service	10.00
19. Agricultural Extension set up under the new T & V System	15,00.00
TOTAL—A. ONGOING SCHEMES	56,43.50

B. NEW SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan outlay.</i>
(1)		(2)
		(RS. IN LAKHS)
1	Massive Dryland Development Programme	8,40,000
2	Silvi Pasture Development	4,10,900
3	I.P.A.D. system for farm development	91,145
4	Scheme for increasing productivity of pulses through Intensive approach	1,59,900
5	Popularisation of Improved Practices in rice fallow pulses	3,54,000
6	Establishment of 10 State Seed Farms	8,54,050
7	Establishment of 6 Additional Seed Processing Units	2,12,740
8	Establishment of Mobile Seed Processing Units	78,590
9	Production of certified seeds of pulses with subsidy under State Funds ..	1,20,000
10	Construction of Seed Godowns	1,77,080
11	Improving infrastructure in State Seed Farm	1,23,000
12	Improvement in Infrastructure at Vaigai Dam II	33,500
13	Two Micro Nutrients Production Centres	1,82,536
14	Providing quick fertiliser testing kits	7,360
15	Programme for pests and disease surveillance	1,52,295
16	Popularisation of Integrated Pest Management Technology	1,73,875
17	Biological Control of Shoot Borer in Sugarcane	1,31,650
18	Eradication of Weeds	2,66,050
19	Enforcement of Insecticides Act	77,420
20	Establishment of four Pesticides Testing Labs	80,900
21	Permanent Exhibition on Information Centres	41,000
22	Establishment of Integrated Farmers Training and Education Centres ..	2,84,809
23	Establishment of Indian Satellite Users Cell in Agriculture	3 4,250
24	Integrated Crop Matrix Programme	4,69,350
25	National Agricultural Extension Project	0,050
26	Externally aided Schemes	0,050
TOTAL B : NEW SCHEMES		5356,500

C. STATE'S SHARE FOR CENTRALLY SPONSORED SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
(1)		(2)
		(RS. IN LAKHS.)
State Share 50 per cent—		
1	Brown Plant Hopper	50.000
2	Intensive Cotton Development Programme	50.000
3	Pulses Demonstration	60.000
TOTAL C.—STATE'S SHARE ..		1,60.000
TOTAL (A)—ONGOING SCHEMES		56,43.50
TOTAL (B)—NEW SCHEMES		53,56.50
TOTAL (C)—STATE'S SHARE FOR CENTRALLY SPONSORED SCHEME		1,60.000
GRAND TOTAL (A+B+C)		1,11,60.00

II. DEPARTMENT OF OILSEEDS.

(Total Outlay : Rs. 5,000.00 lakhs)

A. ON GOING SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
(1)		(2)
		(RS. IN LAKHS.)
1	Foundation Seed Production Centre for Groundnut	50.90
2	Scheme for providing 11 K. V. Electric feeder line to Vellalaviduthi farm.	10.00
Plant Protection—		
3	Crash Programme for Eradication of Thanjavur and Kerala Wilt ..	3.71
4	Scheme for biological control of Coconut Rhinoceros Beetle with fungus Metarhizium Arisopliae	5.66
5	Scheme for control of Tikka and Rust disease on Groundnut	6.00
6	Scheme for Biological control of RHC and Spodoptera caterpillar pests on Groundnut with Polyhydrosis virus	10.52
7	Integrated Coconut Development	2,99.20
8	Production and Distribution of Tall × Dwarf coconut seedlings (Pattukkottai)	44.10
9	Crash Programme for the Development of Coconut seedlings	5,06.99
10	Development of Coconut at Danishbet in Salem District (Token provision)	0.05
11	Production and Distribution of D × T hybrid coconut seedlings at Navlock (CSS—State share)	37.53
12	Coconut Development in Thanjavur District (CSS—State Share) ..	16.09

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay (2)</i>
(1)		(RS. IN LAKHS).
13	Intensive Coconut Development Scheme (cost of land of Mannur farm) ..	73.50
14	Increasing the production of Oilseeds(*)	35,16.02
15	Oil seed Centres (Foundation Seed Farm, Neyveli)	33.38
16	Scheme for popularisation of Soyabean Cultivation in Tamil Nadu ..	11.87
17	Establishment of Breeder Seed farm for Oilseeds	19.45
18	Provision of staff quarters for staff of farm and nursery	69.90
19	Development of Oilseeds of tree of Origin (Neem)	0.50
TOTAL A—ONGOING SCHEMES ..		47,15.37

* Includes the following schemes—

(a) Increasing Production of Gingelly.

(b) Extension of Caster cultivation.

B. NEW SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay. (2)</i>
(1)		(RS. IN LAKHS).
1	Establishment of Breeder Seed farm for Oilseeds	17.40
2	Establishment of Foundation Seed Production Centre for Oilseeds 100 Acres for Groundnut	31.00
3	Scheme for intensive cultivation of Soyabean in selected areas	40.87
4	Scheme for construction of small godown for stocking of oilseeds ..	56.25
5	Scheme for provision of Equipment, implements to oilseed farms.. ..	1.50
6	Scheme for provision of Motor Cycle for use at Big oil seed farms in the State	2.13
7	Scheme for Tractor drawn sprayers for Groundnut	3.40
8	Establishment of Mother palm garden for Coconut in Tamil Nadu ..	41.65
9	Scheme for extension of city rejuvenation scheme for Coconut to Tirunelveli City	4.20
10	Scheme for provision of two wheelers to the executive staff working under Coconut City Rejuvenation Schemes	6.20
General Schemes:—		
11	Schemes for provision of an information unit at the Directorate of Oilseeds.	13.30
12	Scheme for providing direct Telephone lines to the District Offices ..	9.26
13	Scheme for provision of conveyance facilities to the District Offices ..	56.47
14	Scheme for provision of irrigation facilities to Musarvakkam Farm ..	1.00
TOTAL B—NEW SCHEMES ..		2,84.63
TOTAL A—ONGOING SCHEMES.		47,15.37
TOTAL B—NEW SCHEMES ..		2,84.63
GRAND TOTAL (A+B)		50,00.00

III. DEPARTMENT OF HORTICULTURE AND PLANTATION CROPS.

(Total Outlay : Rs. 28,00.00 lakhs.)

A. ONGOING SCHEMES :

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
		(RUPEES IN LAKHS.)
I. Crop Husbandry—		
1.	Package scheme for banana development	4.57
2.	Development of Pineapple production	12.87
3.	State Horticultural Farms	2,09.16
4.	Elite Banana Gardens	38.21
5.	Directorate of Horticulture	0.75
6.	Production of Cross Protected acid lime plants	5.00
7.	Intensification of Horticultural Development in Madras	30.00
8.	Establishment of Investigation Cell	6.00
9.	Cultivation of commercial flowers and Co-ordinating Floricultural activities.	32.50
10.	State Horticultural Farm, Madhavaram and Kandiyankuppam	10.00
11.	Development of Potato cultivation	35.17
12.	Promotion of Vegetables cultivation in Kitchen Garden in the cities of Madurai, Vellore and Tiruchy	54.50
13.	Intensification of Horticulture in Districts	120.00
14.	Horticulture extension set up under Training and Visit System	1,67.40
15.	Establishment of Model Coffee Plantation	76.17
16.	Development of spices	5.00
17.	Development of Betelvine	7.57
18.	Establishment of Vegetable Seed Production Centres in Salem and Tirunel- veli districts	19.43
19.	Nilgiris Horticultural Development Project	84.15
20.	Development of Horticulture	99.66
21.	Cashew	27.15
22.	Drip Irrigation to Horticultural Farms	5.00
23.	Providing Infrastructure facilities to Horticultural Farms	4.00

<i>Serial number and Scheme.</i>	<i>Seventh Plan Outlay.</i>
	(RUPEES IN LAKHS.)
II. Extension and Farmers Training—	
24. Central Horticulture Training Centre at Kudumiamalai	10.69
25. Infrastructural facilities	10.25
III. Research and Education—	
26. Horticultural Training Centre, Taramani	2.76
TOTAL A—ONGOING SCHEMES ..	10,77.95

B. NEW SCHEMES—

<i>Serial number and Scheme.</i>	<i>Seventh Plan Outlay</i>
	(RUPEES IN LAKHS).
1. Integrated Mango Development Project	1,50.00
2. Project for Development Theri lands in Tirunelveli District	40.00
3. Integrated project for cultivation, processing, and marketing of economy flowers	60.00
4. Development of off-season mango in Tirunelveli and Kanyakumari district	60.00
5. City Vegetable Development Scheme in the cities of Salem and Tirunelveli ..	30.00
6. Distribution of Hybrid Vegetable Seeds	10.00
7. Development of Horticultural Special areas	1,80.00
8. Development of Citrus fruits to the Plains	1,70.00
9. Operation Vegetable flood campaign	1,50.00
10. Development of Horticulture in dryland areas	1,50.00
11. Scheme for diversification of cropping pattern in Periyar Vaigai project area of extending vegetable cultivation around Madurai City	9.25
12. Providing infrastructure facilities to Taramani Centre	25.00
13. Scheme for provision of Office Building and Staff to the Directorate Quarters.	2,03.80
14. Establishment of Information unit at the Directorate	40.00
15. Strengthening the Office of the Deputy Directors of Horticulture and Assistant Directors of Horticulture	13.00
16. Construction of rest houses at Government Botanical Garden, Uthagai, Taramani, S. H. F. Courtallam, Kodaikanal and at Yelagiri	25.00
17. Strengthening the Audit wing of the Directorate	6.00
18. Provision of Office buildings, store room, sale counter, etc.	1,25.00

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
		(RUPEES IN LAKHS)
19.	Scheme for establishment of two Giant Orchards	30.00
20.	Providing Drip Irrigation to the Horticultural Farms ..	1,20.00
21.	Scheme for providing infrastructure facilities to the Horticultural farms	1,25.00
	TOTAL B—NEW SCHEMES	17,22.05
	TOTAL A—ONGOING SCHEMES	10,77.95
	TOTAL B—NEW SCHEMES	17,22.05
	GRAND TOTAL (A+B)	28,00.00

IV. DEPARTMENT OF AGRICULTURAL ENGINEERING

(Total outlay—Rs. 650.00 lakhs)

A. ONGOING SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
		(RUPEES IN LAKHS.)
Direction and Administration.—		
1.	Planning Cell at Headquarters	17.90
2.	Tractor Hiring Scheme	95.67
3.	Agricultural Engineering Training Centre	14.43
	TOTAL A—ONGOING SCHEMES	1,28.00

B. ACCELERATED PROGRAMMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay.</i>
		(RUPEES IN LAKHS)
1.	Purchase of 20 new Bulldozers	2,00.00
2.	Purchase of 15 new Wheel type tractors for replacement of old units ..	30.00
3.	Purchase of 35 additional new Wheel type tractors for accelerated Programme	75.00
4.	Purchase of 10 Bever Trucks for replacement	40.00
5.	Strengthening of Agricultural Engineering Training Centre, Trichy ..	6.06
6.	Creation of Mechanical Sub-divisions	32.54
7.	Purchase of a computer for the Planning Cell at Headquarters	3.75
	TOTAL B—ACCELERATED PROGRAMMES	3,87.35

C. NEW SCHEMES :—

<i>Serial number and Scheme.</i>		<i>Seventh Plan Outlay</i>
		(RUPEES IN LAKHS)
1.	Establishment of field repair sheds by decentralising workshops	30.00
2.	Training School for Farmers Training Programme	34.65
3. Direction and Administration.—		
(i)	Strengthening of Administration	30.00
(ii)	Scheme for Post graduate Training Programme	15.00
(iii)	Propaganda and Publicity of Agricultural Engineering activities and establishment of a Printing Press at Headquarters	25.00
TOTAL C—NEW SCHEMES		<u>1,34.65</u>
TOTAL A—ONGOING SCHEMES		1,28.00
TOTAL B—ACCELERATED PROGRAMMES		3,87.35
TOTAL C—NEW SCHEMES		1,34.65
GRAND TOTAL—(A+B+C)		<u>6,50.00</u>

V. TAMIL NADU AGRO INDUSTRIES CORPORATION.

(Total Outlay—Rs. 350.00 lakhs.)

<i>Serial number and scheme.</i>		<i>Seventh Plan Outlay</i>
		(RUPEES IN LAKHS)
Share Capital Assistance to the Tamil Nadu Agro Industries Corporation for :—		
1.	Establishment of Floral concrete Project	} 350.00
2.	Soyabean Processing Projects	
3.	Pesticides Manufacture of Basic Technical Materials	
4.	Fruit Processing Projects	
5.	Maize Processing Project for the manufacture of starch and glucose and corn oil.	
Total		<u>3,50.00</u>

VI. TAMIL NADU AGRO ENGINEERING AND SERVICE CO-OPERATIVE FEDERATION LIMITED.

(Total Outlay—Rs. 40.00 lakhs)

<i>Serial number and Scheme.</i>		<i>Seventh plan Outlay.</i>
		(RUPEES IN LAKHS)
1.	Intensive Supervision of Agro Engineering Service Co-operative Centres .	} 40.00
2.	Department of Agro Engineering Services	
3.	Assistance to Tamil Nadu Agro Engineering and Service Co-operative Federation Limited	
Total		<u>40.00</u>

ABSTRACT.
AGRICULTURE—CROP HUSBANDRY
 SEVENTH FIVE-YEAR PLAN (1985-90) OUTLAY.

	<i>Serial number and Department.</i>	<i>Seventh Plan Outlay. (RUPEES IN LAKHS)</i>
1.	DEPARTMENT OF AGRICULTURE	1,11,60.00
2.	DEPARTMENT OF OILSEEDS	50,00.00
3.	DEPARTMENT OF HORTICULTURE AND PLANTATION CROPS..	28,00.00
4.	DEPARTMENT OF AGRICULTURAL ENGINEERING	6,50.00
5.	TAMIL NADU AGRO INDUSTRIES CORPORATION	3,50.00
6.	TAMIL NADU AGRO ENGINEERING AND SERVICE CO-OPERATIVE FEDERATION	40.00
TOTAL—AGRICULTURE—CROP HUSBANDRY ..		2,00,00.00

AGRICULTURE.

PHYSICAL TARGET FOR THE SEVENTH FIVE-YEAR PLAN (1985—90).

<i>Serial number and item.</i>	<i>Unit.</i>	<i>Seventh Plan (1985—90) Target.</i>	
(1)	(2)	(3)	
1 Production—			
Rice	Lakh MT.	75.00	
Millets	Do.	30.00	
Pulses	Do.	6.00	
Sugarcane (Gur)	Do.	29.00	
Cotton (Lint)	Lakh Bales.	5.50	
2 Seed Distribution—			
Paddy	MT	20,250	15 Per cent.
Ragi	Do.	282	20 per cent.
Conventional Jowar	Do.	230	10 per cent.
Hybrid Jowar	Do.	235	60 per cent.
Hybrid cumbu	Do.	648	60 per cent.
Hybrid maize	Do.	192	60 per cent.
Pulses	Do.	2,850	10 per cent.
} Percentage of coverage to total area.			
3 Distribution of Fertiliser			
N	Lakh MT	4.77	
P	Do.	1.50	
K	Do.	1.50	
Total	Lakh MT	7.77	
4 Distribution of Plant Protection Chemicals. '000' MT			
(in terms of Technical Grade Material).		15.00	

OIL SEEDS.

PHYSICAL TARGETS FOR THE SEVENTH FIVE-YEAR PLAN (1985—90).

<i>Serial number.</i>	<i>Items.</i>	<i>Unit.</i>	<i>Seventh plan 1985—90 Target.</i>
(1)	(2)	(3)	(4)
<i>I. Groundnut :</i>			
1	Area	Lakh ha.	12.50
2	Production	Lakh tonnes.	17.00
3	Productivity	Kgs/ha.	14 40
<i>II. Gingelly :</i>			
1	Area	Lakh ha.	1.60
2	Production	Lakh tonnes.	0.815
3	Productivity	Kgs/ha.	510
<i>III. Sunflower :</i>			
1	Area	Lakh ha.	1.50
2	Production	Lakh tonnes.	1.02
3	Productivity	Kgs./ha.	680
<i>IV. Castor :</i>			
1	Area	Lakh ha.	0.25
2	Production	Lakh tonnes.	0.15
3	Productivity	Kgs/ha.	600
<i>V. Soyabean :</i>			
1	Area	Lakh ha.	1.25
2	Production	Lakh tonnes	1.00
3	Productivity	Kgs./ha.	800

HORTICULTURE AND PLANTATION CROPS.**PHYSICAL TARGET FOR THE SEVENTH FIVE-YEAR PLAN (1985—90).**

<i>Serial number.</i>	<i>Name of the crop.</i>										<i>Area.</i> (hectares)	<i>Production.</i> (tonnes)
(1)	(2)										(3)	(4)
<i>Fruit Crops</i>												
1	Banana	..	..	..	..	..	..	..	..	..	71,000	12,78,000
2	Mango	..	..	..	..	..	..	..	..	..	48,000	7,68,000
3	Lemon and Lime	..	..	..	..	..	..	..	..	..	4,300	50,050
4	Orange	..	..	..	..	..	..	..	..	..	3,000	1,01,550
5	Guava	..	..	..	..	..	..	..	..	..	3,400	85,000
6	Grapevine	..	..	..	..	..	..	..	..	..	2,200	90,750
7	Pine apple	..	..	..	..	..	..	..	..	..	1,200	43,500
8	Other fruits	..	..	..	..	..	..	..	..	..	6,000	1,50,000
Total											1,39,100	24,31,850
<i>Vegetables</i>												
1	Potato	..	..	..	..	..	..	..	..	..	16,700	1,33,600
2	Cabbage	..	..	..	..	..	..	..	..	..	2,800	77,200
3	Brinjal	..	..	..	..	..	..	..	..	..	12,750	2,55,150
4	Carrot	..	..	..	..	..	..	..	..	..	820	17,400
5	Onion	..	..	..	..	..	..	..	..	..	33,000	2,00,900
6	Sweet potato	..	..	..	..	..	..	..	..	..	6,120	60,950
7	Tapioca	..	..	..	..	..	..	..	..	..	62,000	19,62,700
8	Chilli	..	..	..	..	..	..	..	..	..	92,100	68,400
9	Other vegetables	..	..	..	..	..	..	..	..	..	8,800	1,32,000
Total											2,35,090	29,06,300
<i>Plantation Crops—</i>												
1	Cashew	..	..	..	..	..	..	..	..	..	1,06,200	10,500
2	Areacanut	..	..	..	..	..	..	..	..	..	3,500	4,200
Total											1,09,700	14,700

HORTICULTURE AND PLANTATION CROP

PHYSICAL TARGET FOR THE SEVENTH PLAN (1985-90)—*cont.*

<i>Serial</i>	<i>Name of the crop.</i>							<i>Area</i> <i>hectares.</i>	<i>Production</i> <i>tonnes.</i>	
(1)	(2)							(3)	(4)	
<i>Spices and Condiments</i>										
1	Garlic	..	..	..	..	..	..	760	5,000
2	Ginger	..	..	..	..	..	..	610	700
3	Coriander	..	..	..	..	..	..	65,000	25,750
4	Turmeric	..	..	..	..	..	..	20,500	82,000
							Total	..	86,870	1,13,450
Flowers							12,000	99,700

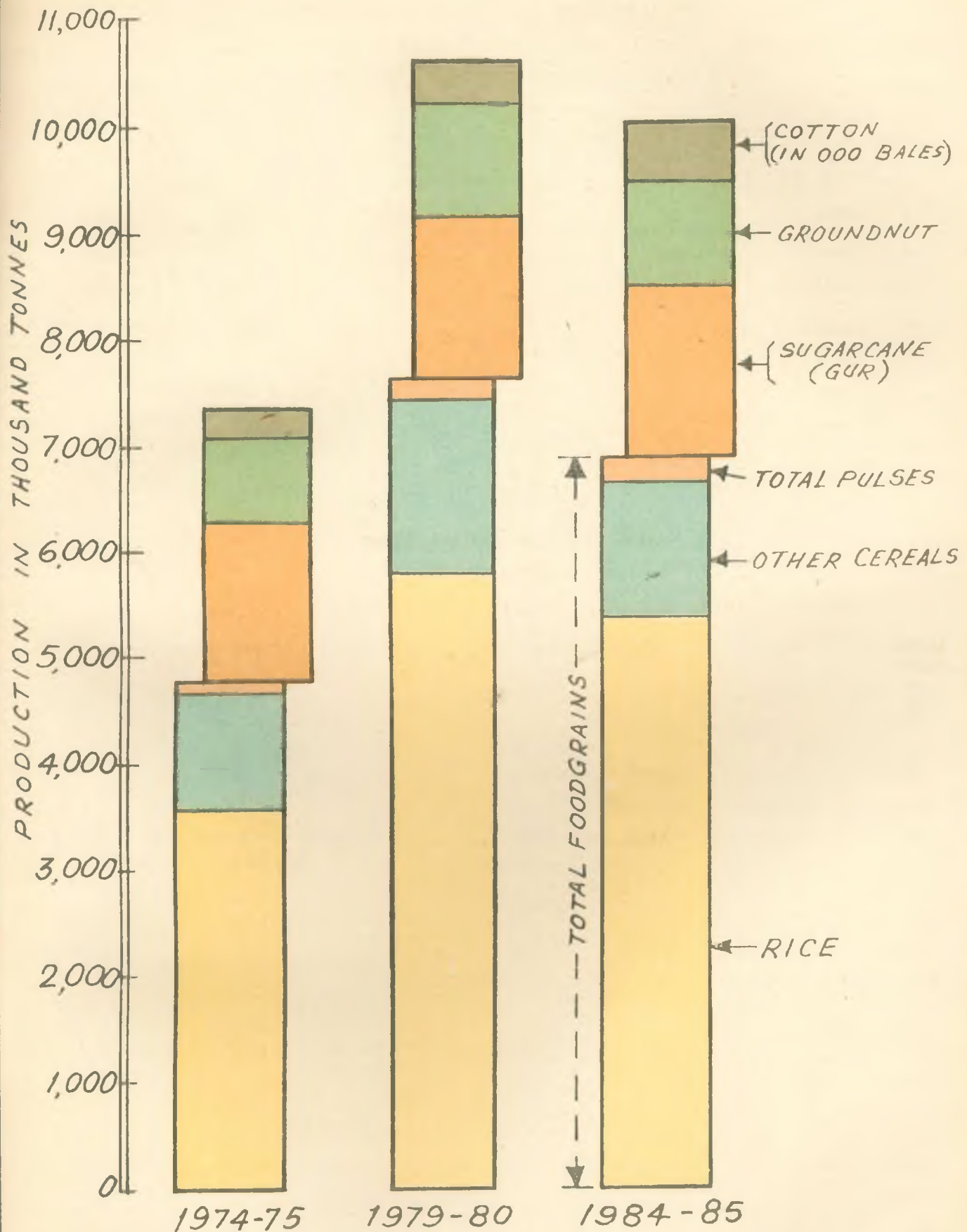
AGRICULTURAL ENGINEERING

LAND DEVELOPMENT

PHYSICAL TARGET FOR THE SEVENTH FIVE-YEAR PLAN— (1985-90)

<i>[Serial</i> <i>number.</i>	<i>Physical Items.</i>	<i>Unit</i>	<i>Seventh Plan</i> <i>Target</i> <i>1985- 90</i>
(1)	(2)	(3)	(4)
1.	Land Levelling	{ Hours.	8,43,000
		{ Hectares.	33,700
2.	Mechanised Cultivation	{ Hours.	5,75,000
		{ Hectares.	1,50,000

PRODUCTION OF PRINCIPAL CROPS



PREPARED BY:- DEPT. OF STATISTICS, MADRAS-6.
P.Z.P., C.S.O., MADRAS-5.

CHAPTER 7.

SOIL AND WATER CONSERVATION.

7.0 Soil and Water are two natural resources which support all Agricultural Development and meet all our requirements of food, fodder and firewood and industrial raw materials. These natural resources need to be protected and managed for increasing productivity and for maintaining ecological balance.

7.1. The fertile top soil is lost due to erosion by wind and water and the land becomes unsuitable for cultivation. The eroded soil is deposited in irrigation channels, ponds and reservoirs and their capacity gets reduced.

7.2. The soil and water conservation measures carried out on watershed basis by the Agricultural Engineering Department, Forest Department and Agriculture Department help prevent soil erosion and land degradation ; reclaim the degraded lands like wind swept areas, ravine affected areas, etc., for productive use ; improve irrigation potential, and also generate rural employment.

Performance during the Sixth Plan period:

7.3. Emphasis on soil and water conservation measures has been laid from the Second Plan period onward.

7.4. The Sixth Plan (1980-85) financial outlay and expenditure were as follows :—

Serial number and Group Head.	Base year 1979-80 level.	Sixth Plan 1980-85 outlay.	Expenditure	
			1980-81.	1981-82.
(1)	(2)	(3)	(4)	(5)
			(RUPEES IN LAKHS.)	
1. Soil Survey and Testing	18.24	1,37.00	24.81	20.85
2. Soil Conservation Schemes ..	2,36.99	16,63.00	3,29.29	4,89.25
Total—Soil and Water Conservation ..	2,55.23	18,00.00	3,54.10	5,10.10

Serial number and Group Head.	Expenditure.				
	1982-83.	1983-84.	1984-85.	Total expenditure during Sixth Plan.	Percentage of expenditure to total outlay.
(1)	(6)	(7)	(8)	(9)	(10)
	(RUPEES IN LAKHS.)				
1. Soil Survey and Testing	29.39	43.72	66.11	1,84.88	1,34.95
2. Soil Conservation Schemes ..	4,85.45	5,34.31	5,34.47	23,72.77	1,42.68
Total—Soil and Water Conservation ..	5,14.84	5,78.03	6,00.58	25,57.65	1,42.09

7.5. The departmentwise financial outlay and achievement made during the Sixth Plan, (1980-85) period on soil and water conservation schemes were as follows :—

Serial number and Department.	Base year 1979-80 level.	Sixth Plan 1980-85 outlay.	Expenditure.	
			1980-81.	1981-82.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS.)				
<i>Soil and Water Conservation.</i>				
1. Agriculture Department	18.24	1,37.00	24.59	20.85
2. Agricultural Engineering Department	2,13.92	15,33.00	3,10.73	4,27.33
3. Forest Department	23.07	1,30.00	18.78	61.92
4. Groundwater Department .. ..	..	..	..	..
Total—Soil and Water Conservation ..	2,55.23	18,00.00	3,54.10	5,10.10

Serial number and Department.	Expenditure.			Total Sixth Plan 1980-85 Expenditure.	Percentage of Expenditure to Sixth Plan Target.
	1982-83.	1983-84.	1984-85.		
(1)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN LAKHS.)					
<i>Soil and Water Conservation.</i>					
1. Agriculture Department ..	29.39	43.72	66.11	1,84.66	1,34.79
2. Agricultural Engineering Department	4,17.81	4,54.28	4,44.98	20,55.13	1,34.05
3. Forest Department	60.52	72.57	79.52	2,93.31	2,25.62
4. Groundwater Department	7.12	7.46	9.97	24.55	..
Total—Soil and Water Conservation..	5,14.84	5,78.03	6,00.58	25,57.65	1,42.09

7.6. Against an outlay of Rs. 18,00.00 lakhs provided for the Sixth Plan period, an amount of Rs. 2,557.65 was utilised, 42.09 per cent more than targetted. While the Agriculture Department and the Department of Agricultural Engineering have spent about 35 per cent more than the outlay provided for them during the Plan period, the Forest Department spent 125 per cent more than the outlay provided for it. Thus the expenditure on soil and water conservation schemes is steadily increasing over the Plan periods.

1. Soil Conservation Programmes by Agricultural Engineering Department :

7.7. Department of Agricultural Engineering has been executing number of soil conservation programmes to combat various types of erosion. Programmes for Soil Conservation in Hills and Plains, Reclamation of Ravine affected Lands in South Arcot district, soil conservation programmes in the catchment areas of Kundah and Lower

Bhavani River Valley Projects, Soil and Water Management in Sathanur Project were also carried out. During 1984 Sathanur Command has been approved by Government of India and in future, works will be carried out under Command Area Development Programme.

Water shed Management :

7.8. The State has been delineated into 33 River Watersheds which have further been divided into watersheds based on streams and nullahs. These macro water sheds are suitably divided into sub-watersheds based on minor streams and small tributaries. For operational efficiency, these sub-watersheds are further sub-divided into micro-watersheds which would be much handy for analysis, identification and conservation of water with due regard to other resources which forms the strategy for watershed management programme.

Programme-Schedule:

Execution is done from April to March as detailed below :

Dry lands (60 percent)	April to July.
Dry lands (40 per cent)	February to March
Garden lands	August to December
Poramboke lands	August to January

Cost and Subsidy:

7.9. The estimated outlay for each watershed is of the order of Rs. 1.50 lakhs on works. This is initially met by the Government and later on recovered from the beneficiaries in 10 annual equal instalments after adding 25 per cent towards overheads and allowing a subsidy of 25 per cent in respect of plains and 40 per cent in respect of hills along with interest, fixed from time to time by the State Government after a moratorium period of two years.

Wind Erosion Control :

7.10. Soil erosion by wind occurs where the lands are open, the soil is light and devoid of vegetal protection, and where high wind velocity and drought conditions prevail. Due to wind erosion, agricultural lands have gone out of cultivation.

7.11. Serious soil erosion by wind is noticed in Cumbum Valley on the Eastern side of Western Ghats between Bodinaickanur and Thevaram and Kandamanur in Madurai district. In Tirunelveli district the problem is noticed in Nanguneri, Tiruchendur, Tirunelveli, Srivaikundam, Tuticorin and Kovilpatti taluks.

7.12. Establishment of 10 meter wide shelter belts perpendicular to the prevailing wind direction, running parallel to each other at an interval of 150 metres helps control wind erosion in these areas. A 10 metre wide belt may consist of five or seven rows of suitable tree and shrub species. The trees are chosen for each row in such a way that the belt will get a conical shape.

7.13. Establishment of shelter belts is a very difficult and time consuming process because of severe drought conditions, high wind velocity, absence of vegetative cover and poor rainfall. Poor economic conditions of the farmers also is a factor to be taken into consideration. Hence this scheme is executed with 100 per cent subsidy.

Ravine Reclamation Scheme—

7.14 It has been estimated that an area of about 9,000 ha. have been affected by ravines in Tamil Nadu.

7.15 Reclamation of ravine affected area is at present carried out in South Arcot district. Land levelling, construction of check dams, afforestation are some of the measures used.

Soil Conservation in Tribal areas—

7.16. The objective of the scheme is to improve the economic status of the tribal farmers and lift them above the poverty line by protecting and stepping up the productivity of their lands.

7.17. Various departments are engaged in integrated development of the nine tribal pockets in the five tribal districts of North Arcot, South Arcot, Salem, Tiruchirappalli and Dharmapuri districts.

7.18. Soil Conservation is basically a resource management programme providing adequate employment to the rural people. Thus it provides economic security and ecological security which is very essential for the people living in hills. Construction of contour stone walls, check dams, percolation ponds, Land levelling are the soil Conservation measures executed in the tribal areas.

PHYSICAL ACHIEVEMENTS DURING THE SIXTH PLAN PERIOD.**DEPARTMENT OF AGRICULTURAL ENGINEERING.**

Serial number.	Name of the Scheme.	Achievement 1980-81.	Achievement 1981-82.	Achievement 1982-83.	Achievement 1983-84.	Achievement 1984-85.	Total 1980-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Execution of Soil Conservation works in Hills and Plains and Wind Erosion Control in Tirunelveli and Bodi (2,80,000 Ha.)	47,487	51,447	46,281	52,720	60,506	2,58,441
2	Ravine Reclamation(6,000 Ha.)	1,269	1,147	1,043	1,115	1,106	5,680

(UNIT IN HECTARES)

Serial number.	Name of the Scheme.	Achievement 1980-81.	Achievement 1981-82.	Achievement 1982-83.	Achievement 1983-84.	Achievement 1984-85.	Total 1980-85.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(UNIT IN HECTARES)							
3	Soil and Water Management in Sathanur Project Area (2,000 ha.)	495	535	730	864	..	2,624
4	Soil Conservation works in the catchment Areas of Kundah and Lower Bhavani River Valley Project (3,550 Ha.)	834	1,352	1,924	2,075	3,117	9,302
5	Soil Conservation in Tribal Areas	213	39	64	138	200	654
	Total	50,298	54,520	50,042	56,912	64,929	2,76,701

The Sixth Plan Targets are shown in bracket under column (2).

Programmes for the Seventh Five-Year Plan (1985-90).

7.19 An outlay of Rs. 19,94.00 lakhs is provided for the Agricultural Engineering Department to implement the following Soil and Water Conservation Schemes during the Seventh Plan period.

	Outlay (RUPEES IN LAKHS.)	Targets (in Ha.)
A. On going—		
1. Execution of Soil Conservation Schemes— Watershed Management in Hills and Plains	12,69.90	3,25,000
2. Wind Erosion Control Schemes	1,24.50	15,000
3. Ravine Reclamation Scheme	39.84	5,000
4. Soil Conservation in Tribal Areas	59.76	3,000
Total (A)	14,94.00	3,48,000
B. New Schemes—		
1. Reclamation of Theri lands	3,50.00	5,000
2. Creation of an investigation wing	1,50.00	1,00,000
Total (B)	5,00.00	1,05,000
Total—A + B	19,94.00	4,53,000

Summary of the Schemes included in the Seventh Five-Year Plan :

1. Execution of Soil Conservation Schemes—

7.20. It is proposed to accelerate and achieve additional coverage of 75,000 ha. by adding one more division and five sub-divisions during 1988-89. Hence the target will be 3,25,000 ha. against 2,80,000 ha. in the Seventh Plan for an outlay of Rs. 12,69.90 lakhs.

2. Wind Erosion Control—

7.21. Wind Erosion Control will be taken up in an area of 15,000 ha. at a cost of Rs. 1,24.50 lakhs.

3. Ravine Reclamation—

7.22. An area of 5,000 ha. affected by ravines will be reclaimed and put under productive use at a cost of Rs. 39.84 lakhs.

New Schemes :

1. Reclamation of Theri lands :

7.23. The coastal area of Tirunelveli and Ramanathapuram and the areas on the leeward side of the Western Ghats are affected by Wind Erosion. 'Theri' lands have good production potential. So far much attention has not been bestowed towards improving these lands when the scope for increasing the productivity is substantial. It is proposed to reclaim these lands by protecting them from Wind Erosion and improving irrigation facilities. An area of 5,000 ha. is proposed to be reclaimed at a total cost of Rs. 3,50.00 lakhs.

2. Creation of an investigation wing :

7.24. Agricultural Engineering department is taking up Soil and Water Conservation Schemes throughout the State on Watershed basis. Each Watershed needs thorough investigation and collection of resource inventory. For Planning appropriate Soil Conservation measures 'investigation' is a prerequisite. The department is taking up construction of percolation ponds during drought, now on a large scale under the Rural Landless Employment Guarantee Programme. Investigation and identification of potential locations for percolation ponds would be helpful in constructing the ponds in time and in a useful manner. At present there is no investigation wing in the Agricultural Engineering Department. Hence it is proposed to create an investigation wing with one circle one division and five-sub-divisions which could take up investigation on 1.00 lakh ha. at a cost of Rs. 1,50.00 lakhs.

II. Soil Conservation Programmes by Forest Department.

7.25. There are fourteen priority watersheds lying within the Reserve forests requiring intensive soil conservation forestry.

7.26. The Forest Department is implementing two schemes of soil conservation forestry in the catchment areas of Vaigai Reservoir and Mettur Stanley Reservoir from 1964 onwards.

1. Vaigai Soil Conservation Scheme :

7.27. The objective of the scheme is to undertake various soil conservation measures in the catchment areas of Vaigai Reservoir and Vaigai river in order to minimise soil erosion and sedimentation. The low slopes in the catchment areas which are mostly barren and exposed to erosion are being covered by raising plantations.

2. Mettur Soil Conservation Scheme :

7.28. The objective of the scheme is to carry out soil conservation measures and to minimise soil erosion and the sedimentation in the reservoir. There are large extent of barren tracts requiring afforestation.

7.29. The extent of catchments covered under these two schemes are 4,749 sq. km., and 2,244 sq. km., respectively. The achievements made up to the year 1979-80 are 17,755 hectares at a cost of Rs. 1,71.29 lakhs in financial term.

Performance during the Sixth Plan period :

7.30. The Sixth Plan outlay provided for soil conservation schemes for the Forest Department was Rs. 1,30.00 lakhs. The financial and physical achievements made during the Sixth Plan period are as follows :—

ACHIEVEMENT DURING THE SIXTH PLAN PERIOD

PHYSICAL ACHIEVEMENT.

Serial number and Scheme.	Base year 1979-80 level.	Sixth Plan 1980-85 Target.	Achievement.					Total Sixth Plan total Achievement.	Percentage of total Achievement.
			1980-81.	1981-82.	1982-83.	1983-84.	1984-85.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(UNIT IN HECTARES)									
1. Soil Conservation in Vaigai catchment ..	1,000	10,000	1,769	3,210	1,850	975	259	8,063	80.63
2. Soil Conservation in Mettur Stanley Reservoir ..	1,547	24,000	2,472	4,709	2,615	3,413	2,451	15,660	65.25
Total ..	2,547	34,000	4,241	7,919	4,465	4,388	2,710	23,723	69.77

FINANCIAL ACHIEVEMENT.

Serial number and Scheme.	Base year 1979-80 level.	Sixth Plan 1980-85 outlay.	Expenditure.					Total Sixth Plan Expenditure.	Percentage of expenditure to total outlay.
			1980-81.	1981-82.	1982-83.	1983-84.	1984-85.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN LAKHS)									
1. Soil Conservation in Vaigai Catchment ..	6.73	50.00	3.22	18.33	17.16	17.17	20.02	75.90	1,51.8
2. Soil Conservation in Mettur Stanley Reservoir	16.34	80.00	15.56	43.59	43.36	55.40	59.50	2,17.41	2,71.76
Total ..	23.07	1,30.00	18.78	61.92	60.52	72.57	79.52	2,93.31	2,25.62

Programme for the Seventh Five-Year Plan (1985-90) :

7.31. Separate working schemes will be drawn for each watershed forests. The Soil Conservation Forestry would require continuous updating and improvement in technical and managerial decisions. Such a management will be possible only when all the schemes are brought under unitary control at the State level. Accordingly all schemes drawn for each watershed forests will be integrated into one project to be known as "Forestry Project for Watershed Management in Tamil Nadu". The project will be placed under one composite direction and administrative body by constituting a separate wing in the Forest Department. The wing will be headed by an officer in the cadre of Additional Chief Conservation of Forests. There will be three regional officers in the rank of Conservator of Forests. There will be two supporting units, viz., Evaluation and Monitoring Unit and Research Unit.

7.32. An outlay of Rs. 7,00.00 lakhs is provided for watershed protection and afforestation. An area of 18,200 hectares will be covered under Afforestation besides carrying out Engineering and soil conservation works.

III. Soil Conservation Programmes of the Department of Agriculture.

1. Soil survey and Land use Organisation :

7.33. Four soil survey units located at coimbatore, Palayamkottai, Vellore and Thanjavur are functioning in the State. The objectives of these units are :—

1. To determine the important characteristics of soil.
2. To classify soils into different group, sub-groups families, etc.

3. To correlate and predict suitability to various farming practices.

4. To assess the nutrient status of the different soil series.

5. To establish and map the different boundaries.

7.34 The area covered up to 1979-80 was 84.3 lakh hectares (in low intensity scale).

2. Soil Testing Laboratories and Mobile Soil Testing Laboratories:

7.35 There are 14 Soil Testing Laboratories and 15 Mobile Soil Testing Laboratories functioning in the State with an installed capacity to test 9.54 lakhs soil samples per annum. These Soil Testing Laboratories analyse the samples, assess the nutrient status of the lands, recommend fertiliser schedule, detect adverse soil condition like acidity, salinity, alkalinity and suggest remedial measures and take up field studies on micro nutrients, etc. The Mobile Soil Testing Laboratories visit the villages and perform their functions on the spot.

3. Reclamation of Saline and Alkaline Lands :

7.36 The saline and Alkaline Reclamation Scheme was initiated in 1979 with a view to take up reclamation work in the saline and alkaline soils existing in this State in an area of about 2 lakh hectares. During 1979-80 an extent of about 400 hectares was surveyed and reclamation executed in the selected piece of 40 hectares. A subsidy of 50 per cent of the cost of gypsum to be applied is given to farmers.

Performance during the Sixth Five-Year Plan period:

7.37 The financial and physical targets and

achievements made during the Sixth Five-Year Plan period under 'Soil Survey and Testing Schemes' are as follows:

FINANCIAL ACHIEVEMENT.

Serial number and Scheme.	Base year level.	Sixth Plan outlay.	Expenditure.					Total expenditure during Sixth Plan.	Percentage of total expenditure to outlay
			1980-81.	1981-82.	1982-83.	1983-84.	1984-85.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Soil Survey and Testing.									
(RUPEES IN LAKHS)									
1. Soil Survey and Land Use Organisation ..	4.76	36.00	5.46	5.41	5.15	6.64	8.13	30.79	85.53
2. Soil Testing Laboratories ..	6.51	83.00	11.56	11.49	17.69	25.42	38.97	1,05.13	1,77.47
3. Mobile Soil Testing Laboratories ..	5.90		6.59	2.87	5.34	10.26	17.11	42.17	
4. Reclamation of Saline and Alkaline Lands	1.07	18.00	0.98	1.08	1.21	1.40	1.90	6.57	36.50
Total—Soil Survey and Testing ..	18.24	1,37.00	24.59	20.85	29.39	43.72	66.11	1,84.66	1,34.79

PHYSICAL ACHIEVEMENT.

Serial number and Scheme.	Base year level.	Sixth Plan Target.	Achievement.					Total Sixth Plan Achievement.	Percentage of total Achievement.
			1980-81.	1981-82.	1982-83.	1983-84.	1984-85.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Soil Survey and Testing.									
(RUPEES IN LAKHS)									
1. Soil Survey and Land Use Organisation (in lakh hec.) ..	10.67	20.80	4.14	3.48	8.11	7.81	6.25	29.79	1,43.22
2. Soil Testing Laboratories (in lakh No.) ..	6.29	34.80	5.91	5.52	4.10	3.86	5.82	25.51	72.44
3. Mobile Soil Testing Laboratories (in lakh No.) ..	0.75	13.50	1.17	1.43	1.86	1.52	3.40	9.38	64.48
4. Reclamation of Saline and Alkaline Lands (in acres)	110	10,000	575	542	531	532	496	2,676	26.8

Programmes for the Seventh Five-Year Plan, 1985-90 :

7.38 An outlay of Rs. 3,06.00 lakhs is provided for the Seventh Five-Year Plan, 1985-90 for carrying out the following soil conservation schemes by the Agriculture Department.

<i>Serial number and scheme.</i>	<i>Seventh Plan Outlay.</i>
(1)	(2)
	(RUPEES IN LAKHS.)
1. Ongoing Schemes	15.00
2. Reclamation of salted soils ..	1,19.35
3. Conducting detailed survey of soils	82.00
4. Soil Fertility Evaluation ..	89.60
5. Externally aided schemes ..	0.05
Total ..	3,06.00

1. Reclamation of salted Soils :

7.39 This Scheme aims to reclaim 20,000 ha. of salted Soil by adopting suitable reclamation measures and to enable the farmers to get increasing productivity. The cost of the scheme will be Rs. 1,19.35 lakhs.

2. Conducting detailed survey of soils :

7.40 To identify the different type of Soil and delineate their boundaries and to assess the suitability of the soils for raising different crops,

it is proposed to establish three additional Soil Survey Units in this State. The outlay proposed for this Scheme is Rs. 82.00 lakhs.

3. Soil Fertility Evaluation :

7.41 The Scheme aims to generate research data in the laboratory and in the field regarding the responses of fertilisers/nutrients on various crops grown in different agro-climatic zones of Tamil Nadu. The proposed outlay is Rs. 89.60 lakhs.

ABSTRACT.

Department-wise Allocation for the Seventh Five-Year Plan, 1985-90 under Soil and Water Conservation Programmes.

<i>Serial number and Department.</i>	<i>Seventh Five-Year Plan 1985-90 allocation (2)</i>
(1)	(2)
	(RUPEES IN LAKHS.)
1. Agricultural Engineering Department	19,94.00
2. Forest Department	7,00.00
3. Agriculture Department	3,06.00
Total ..	30,00.00

CHAPTER 8.

ANIMAL HUSBANDRY.

Introduction :

8.0. The economy of India is based on Agriculture and 75 per cent of the people depend on land for their livelihood. Animal Husbandry which is inseparable from Agriculture plays a vital role in the development of livestock for higher production of milk, meat and eggs essentially required by the human population for better nourishment. Cattle also contribute to agricultural production by providing draught power for various agricultural operations including irrigation and rural transport.

Population :

8.1. The population of livestock of Tamil Nadu as per 1982 census comprises of 10.37 millions of cattle, 3.21 millions of buffaloes, 5.54 millions of sheep, 5.25 millions of goats and 18.28 millions of poultry and 1.82 millions of other animals such as pigs, horses, mules, etc.

Policy :

8.2. Livestock is as important to the nation as Agriculture. If agriculture provides food like rice, wheat, pulses, etc., animal husbandry side provides milk, meat and eggs, rich in animal protein so essentially required for balancing the customary diet of our people. In spite of large Cattle population, the production capacity of cattle is at a low ebb due to poor genetic make up and poor management. Therefore, to meet the situation, the department is following a policy of introducing controlled breeding, upgrading, balanced feeding and prevention of disease in livestock, with a view to realise the objectives of our State policy viz. :—

(1) Adopt scientific methods of cross breeding of cattle, provide adequate feeds and fodder, provide adequate health cover.

(2) To help augmenting the production of animal proteins of high biological value such as milk, meat, eggs, etc. and to provide gainful employment to rural masses including agricultural labourers, small farmers, etc.

(3) To improve the output of animal by-products such as wool, hides, skin, bristles, bones, gelatinous materials which are industrial raw-materials of economic importance.

(4) The principle thrust is to bridge the gap identified during the Sixth Plan.

Approach :

8.3. Rapid genetic improvement of Cattle, buffaloe, Sheep, Poultry for increased production would continue to receive the primary attention along with the concurrent programmes such as livestock health, feed and fodder.

8.4. Cross breeding and upgrading would be intensified to increase milk production. Frozen semen technique will be extended throughout the State.

8.5. The personnel engaged in Animal Husbandry would be provided extensive training facilities in modern latest technology.

Strategies:

1. Genetic improvement with important exotic livestock breeds. such as jersey, Freisian and Red Dane.

2. Replacement of liquid semen by Frozen semen.

3. To develop adequate animal health services for the protection of livestock against the deadly infectious and contagious diseases and to bring down the disease position to zero level.

4. Selective breeding in sheep and improvement of indigenous sheep by cross breeding with exotic rams.

5. Improvement in fodder production by way of distribution of fodder slips and seeds and extending subsidy to the farmers.

SIXTH PLAN FINANCIAL PERFORMANCE.

	(RS IN LAKHS)
I. Total Outlay	33,53.00
<u>Break up details</u>	
Animal Husbandry Department.	20,28.00
Tamil Nadu Poultry Development Corporation.	75.00
Tamil Nadu Meat Corporation.	2,00.00
World Bank Sheep Project ..	10,50.00
Total ..	33,53.00

II. Achievements ; (anticipated)				
1980-81	..	..	..	2,86.88
1981-82	..	..	..	3,76.08
1982-83	..	..	..	3,86.08
1983-84	..	..	..	4,82.25
1984-85	..	..	..	5,64.74
Total				2,096.03

8.6. The Sixth Plan Outlay is Rs. 3,353 lakhs. It consists of Rs. 2,028 lakhs for Animal Husbandry

Department Rs. 75 lakhs for Tamil Nadu Poultry Development Corporation Rs. 200 lakhs for Tamil Nadu Meat Corporation and Rs. 1,050 lakhs for the World Bank Sheep Project.

8.7. Out of the provision of Rs. 2028 lakhs the Animal Husbandry Department has utilised a sum of Rs. 2,096 lakhs. It may be seen that there is no shortfall under financial target for Animal Husbandry Department as the expenditure is Rs. 2,096 lakhs as against the outlay of Rs. 2028 lakhs.

8.8. The provision under the World Bank Sheep Project has not been utilised as the project is awaiting clearance.

SIXTH PLAN PHYSICAL PERFORMANCE.

I. Cattle Development :

1. Intensive Cattle Development Project	..	..	..	..	3
2. Key Village Blocks	..	..	..	..	5
3. Procurement of exotic cattle	..	..	..	..	172 animals.
4. Purchase of murrhah	..	..	..	..	203 animals.
5. Strengthening of District Livestock Farms	..	..	..	..	Tractors, pumps, wells, land levelling, Deputy Director for 6 farms.
6. Heifer Production Programme at District Livestock Farm, Pudukottai and Uthagamandalam.	..	..	..	..	Unit—2. Animals—700.
7. Progeny testing scheme for Murrhah	..	..	..	..	Unit—1.
8. Dog breeding unit	..	..	..	..	1
9. Goat breeding unit	..	..	..	..	1
10. Breeding of Ongole Cattle	..	..	..	..	Unit—1.
11. Introduction of Frozen semen technique	..	..	..	..	125 centres.

II. Sheep Development :

1. Upgrading the local goats in Rameswaram area	..	..	..	..	Distribution of 50 bucks at half cost and supply of subabul.
2. Intensive health cover for sheep flocks	..	..	..	..	Six District Squad.

III. Poultry Development :

1. Provision of sheds and amenities	..	..	..	..	Five Poultry Extension Centres.
2. Poultry Disease diagnostic laboratory	..	..	..	..	One.

IV. Piggery Development :

1. Distribution of boars at free of cost	Boars 125.
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SIXTH PLAN PHYSICAL PERFORMANCE—cont.

V. Fodder Development.

1. Establishment of Fodder Seed Production Unit at Eachenkottai. One unit.
2. Strengthening of Fodder Seed Production unit at Chettinad .. Wells, land levelling, tractor and application of tank silt.
3. Strengthening of Fodder Production Unit at Hosur Borewells, pumpsets and cultivation of 20 acres.
4. Strengthening of Fodder Production Unit at Eachenkottai .. Submersible pumpsets pumphoom silage pit.

VI. Veterinary Health Cover :

1. Veterinary Dispensaries 100
2. Veterinary hospitals 20
3. Clinician centres 11
4. Animal Disease Intelligence Unit 3
5. Medical Depot 4
6. Rinderpest Squad 4
7. Rinderpest checkpost 3
8. Provision of additional facilities to the Rinderpest District Squad, Vehicles, building, staff to 11 squads.
9. X-Ray Unit 1
10. Expansion of brucellosis scheme at Institute of Veterinary .. Additional staff, buildings, Preventive Medicine, Ranipet. Furniture and equipment.
11. Production of duck plague vaccine at IVPM Do.
12. Production of Cell culture fowl pox vaccine at IVPM .. Do.
13. Strengthening of Poultry vaccine production section at IVPM Staff, buildings, and equipments.
14. Establishment of Pharmaceutical division at IVPM .. Staff, buildings, Vehicles and equipments.
15. Strengthening of Rinderpest tissue culture vaccine at IVPM .. Staff buildings equipment machineries and animals.
16. Staff quarters at IVPM Six quarters.
17. Strengthening of IVPM Cold storage plant, five window type air-conditioners.
18. Purchase of Castrators 900 Numbers.

VII Animal Husbandry Statistics :

1. Livestock intercensus cell One.

VIII Veterinary Education and Training :

1. Training of Veterinary personnel in Frozen semen technique. { Veterinary Assistant Surgeons-240
2. Deputation of Officers to M.V.Sc. 33 { Livestock Inspectors—1020
3. Training of rural youth 1000
4. Training in cattle infertility 180
5. Deputation of officers for the training in Co-operation .. Assistant Director—20
Veterinary Assistant Surgeons—40

SIXTH PLAN PHYSICAL PERFORMANCE—cont.

IX. Administration:

1. Bifurcation of Animal Husbandry Division	.. .. .	Two Divisions.
2. Bifurcation of Animal Husbandry Region	.. .. .	Two regions.
3. Strengthening of Assistant Director of Animal Husbandry office	.. .. .	32 offices (Superintendents).
4. Strengthening of State Level Organisation	.. .. .	Planning Cell
		Joint Director of Animal Hus-
		bandry
		1
		Steno
		1
		Office Assistant
		2

SEVENTH PLAN PROGRAMMES.

8.9 With rapid increase in population, urbanisation, industrialisation, and per capita income, the demand for livestock products has been increasing day by day. The grip which the livestock holds over the present day economy and socio-economic order needs hardly any stress. Under the present day package of scientific practices and Veterinary health cover, this enterprise of animal keeping has transformed itself into a systematic industry. Today it is a commercial viable agro-based industry promising regular dividends to the individual breeder in particular and multi-benefits to the society at large.

8.10 Therefore, to raise the standard of living of our people, to meet their nutritional needs, and to fulfil the aforesaid objectives, the activities under Animal Husbandry sector could be classified in the following major groups:—

- (i) Cattle development.
- (ii) Sheep and Goat development.
- (iii) Piggery development.
- (iv) Poultry development.
- (v) Feeds and Fodder development.
- (vi) Veterinary services and Animal Health.
- (vii) Veterinary Education and Training.
- (viii) Propaganda and Publicity.
- (ix) Direction and Administration.
- (x) Building programme.

8.11. The schemes implemented under the above groups aim at the improvement of the productivity of livestock with specific emphasis on building up of infrastructure required for accelerating the production programmes adopting advanced techniques in Animal Husbandry practices.

CATTLE DEVELOPMENT:

8.12. Cattle development schemes would increase milk production by over 16 per cent to

achieve a per capita consumption level of 160 gms a day. This will be done through the following schemes:—

Introduction of Frozen Semen Technique:

8.13. To improve the quality of cattle for higher milk production it is proposed to introduce Frozen semen technique in 1,110 centres during the Seventh Plan period. At present Frozen semen technique is sanctioned for 908 centres in Tamil Nadu. It is also proposed to establish one Frozen semen bank and 2 Liquid nitrogen plants. The proposed bank and plants will supply the required straws and LN2 for adopting this technique. At present one Frozen Semen bank and one LN plant is functioning in the State.

Intensive Cattle Development Project :

8.14 This project aims at providing all aspects of cattle development such as breeding efficiency, dairy development, marketing, fodder production, periodical evaluation, organisation of cattle breeding co-operative societies, etc. A package of service is offered to the farmers for improving the quality of cattle for increased milk production through elimination of scrub bulls. At present 10 projects with 550 Sub-centres in Madurai, Dindigul, Karmarajar, Tirunelveli, Thanjavur, Pudukkottai, Tiruchirappalli, South Arcot and Chengalpattu districts are functioning in the State. During the Seventh Plan period it is proposed to, in addition, establish three projects to cover the breedable cattle population of nearly 1½ lakhs in the districts of North Arcot, Coimbatore and Periyar.

Salvage of Dry cows and buffaloes :

8.15 The object of the scheme is to preserve higher graded cows and buffaloes with high milking potential and preventing them from slaughter, make them conceive and thereby prepare for next lactation. During the Seventh Plan period 5000 high yield animals would be salvaged.

Natural breeding :

8.16 The main object of the programme is to provide breeding facilities in remote areas and hill tract areas where artificial insemination facilities cannot be provided.

During the Seventh Plan period it is proposed to distribute 200 breeding bulls of indigenous or cross breed.

Strengthening of Livestock farms :

8.17 In order to meet the increasing demand for milch animals and sheep due to the starting of several schemes and for the supply of animals to the farmers it is proposed to strengthen the Government livestock farms as detailed below :—

(i) Provision of irrigation facilities such as land shapping, irrigation potentials for Rs. 134 lakhs.

(ii) Provision of quarters for the staff working in District Livestock Farm, Abishekapatti and Sheep Farm, Sattur for Rs. 10 lakhs.

(iii) Gobar gas plant in all the Livestock Farms at a cost of Rs. 10 lakhs.

(iv) Introduction of genetic resources for Rs. 20 lakhs.

(v) Establishment of Kangeyam Cattle breeding farm.

II. SHEEP AND GOAT DEVELOPMENT :

8.18 Meat production targets at the end of Seventh Plan period would be 37 thousand metric tonnes of sheep and 30,000 metric tonnes of goat meat. This will be achieved through the development of popular Madras Red Ram and import of exotic rams which help improve yield of dressed meat from 12 to 13 kg. by 10 kg. per sheep.

8.19 At present there are Two Sheep Farms for sheep rearing and Four District Livestock Farms where sheep are kept.

8.20 Six District units are also functioning in the Districts of Tirunelveli, North Arcot, South Arcot, Dharmapuri, Salem and Chengalpattu. The programmes envisaged in the Seventh Plan are as follows :—

Establishment of Madras Red Ram multiplication farm :

8.21 The objective of the Scheme is to establish a separate Farm to rear and supply seed materials of Madras red ram to the farmers. This popular breed is not maintained in this State.

During the Seventh Plan period it is proposed to acquire an extent of 1,500 acres of land for establishing one Sheep Farm for multiplication of Madras Red Ram.

Scheme for the strengthening of Co-operative Wing :

8.22 There are 1,164 Sheep breeding Co-operative Societies in the State. The societies are not getting receipts as anticipated. In order to streamline the Co-operative matters, to bring sheep rearing farmers under the Co-operative fold to enable them to get better technical services, and to strengthen the Sheep society with additional staff, during the Seventh Plan period it is proposed to create twelve Co-operative Sub-Registrars and Sixty-two Senior Inspectors.

Intensive Health cover for Sheep and Augmentation of mutton production :

8.23 The objectives of the scheme is (i) to periodically deworm the sheep population against various round worms, tape worms and flat worms so as to augment mutton production in the State through improving the health of sheep.

(ii) To increase farmers income and (iii) to provide intensive health cover for sheep in the area of operation thereby increasing their production abilities and augmenting mutton production and (iv) to help the economically weaker sections of the society. During the Seventh Plan period it is proposed to purchase medicines at a cost of Rs. 40 lakhs. Health cover will be extended to cover other diseases also.

Strengthening of Tellicherry and Saanan Goat :

8.24 To improve the desi-goats, by cross breeding for better economic traits of meat and milk and to have more breeding stock available for distribution to the farmers for further improvement of goat in the villages, it is proposed to purchase 200 dose and 20 bucks of Tellicherry breeds and 100 Saanan dose and 10 $\frac{1}{2}$ bucks. Four hundred bucks would be distributed to the farmers.

8.25 At present Tellicherry goat unit is available in the district Livestock Farm, Pudukottai. In respect of Saanan goat there is not such goat available in Government Livestock Farm.

III. PIGGERY DEVELOPMENT :

8.26 In order to step up the production of pork, and to improve the socio-economic status of the weaker rural community and to upgrade the standard of the local pigs, an adhoc provision of Rs. 50 lakhs is provided under the Seventh Plan for Piggery production programmes.

IV. POULTRY DEVELOPMENT :

8.27 Poultry development programmes are shared in the State between the departments of Animal Husbandry and Tamil Nadu Poultry Development Corporation. The programmes under this development would increase egg production by over 88 per cent to achieve a per capita consumption level of 38 eggs by the end of 1990. Similarly by the end of Seventh Plan out of total estimated targetted production of 95,393 metric tonnes of meat, poultry meat contributes 13 per cent (12,399 M. tonnes).

8.28 At present 2 Hatcheries and 29 Poultry Extension Centres are functioning in the State under Animal Husbandry Department. There are 10 Poultry Breeders Co-operative Societies functioning in the State. One Poultry Disease Diagnostic laboratory has been established at Erode and it has been strengthened during 1984-85 under Centrally-Sponsored Scheme. The programmes proposed during the Seventh Plan Period are as follows : —

(i) To popularise rearing of broilers and increased production of broilers three broiler units will be established.

(ii) To provide laboratory facilities to the farmers to get their birds tested and dead birds examined, it is proposed to establish one Poultry Diagnostic Laboratory.

(iii) To critically test the Poultry feed manufactured by the different agencies before its release, it is proposed to establish one Feed Analytical Laboratory.

(iv) To provide nutritious food and to ensure participation of maximum number of farmers in poultry production and to produce poultry meat it is proposed to distribute 10,000 backyard poultry units and 8,500 spring chicken units.

(v) To convert the Government Poultry Extension unit as demonstration and training centre so as to extend latest technical know-how to the farmers in and around the area, it is proposed to convert 10 Poultry Extension Centres as Training centre.

V. FODDER DEVELOPMENT :

8.29 Fodder development is taken up in the District Livestock Farm, Intensive Cattle Development Project and Key Villages areas. There are 8 Fodder seed production units in the State. High yielding varieties of fodder slips are distributed at subsidised rates to the farmers. A research scheme on estimation of grazing lands and its utilisation has also been taken up during the year 1984-85 with the assistance of

I. C. A. R. During the Seventh Plan period it is proposed to take up different activities of fodder development such as raising of fodder crops in 250 hectares in the inter space of coconut trees, execution of 6,000 demonstration plots, distribution of 41 lakhs fodder slips, 5 tonnes of fodder seeds, and 60,000 seedlings and supply of 250 nos. of chaff cutters.

8.30 It is also proposed to impart training to 500 farmers for improvement of their skill in fodder production.

VI. VETERINARY SERVICES AND ANIMAL HEALTH.

8.31 At present there are 621 Veterinary Dispensaries, 72 Veterinary Dispensary-cum-Key Village Centres, 56 Veterinary Hospitals, 2 Veterinary Hospital-cum-Key Village Centres and 21 Clinician Centres attending to Veterinary Health Services. The Sub-Centres in Intensive Cattle Development Project and Key Village Block also attend to the health cover in the project/block areas. 2,226 Sub-Centres in the State also extend first aid to the sick animals. Since the Veterinary institutions at the District head quarters have to be provided with modern equipment for diagnosis of the disease and Clinical examinations of specimen, Clinician Centre also functioning in the District headquarters and major cities.

8.32 Due to the growing need for quick diagnosis of animal diseases 'Intelligence units' have been established to study the disease on modern line and apply new medicines and vaccines with utmost care. Eleven such units are functioning in Vellore, Madurai, Tirunelveli, Coimbatore, Cuddalore, Salem, Thanjavur, Kancheepuram, Tiruchirappalli, Udhamandalam and Sivagangai. The units also have branches to study (i) Bacteriology and Parasitology, (ii) Physiopathology and (iii) preventive medicine. A mobile unit with laboratory facilities is also attached to each unit.

In order to prevent the Rinderpest disease, checkpost have been created at the entrance of the State and the cattle are given preventive vaccination. Systematic periodical preventive vaccination are also carried out by the Rinderpest District Squad, Vigilance unit and Surveillance unit. Apart from this there are 51 Mobile Veterinary units are also available in the State to give Veterinary aid and for breeding programme at the door steps of the farmers.

8.33 The Institute of Veterinary Preventive Medicine, Ranipet continues its major role in the production of vaccines, anti-sera, diagnostic and in various other research work connected

with improving the quality of vaccine, evolving new vaccine, investigating the etiology and control of various diseases.

8.34 During the Seventh Plan period, it is proposed to increase the facilities for attending Veterinary health cover aspects as shown below :

(i) To introduce multi disciplinary approach in treating animal disease, it is proposed to establish one State level Poly clinic at Veterinary Hospital, Saidapet.

(ii) To provide modern Veterinary facilities in the field of surgery, medicine and Gynaecology through experts in respective fields, it is proposed to establish one Ambulatory Veterinary Clinic.

(iii) According to the recommendation of National Commission On Agriculture and to provide Veterinary facilities, it is proposed to open 100 new Veterinary Dispensaries.

(iv) To provide modern amenities for undertaking surgical operations and to provide in patient facilities, it is proposed to upgrade 10 Veterinary Dispensaries at Taluk headquarters as Veterinary hospitals.

(v) To have a separate arrangement for storage of medicines and equipments and effective distribution, it is proposed to establish 4 Regional medical godowns and one State level godown.

(vi) Strengthening of Biological vaccine production Institute at Ranipet for increased production of vaccine and also to produce Anaerobic vaccine, AR (BPL) vaccine, Theileria vaccine specific pathogen free eggs and chicks vaccine.

(vii) Construction of staff quarters and a guest house at the IVPM Ranipet.

VII. VETERINARY EDUCATION AND TRAINING.

8.35 Training and updating knowledge is a continuous process. Training is considered as an integral part of the official routine in the career of technical persons to keep them posted with the latest trends in the advancement of science. Every day there are new inventions overtaking and making the yesterdays technique obsolete for the betterment of mankind. Specialised training in various disciplines in technical and administrative level would increase the scope and knowledge of the staff in discharging their duties. Hence, it is proposed to give the following training to the Veterinary personnel during the seventh plan period.

1. Training of 20 personnel in Artificial insemination in sheep and goats.

2. Deputation of 175 officers for training in Co-operation.

3. Training of 25 Veterinary personnel in sheep husbandry.

4. Training of 25 officers in Goat husbandry.

5. Training of 25 personnel in Piggery.

6. Training of 25 personnel in Duck rearing.

7. Training 500 staff in Cattle infertility.

8. Training of 150 personnel in Zoonosis.

9. Training of 25 personnel in pasture and forage development.

10. Training of 50 persons in Audio visual publicity and propaganda.

11. Training of 25 personnel in Animal Husbandry Statistics.

12. Training of 500 para Veterinary personnel.

13. Training of 1,750 personnel in Frozen semen technique.

VIII. PROPOGANDA AND PUBLICITY.

8.36 Various schemes are implemented by this department, involving large investments in the villages. Considering the multifarious livestock development activities undertaken in the State, it has become imperative that a propoganda and publicity cell at the Headquarters and at Regional level is necessary in order to disseminate information about the latest technical know-how in rearing livestock by establishing a link between the laboratory and the field. This is possible only when the publicity organisation in the department is strengthened.

8.37 It is, therefore, proposed to establish one State Level Propoganda Unit during the Seventh Plan period.

IX. DIRECTION AND ADMINISTRATION :

8.38 After re-organisation of the department, the activities of the Animal Husbandry Department have increased manifold. Apart from the technical and developmental work, many area programmes and special programmes are being taken up to uplift the weaker sections of the society particularly the target group. Thus the Integrated Rural Development Programme, Integrated Tribal Development Programme, Hill Area Development Programme, Western Ghat Development Programme, Drought Prone Area Programme, Special Livestock Production Programme and Special Central Assistance Programmes are also implemented throughout the State in a massive scale.

8.39 Though various developmental schemes mentioned above are sanctioned and implemented, adequate administrative staff are not provided to the Animal Husbandry offices.

8.40 With a view to streamlining the administration at the Divisional, Regional and State level, it is absolutely necessary to strengthen the administration. For this purpose, the following schemes are suggested during the Seventh Plan period :—

1. Upgrading the post of Specialist in 15 regions.
2. Bifurcation of 3 Animal Husbandry regions.
3. Bifurcation of 10 Animal Husbandry divisions.
4. Strengthening of Administration at 15 Regional offices.
5. Strengthening of 62 Assistant Director of Animal Husbandry offices.
6. Strengthening of State level Administration.

X. BUILDING PROGRAMME :

8.41 The regional and divisional offices of this department are mostly functioning in rental buildings and because of this, large money towards rent is spent. The different offices and institutions particularly in big towns are to be located in one and the same place by providing necessary building accommodation. This would promote cohesion and speed in conducting government business. It will be also easy for the public to approach the officers. With a view to avoid payment of rent, and to accommodate, the offices in a permanent building, it is proposed to construct buildings in a phased manner.

8.42 During the plan period, it is proposed to construct buildings for Two Regional offices, Four Artificial Insemination Centres, and Five Assistant Directors of Animal Husbandry Offices.

XI. SPECIAL PROGRAMMES.

8.43 The Sheep Production Programme is implemented by the Animal Husbandry Department in the districts of North Arcot, Salem and Tirunelveli. So far 17,994 units have been established. The cross-bred calf rearing is done by the Tamil Nadu Co-operative Milk Producers Federation Ltd. in the districts of North Arcot, South Arcot, Salem, Madurai, Periyar and Coimbatore and about 37,949 calves have been reared. Poultry Production Programme is

carried out in Chingleput, North Arcot, Salem and Madurai districts by the Tamil Nadu Poultry Development Corporation Ltd. So far 3,098 new units and 1,841 replacement units have been established. Piggery Production Programme is implemented by the Animal Husbandry Department in the districts of North Arcot and Madurai. So far 175 units have been established upto the year 1984-85.

MEAT DEVELOPMENT :

8.44 In view of the increasing demand for meat and higher consumption and also considering the lack of facilities and un-hygienic conditions prevailing in the existing slaughter houses, considering the scope for developing the meat industry on scientific lines and for raising nutritional standards of people, for earning foreign exchange through the export of major by-products and considering the scope for indigenous production of glandular and pharmaceutical products which are being imported, it is proposed to modernise the slaughter houses. The Tamil Nadu Meat Corporation has been established with the objective of constructing modern abattoir complex to provide modern hygienic facilities for slaughtering and processing of animal by product and also to provide facilities for marketing. During the Seventh Plan period a sum of Rs. 165 lakhs has been provided for the following programmes ;

1. Token provision towards share capital of Government of Tamil Nadu required for modernisation of slaughter houses in cities viz., Madurai and Coimbatore.
2. Scheme for establishment of a Mammoth Carcass utilisation plant in Tamil Nadu.
3. Buffalo meat export project—additional share capital to the Tamil Nadu Meat Corporation Limited to put up infrastructural facilities for beef export.

TAMIL NADU POULTRY DEVELOPMENT CORPORATION :

8.45 Government of Tamil Nadu have established the Tamil Nadu Poultry Development Corporation Limited (TAPCO) with a view to intensify poultry development activities in the State. The Corporation is at present engaged in (1) Production of hybrid chicks of proven quality, (2) production of quality feed, (3) Rearing of chicks in the Grower farms and (4) Procurement and marketing of eggs and poultry meat. Poultry farmers are much benefited by this arrangement. The Corporation is paying special attention to maintain uniform purchase and selling rates.

8.46 Two hatcheries are now functioning one at Arasur near Coimbatore and another at Kappalur near Madurai. Both the hatcheries produced quality eggler and broiler chicks and supply them to farmers.

8.47 Three feed mixing units (1) Nandanam near Madras, (2) Kappalur near Madurai, (3) Tiruppur near Coimbatore are functioning under the control of this Corporation. The balanced feed produced under technical supervision is being supplied to farms at reasonable prices. Four grower farms are engaged in rearing chicks received from the hatcheries and supply them to farmers under various developmental schemes.

8.48 The marketing centres are engaged in procuring eggs and table birds from farmers and marketing them in major consumer centres.

8.49 The Corporation is also implementing the Special Livestock Production Programme for poultry in the districts of Chengalpattu, North Arcot, Salem and Madurai for uplifting small and marginal farmers and agricultural labourers by establishment of poultry units. So far, 3,098 units have been established. The units so established are also refinanced with subsidy from Government of India. The feed to these units is being sold at concessional rates and eggs are procured at a constant price of 36 paise. During the Seventh plan period it is proposed to take up the following programmes ;

1. Expansion of chick hatcheries.
2. Expansion of feed mixing units.
3. Modernisation of grower farms.
4. Provision of additional facilities such as vehicle, cold storage. etc.,
5. Establishment of analytical laboratory
6. Establishment of poultry dressing plant
7. Establishment of rabbit breeding farm and
8. Establishment of by-products processing plant.

8.50. To meet the growing demand for ducks it is also proposed to start a duck farm for rearing Kaki cambell and Indian Runners breed of ducks and propagate them in the State.

WORLD BANK PROJECT

8.51. It is proposed to implement a sheep development project with World Bank assistance with the following objectives:—

- (i) Setting up of 15,000 sheep units each unit consisting of one ram and 20 ewes and organising these units into breeder's co-operatives,

each co-operative organising 100 units in 150 SBCS in 5 districts.

- (ii) Establishment of Exotic sheep breeding farm at Chinakalrayan Hills.

- (iii) Establishment of cross-breed ram multiplication farm at ChinnaSalem.

- (iv) Mass deworming programme for increasing mutton production.

- (v) Modernisation of slaughter houses in large and small towns.

- (vi) Meat processing plant and efficient utilisation of all by-products.

- (vii) Training of personnel including farmers to be involved in the proposed projects.

8.52. With the above objects a project has been prepared at a total cost of Rs. 1,613.13 lakhs consisting of Rs. 1,379.99 lakhs as non-recurring and Rs. 233.14 lakhs as recurring. This includes Rs. 39.17 lakhs in foreign exchange. The Project is pending with Government of India, Ministry of Finance, Department of Economic Affairs for posing the Project for E.E.C. assistance.

8.53. The poultry development project will also be established under the World Bank Assistance with the following objectives:—

- (i) To step up egg and Poultry meat production in the State in an effective manner, overcoming the prevailing constraints in the existing set up;

- (ii) To generate additional employment and income with a view to mitigate poverty, unemployment and under employment;

- (iii) To improve the nutritional standards of the people by making available an increased quantum of eggs and chicken meat at reasonable prices; and

- (iv) To extend the coverage of the organised sector by bringing more farmers into the co-operative fold.

8.54. The major components of the project are (i) Egg Project and (ii) Broiler Project. Both the projects are technically feasible. Under egg project investment will be made in first six years and benefits in terms of financial return accrue for 18 years thereafter. Under broiler project investment would be made upto the fifth year, the return will accrue at the end of Sixth Year.

8.55. A three tier organisational set up is envisaged. TAPCO will be the apex body deciding the policy issues, project phasing, execution, overall control, monitoring and functioning of the project. Each district will have a district marketing union which will undertake marketing activities and procurement of input materials. The village level poultry producers co-operative societies will undertake the distribution of inputs to farmers and collection of eggs and broilers from them.

8.56. Under the egg project, 60,260 individual units and 3,250 poultry estates will be established. Each unit will consist of 500 layer birds. Under the broiler project 890 poultry estates and 1,770 individual units will be established. Each unit will consist of 500 broiler birds

8.57. The scheme-wise details and also an abstract of the department-wise details are shown in the tables.

TABLE 8.1
ANIMAL HUSBANDRY.

(Financial Outlay proposed for the Seventh Five-Year Plan 1985-90).

Serial number.	Name of the Scheme.	(RUPEES IN LAKHS)		
		Outlay proposed for 1985-90		
(1)	(2)	Ongoing. (3)	New. (4)	Total. (5)
1.	Cattle Development	62.37	1,053.46	1,115.83
2.	Sheep and Goat Development .. .. .	..	215.15	215.15
3.	Tamil Nadu Meat Corporation.. .. .	..	165.00	165.00
4.	Piggery Development .. .. .	..	50.00	50.00
5.	Poultry Development			
	(i) Animal Husbandry Department .. .. .	..	56.95	56.95
	(ii) TAPCO .. .. .	..	215.00	215.00
6.	Feeds and Fodder development	0.44	31.15	31.59
7.	Veterinary Services and Animal Health	51.47	831.04	882.51
8.	Veterinary Education and Training	2.32	23.10	25.42
9.	Propaganda and Publicity .. .. .	..	16.90	16.90
10.	Direction and Administration	0.65	195.00	195.65
11.	Building programme .. .. .	..	30.00	30.00
	Total	117.25	2,882.75	3,000.00

TABLE 8.2.
SCHEMewise BREAKUP OF FINANCIAL OUTLAY.

Serial number.	Name of the programme.	Outlay for 1985-90. (RUPEES IN LAKHS)
A. EXISTING SCHEMES 1984-85.		
I. Cattle Development:		
1.	Introduction of Frozen semen technique	3.49
2.	Establishment of Frozen semen bank at Eachenkottai	3.00
3.	Intensive Cattle Development Project	28.50
4.	Strengthening of District Livestock Farm	2.85
5.	Progeny Testing scheme at Hosur and Orathanad	8.40
6.	Exotic Cattle Breeding Farm	12.62
7.	Improvement to Sheep Farm, Chinnasalem	0.03
8.	Cattle Breeding complex, Hosur	0.01
9.	Cross breeding of cattle with exotic Dairy breeds and improvement of buffalo using Frozen semen technique in outside operation flood areas	3.47
		62.37

<i>Serial number.</i>	<i>Name of the Programme.</i>	<i>Outlay for 1985-90.</i> (RUPEES IN LAKHS)
II. Fodder Development—		
1.	Strengthening of Fodder production unit at Eachenkottai	0.44
		<u>0.44</u>
III. Veterinary Services and Animal Health—		
1.	Opening of Veterinary Dispensary	23.63
2.	Upgrading of Veterinary Dispensary into Veterinary Hospital	0.92
3.	Upgrading of Veterinary Hospital into Clinical Centre	5.15
4.	Strengthening of I.V.P.M.	0.23
5.	Reorganisation of Rinderpest squad in Districts	2.10
6.	Strengthening of Tissue culture vaccine section	0.21
7.	Mobile Veterinary Units (I. R. D. P.)	2.95
8.	Frozen semen facilities (I. R. D. P.)	16.28
		<u>51.47</u>
IV. Veterinary Education and Training—		
1.	Training of personnel in Frozen semen technique	1.32
2.	Deputation of officers to M. V. Sc.	0.90
3.	Training of Rural youth	0.09
4.	Short-term training for farmers	0.01
		<u>2.32</u>
V. Direction and Administration—		
1.	Strengthening of State level Administration	0.65
	TOTAL—A. EXISTING SCHEMES	<u><u>117.25</u></u>

TABLE 8.2—cont.

SEVENTH FIVE-YEAR PLAN.

Schemewise breakup of financial outlays—New Schemes—Animal Husbandry.

Serial number.	Name of the Scheme.	Outlay for 1985-90. (RUPEES IN LAKHS)
B. NEW SCHEMES—		
I. Cattle Development.		1,053.46
1.	Introduction of Frozen semen technique in 1,100 centres	261.16
2.	Establishment of Frozen Semen Bank—1	162.35
3.	Establishment of 2 L. N. Plant	152.00
4.	Intensive Cattle Development Project—3	191.90
5.	Salvage of Dry Cows and Buffaloes—500	8.40
6.	Natural breeding—200 bulls	2.50
7.	Strengthening of Livestock farms	275.15
II. Sheep and Wool Development		215.15
1	Establishment of one Madras Red Ram multiplication farm	83.60
2.	Strengthening of Co-operative Society wing—12 Co-operative Sub-Registrars—62 Senior Inspectors	22.85
3.	Provision of Intensive health cover for sheep and augmentation of mutton production	40.00
4.	Strengthening of Tellichery Goat unit—200 does 20 bucks	1.85
5.	Establishment of Sannan Goat unit 100 does 10 bucks	11.15
6.	Distribution of breeding bucks—400	5.70
7.	State share for Tamil Nadu Sheep Development Project	50.00
III. Piggery Development		50.00
IV. Poultry Development		56.95
1.	Establishment of three broiler poultry units in Poultry Extension Centre	23.20
2.	Establishment of one Poultry Disease Diagnostic Laboratory	8.80
3.	Establishment of one Poultry Feed Analytical Laboratory	5.80
4.	Establishment of 10,000 backyard poultry unit	10.50
5.	Establishment of 8,500 spring chicken unit	4.25
6.	Reorganisation of Poultry Extension Centre as Demonstration unit and Training Centre—4000 farmers	4.40

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Outlay for 1985-90.</i> (RS. IN LAKHS)
V. Feed and Fodder Development		31.15
1.	Fodder intercultivation in coconut plantation—250 hectares ..	2.50
2.	Establishment of 6,000 demonstration plots	15.00
3.	Distribution of fodder slips and seeds	7.00
4.	Intensive Minikit programme—7,500	2.65
5.	Distribution of 250 hand operated chaff cutter	2.50
6.	Training of 500 farmers in fodder production	1.50
VI. Veterinary Services and Animal Health		8,31.04
1.	Opening of one State Level poly clinic	55.80
2.	Starting of one Ambulatory Veterinary Clinic	6.45
3.	Opening of 100 Veterinary Dispensaries	232.17
4.	Upgrading of 10 Veterinary Dispensary into Veterinary Hospital	96.69
5.	Upgrading of 2 Veterinary Hospital into Clinical Centre ..	17.80
6.	Establishment of one State Level and four Regional level medicals depot	24.70
7.	Strengthening of Mark's disease vaccine production section ..	14.80
8.	Strengthening of Anaerobic vaccine division	21.05
9.	Staff quarters at I. V. P. M., Ranipet—60 quarters	32.50
10.	Strengthening of infrastructural facilities at I.V.P.M. ..	11.50
11.	Scheme for construction of guest house at I.V.P.M.	6.15
12.	Expansion of Laboratory animal division at I.V.P.M.	10.25
13.	Strengthening of Freeze drying section at I.V.P.M.	41.15
14.	Establishment of Research and development unit at I.V.P.M. ..	13.98
15.	Establishment of immuno-chemical laboratory at I.V.P.M. ..	11.60
16.	Production of Anti Rabies Vaccine (BPL)	15.85
17.	Establishment of a laboratory for production of Thielieria vaccine	12.15
18.	Scheme for production of specific pathogen free eggs chicks at I.V.P.M.	10.60
19.	Establishment of disease free Zone (State share)	195.85
VII. Veterinary Education and Training		23.10
1.	Training of personnel in Artificial Insemination—20	0.10
2.	Deputation of officers for training in Co-operation—175	0.50
3.	Training of personnel in Sheep husbandry—25	0.15

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Outlay for 1985-90.</i> (RUPEES IN LAKHS.)
4.	Training of officers in Goat husbandry—25	0.15
5.	Training of 25 staff in piggery	0.15
6.	Training of 25 staff in duck rearing	0.15
7.	Training of 500 staff in Cattle infertility	6.00
8.	Training of 150 staff in Zoonosis of public health	0.75
9.	Training of 25 personnel in pasture and forage development	0.15
10.	Training of 50 officers in Audio Visual publicity and Propaganda	0.25
11.	Training of 25 personnel in Animal Husbandry Statistics	0.25
12.	Training of 500 para veterinary personnel	14.00
13.	Training of 1,750 personnel in Frozen semen technique	0.50
VIII. Propaganda and Publicity		16.90
1.	Establishment of one State level propaganda and publicity wing.	16.90
IX. Direction and Administration		195.00
1.	Upgrading the 15 post of Specialist in Regional offices	20.20
2.	Bifurcation of 3 Animal Husbandry Region	44.65
3.	Bifurcation of 10 Animal Husbandry Division	48.40
4.	Strengthening of Regional Offices—15 Administrative Officers	16.95
5.	Strengthening of administration in 62 Assistant Director of Animal Husbandry offices	61.00
6.	Creation of Audit Cell	3.80
X. Building Programme		30.00
1.	Provision of building for 2 Regional offices, 4 Regional Artificial Insemination Centres and 5 divisional offices	30.00
B. TOTAL NEW SCHEME		2,502.75
GRAND TOTAL (A+B)—DEPARTMENT OF ANIMAL HUSBANDRY		2 620.00

TABLE 8.3.

**TAMIL NADU POULTRY DEVELOPMENT CORPORATION—SCHEME-WISE
BREAKUP OF FINANCIAL OUTLAY.**

<i>Serial number.</i>	<i>Name of the programme.</i>	<i>Outlay for 1985-90</i>
		(RUPEES IN LAKHS)
1.	Expansion of chick hatcheries	66.00
2.	Expansion of Feed mixing units	45.00
3.	Modernisation of grower farm	5.00
4. Marketing.		
(a)	Vehicle for egg procurement	4.50
(b)	Provision for cold storage of eggs	20.00
(c)	Vehicle for transport of broilers	9.00
(d)	Establishment of Poultry dressing plant	12.00
(e)	Provision of cold storage of meat	11.50
(f)	Vehicle for transport of meat	3.75
(g)	Sales outlets	11.25
(h)	Establishment of Analytical Laboratory	8.00
(i)	Establishment of duck farm	10.00
(j)	Establishment of Rabbit breeding farm	2.00
(k)	Publicity Programme	5.00
(l)	Establishment of bye-products processing plant	2.00
		215.00

TABLE 8.4.

TAMIL NADU MEAT CORPORATION.

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Outlay for 1985-90.</i>
		(RUPEES IN LAKHS.)
1.	Token provision towards share capital of Government of Tamil Nadu required for modernisation of slaughter houses in major cities viz. Madurai and Coimbatore	100.00
2.	Scheme for establishment of a Mammoth Carcass utilisation plant in Tamil Nadu	40.00
3.	Buffalo meat export project—additional share capital to the Tamil Nadu Meat Corporation limited to put up infrastructural facilities for beef export	25.00
		165.00

TABLE—8.5.

ANIMAL HUSBANDRY—TARGETS OF PRODUCTION AND SELECTED PHYSICAL PROGRAMMES.

Serial number. (1)	Item. (2)	Base level, 1984-85. (3)	Target, 1985-90. (4)
1.	Milk (.000 tonnes)	2,846	3,300
2.	Eggs (million)	1,062	2,000
3.	Wool (lakhs kgs.)	32.40	33.00
4.	Intensive Cattle Development Project	10	3
	Cumulative	10	13
5.	Extension of Frozen Semen Technique (Numbers)	908	1100
	Cumulative	908	2008
6.	Frozen Semen Bank	1	1
	Cumulative	1	2
7.	Liquid Nitrogen Plant	1	1
	Cumulative	1	2
8.	Sheep Breeding Farms	2	1
	Cumulative	2	3
9.	Establishment of Backward Poultry Unit .. .. .	..	10,000
10.	Spring Chicken unit .. .. .	..	8,500
11.	Poultry Disease Diagnostic Lab.	1	1
	Cumulative	1	2
12.	Poultry Feed Analytical Lab. .. .. .	..	1
	Cumulative .. .. .	..	1
13.	Poultry Extension Centres	29	..
	Cumulative	29	29
14.	Poly Clinic .. .. .	..	1
15.	Ambulatory Veterinary Clinic .. .. .	..	1
16.	Veterinary Dispensaries	693	100
	Cumulative	693	793
17.	Veterinary Dispensary into Veterinary Hospital	58	10
	Cumulative	58	68
18.	Clinician Centres	21	2
	Cumulative	21	23
19.	Medical Depot	4	5
	Cumulative	4	9
20.	Key Village Blocks	62	..
21.	Veterinary Stockman Centres	2,226	..
22.	Establishment of Fodder Seed Production Farms	8	..
23.	Number of inseminations performed with exotic bull semen (in lakhs)	7.61	55.75 (Cumulative)
24.	Number of cross-breed animals Females in lakhs	2.98	6.67

TABLE 8.6.

SEVENTH FIVE-YEAR PLAN 1985-90.

ANIMAL HUSBANDRY²—FINANCIAL OUTLAY.

Serial number.	Name of the Scheme.	Outlay proposed for 1985-90.		
		Existing.	Proposed.	Total.
(1)	(2)	(3)	(4)	(5)
(RS. IN LAKHS)				
1.	Animal Husbandry	117.25	25,02.75	2,620.00
2.	TAPCO .. .. .	..	215.00	215.00
3.	Tamil Nadu Meat Corporation .. .. .	..	165.00	165.00
	Total State Plan	117.25	2882.75	3,000.00

CHAPTER 9.

DAIRY DEVELOPMENT.

Background :

9.0 India lives in villages. The livelihood of the people in villages depend upon the income derived through marketing of agricultural crops raised against vicissitudes of monsoons and also disposal of the main animal product, viz. surplus milk. Milk has to be provided for all the people both in the rural and urban areas while conditions conducive for economic milk production exist in rural areas only. A rational marketing approach not only to cities but also for towns, villages, etc., is needed to bridge the gulf between the producer and consumer ensuring reasonable return to the producer and a reasonable price to the consumer in providing quality milk and its products. The advent of organised dairy development in Tamil Nadu saw the elimination of middlemen deriving the benefits of an unorganised dairying activity and the phenomenal growth in the provision of infrastructural facilities for procuring, processing and marketing of milk.

Historical Perspective :

9.1 Dairy Development activity in Tamil Nadu was started in the 1920s when the State Co-operative Department organised milk co-operative societies. India's first co-operative dairy with processing facilities was established in Madras City in the year 1927. Gradually hundreds of Milk Supply Societies were formed in the villages to channelise the supply of milk and a number of supply Unions were also formed to undertake urban milk distribution. These societies were given financial assistance for the purchase of milch cattle and the unions were given technical and financial assistance for setting up processing facilities and organising transport fleets.

9.2 The State Dairy Development Department was established in 1958 and it embarked upon large scale dairy development activities. It set up the first Large modern milk processing plant (50,000 litres of milk per day) with aid from New Zealand under the Colombo Plan in 1963 at Madhavaram. A cattle colony was also established at Madhavaram. Later another Dairy was set up with assistance from UNICEF to handle 50,000 litres of milk per day at Madurai. Further, a large number of chilling centres were also established and organised marketing of milk was undertaken in Madras and Madurai cities.

9.3 The entire commercial activities relating to procurement, processing as well as marketing of milk and by-products were transferred to the State owned corporation, namely Tamil Nadu Dairy Development Corporation in the year 1972. The Corporation was entrusted with the major responsibility of implementing the development programmes under "Operation Flood-I" introduced in Tamil Nadu for 5 years from 1972 and later extended upto 31st March 1981 at a total cost of Rs. 1562 crores. The districts covered under "Operation Flood-I" in Tamil Nadu were Chingleput, North Arcot South Arcot, Salem, Dharmapuri, Coimbatore, Periyar, Nilgiris and Madurai. The finance under Operation Flood Project is of 70 per cent loan and 30 per cent Grant. The procurement of milk increased from 40,000 litres per day to 3,25,000 litres under Operation Flood-I. The marketing of milk rose from 80,000 litres per day to 3,37,000 litres per day in Madras and Madurai cities. The achievements under "Operation Flood-I" were as given below :—

- (i) Capacity of the Madhavaram Dairy has been increased from 50,000 litres to 1,25,000 litres per day.
- (ii) A new dairy at Ambattur with a capacity of 2,00,000 litres per day was established.
- (iii) A powder plant of 10 tonnes capacity was set up at Madurai with the expansion of the Madurai Dairy.
- (iv) A feeder balancing Dairy at Erode with a capacity of 1,50,000 litres per day was set up with 2 Chilling Centres in Sankarandanpalayam and Sathyamangalam. A Chilling Centre at Ambur in North Arcot district and two Chilling Centres at Villupuram and Chinnasalem in South Arcot District were established.
- (v) A Cattle Feed Plant at Erode of 100 tonnes capacity per day was also started.
- (vi) A Nucleus Jersey and Stud Farm with imported animals was set up at Ooty in the Nilgiris District to supply high quality semen.
- (vii) The Feeder Balancing Dairy at Salem started under Operation Flood-I was transferred to Operation Flood-II and the Salem Dairy has commenced its operation. A Chilling Centre at Tiruvannamalai in North Arcot District was also commissioned.

9.4 Following the successful revival in organising and setting up of strong Co-operatives milk producer movement at Erode in Periyar

District under "Operation Flood-I" by the NDDB (National Dairy Development Board), the Government of Tamil Nadu took a policy decision in June 1978 as a matter of necessity to effect a major structural change in re-organising Co-operative Dairy Development under the popular 3 tier Anand pattern and ordered the formation of Milk Producers' Societies at the village level, a Producers' Union at the district level and an apex organisation, viz., a Federation at the State level. The salient features of Milk Producers' Societies on Anand pattern are :—

(1) Aims to bring about the full involvement of the rural producers without much dependence on Govt.

(2) Assures guaranteed off-take of all the available milk throughout the year.

(3) Pays remunerative price for the milk on the basis of the total quantity of fat which is decided by spot testing at the society level unlike in the traditional societies where payment is mainly on volume basis.

(4) Ensures regular payment and above all offers a package for supply of cattle feed at a reasonable prices.

(5) Gives free veterinary services at the doorstep of the farmers.

9.5. The Tamil Nadu Co-operative Milk Producers' Federation Limited was registered as a "Co-operative" institution under Tamil Nadu Co-operative Societies Act on 15th December 1980. The activities of the Tamil Nadu Dairy Development Corporation had been taken over by the Tamil Nadu Co-operative Milk Producers' Federation from 1st February 1981.

Present stage of Dairy Development Activities in Tamil Nadu.

9.6. The work relating to Dairy Development in Tamil Nadu is now shared by the Dairy Development Department and the Tamil Nadu Co-operative Milk Producers' Federation. The Tamil Nadu Co-operative Milk Producers' Federation looks after the Dairy Development activities, hitherto attended by the Tamil Nadu Dairy Development Corporation under Operation Flood-I, in the districts of Chingleput, North Arcot, South Arcot, Salem, Dharmapuri, Coimbatore, Periyar, Nilgiris and Madurai.

107D-4-13A

9.7. To consolidate the gains of Operation Flood-I, a new project called Operation Flood-II was launched in Tamil Nadu from April 1982 in the same 9 districts of Operation Flood-I involving an outlay of Rs. 42.87 crores. The TCMPPF organised for this purpose will be entrusted with the responsibility of implementing operation Flood-II Programme in Tamil Nadu during 1982-1990.

9.8. The Jha Committee appointed by the Government of India to evaluate the performance of operation Flood-I had commended the working of the programme of Operation Flood in Tamil Nadu as follows :—

"the project had been accepted in its true spirit and whole-hearted support was being extended to the Co-operatives and the programme was making good progress."

In view of the successful implementation of the programme, National Dairy Development Board has agreed to include three more districts, viz., Trichirappalli, Thanjavur and Pudukkottai under Operation Flood-II from April 1985 with an outlay of Rs. 14.40 crores (including a contribution of Rs. 30 lakhs of Government of Tamil Nadu for expansion of Pudukkottai Chilling Centre). The Operation Flood-II Project in Tamil Nadu seeks to achieve the following objectives :—

(1) A total of 4,550 Co-operative Societies are proposed to be organised in the project area.

(2) About 13 lakh milch animals are expected to be covered under milk procurement. Of these 50 per cent would be covered under the artificial insemination programme for quality upgradation.

(3) The milk processing capacity of 9.70 lakh litres per day (achieved during the year 1984) will be raised to about 14.40 lakh litres per day in order to market about 12 lakh litres at the end of the project period by putting up new dairies and expansion of the existing dairies.

(4) Milk marketing will be organised in all the Class I Cities in the state and all Class II Cities in the project area.

(5) The average daily milk procurement will go up from the present 5.16 lakh litres (achieved during the year 1984) to about 10.90 lakh litres at the end of the project period.

(6) Powder production capacity will be increased by 10 tonnes per day by expanding the Erode Plant.

(7) In addition to the existing Nucleus Jersey Farm at Ooty to produce Frozen semen from Jersey Cows, a Frozen semen station for buffaloes will be set up at Erode.

9.9 The Dairy Development Department is now mainly concerned with the organisation, registration, supervision and administration of Milk Co-operatives at the village level and district level throughout the state besides attending to statutory items of work as provided under the co-operative Societies Act. The Dairy Development Department is also directly in charge of Dairy Development activities in the non-operation Flood Districts namely ;

1. Kanyakumari District.
2. Tirunelveli District.
3. Pasumpon Muthuramalingam District.
4. Kamarajar District and
5. Ramanathapuram District.

9.10 The department is carrying on developmental activities on the same pattern as the federation and the plan funds are provided under the various Five-Year Plans. Under the plan schemes, Government subsidies are available to the societies for the purchase of milk testing equipments, forms registers, cans, coolers, etc. Loan cum-subsidies are also available for putting up buildings for the societies and transportation vehicles, etc.

Sixth Plan Financial and Physical performance :

9.11. An amount of Rs. 580.00 lakhs was provided for the Dairy Development Programme to be implemented by the Dairy Development Department in Non-operation Flood districts and the expenditure incurred for the Sixth Plan period was Rs. 379.19 lakhs representing 65 per cent of utilisation.

9.12. The Sixth Plan physical achievement were as follows :—

- (i) Four additional Milk Procurement Teams were formed.
- (ii) Thirteen Mobile Veterinary Units were established.

(iii) One Pasteurisation Plant with a capacity of 50,000 litres per day and Chilling Centres at Valliyur with a capacity of 20,000 litres per day in Tirunelveli district are being established.

(iv) A Chilling Centre with 10,000 litres per day capacity is being established at Pudukkottai district.

(v) A Chilling Centre at Pattukottai with capacity of 10,000 litres per day is under execution.

Seventh Five Year-Plan Proposal :—

9.13. The Dairy Development Department has proposed the following schemes major during Seventh Plan :

(a) strengthening the Dairy at Nagercoil, in Kanyakumari district at an estimated cost of Rs. 50 lakhs in the form of subsidy share capital and loan in the ratio of 50 : 20 : 30.

(b) an integrated Dairy Development Project for Tirunelveli district using the assistance of NCDC.

The salient features of the project in Tirunelveli are given below :

(i) Formation of 651 Anand Pattern Milk Producers Co-operative Societies.

(ii) Coverage of 73,000 milch animals and 53,000 farmers.

(iii) Enhancement of Milk procurement from 28,000 LPD to 75,000 LPD.

(iv) Establishment of Dairy at Tirunelveli with 50,000 LPD expandable to 100,000 LPD.

(v) Establishment of new Chilling Centre at Sankarankoil with 30,000 LPD and Koilpatti with 10,000 LPD.

(vi) Coverage of all animals under animal health and coverage of 50 per cent of animals under artificial insemination.

(vii) Training of Procurement Team, Co-operative Societies and Union staff, etc.

(viii) Marketing of 73,000 LPD with the overall market share 47 per cent in the important towns, industrial and pilgrimage centres.

The programme is to be implemented over the period of five years. As against the total project cost of Rs. 553.84 lakhs, Rs. 387 lakhs being 70 per cent will be provided as loan by NCDC and Rs. 166 lakhs as subsidy by the State Government. Pending approval of the Scheme by Government, a sum of Rs. 150 lakhs is provided for the Seventh Plan.

(c) Provision of infrastructural facilities to the village co-operatives on the pattern of Operation Flood II in the districts of Kanyakumari, Kamarajar, Pasumpon Muthuramalingam and Ramanathapuram at a cost of Rs. 109.75 lakhs.

Conclusion :

9.14. Dairy Development in the State has also been receiving support under other Plan programmes such as HADP, DPAP, IRDP and WGDP and Special Animal Husbandry Programme etc. The schemewise provision for the Seventh Plan and also the infrastructural facilities available are given in the tables :

TABLE 9—1
INFRASTRUCTURE—AT A GLANCE.

eries—	Operation Flood.	Non-operation Flood.	Total
(a) Rural Dairies —			
1. Number	10	1	11
2. Capacity Lit./day	6,72,000	16,000	6,88,000
(b) Metro Dairies :			
1. Number (includes product Dairy at Ayyanapuram).	3	..	3
2. Capacity Lit. per day	3,40,000	..	3,40,000
Total capacity Lit. per day ..			<u>10,28,000</u>
2. Chilling Centres—			
(a) Numbers	26	6	32
(b) Capacity Lit/day	5,30,000	50,000	5,80,000
3. Cattle Feed Plant—			
(a) Numbers	3	..	3
(b) Capacity MT/day	300	..	300
4. LN₂ (Liquid Nitrogen) Plant—			
(a) Numbers	5	..	5
(b) Capacity Lit/Hour (4 Nos. @ 6 Lit./Hr. plus 1 No. @ 45 Lit./Hr.)	69	..	69
5. Buffalo Frozen Semen Station, Erode (as on 30th June 1985)—			
BFSS : MURRAH	28		
Pregnancy : MURRAH	2		
	<u>30</u>		
6. Nucleus Jersey Farm and Stud Farm, Ooty (as on 30th June 1985)—			
1. Bull Mother Farm—		2. Stud Farm—	
(a) Cow in Milk	31	(a) Jersey Bulls	32
(b) Cow in dry	3	(b) Jersey Young Bulls	10
(c) Heifers (12 months)	14	(c) Friesian Bull	1
(d) Heifers (12 months)	17	Total	<u>43</u>
(e) Bull Calves (12 months)	17		
Total	<u>72</u>		
7. Diagnostic Laboratory			
	1	..	

TABLE 9.2

DAIRY DEVELOPMENT

SEVENTH FIVE-YEAR PLAN 1985-90.

SCHEMES PROPOSED BY THE DAIRY DEVELOPMENT DEPARTMENT.

(RUPEES IN LAKHS.)

Serial number and name of the Scheme.	Seventh Five-Year Plan outlay (1985-90).	Annual outlay				
		1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
On Going Schemes—						
1. Establishment of Chilling Centre at Valliyur in Tirunelveli District.	20.00	20.00	..	..	..	..
New Schemes—						
2. Strengthening of Dairy at Nagercoil.	50.00	..	..	10.00	20.00	20.00
3. Integrated Dairy Development Project for Tirunelveli District.	150.00	..	5.00	50.00	50.00	45.00
4. Infrastructure facilities in non operation flood districts of Kanyakumari, Kamarajar, Pasumpon Muthuramalingam and Ramanathapuram.	109.75	—	5.00	75.67	14.54	14.54
5. Share Capital Assistance to TCMPPF.	25.00	..	10.00	7.50	7.50	..
6. Share Capital Assistance to District Unions.	34.00	..	..	17.00	17.00	..
7. Establishment of the office of the Deputy Registrars (Dairying) Kanyakumari, Pudukkottai, and Nilgiris.	32.55	10.68	5.47	5.47	5.47	5.46
8. Supply of Veterinary Drugs in Non-operation Flood Districts.	7.83	..	1.25	2.07	3.88	0.63
9. Supply of cans to Milk Co-operatives.	24.00	..	..	8.00	8.00	8.00
10. Rural Dairy Extension Service.	20.00	..	5.00	5.00	5.00	5.00
11. Strengthening of Administrative set up, Training, Farmers Induction programme, etc.	26.87	..	6.16	8.61	6.20	5.90
TOTAL—DAIRY DEVELOPMENT ..	500.00	30.68	37.88	189.32	137.59	104.53

CHAPTER 10.

FISHERIES.

10.0 The Fishery resources of Tamil Nadu are rich and varied. The long coastline of 1,000 km. with a continental shelf area of about 41,412 sq. kms. provides ample scope for the development of marine fisheries. The estimated marine fishery potential is around 7.45 lakh tonnes. It has been estimated that the lower east coast of India (Andhra Pradesh, Tamil Nadu and Pondicherry) can sustain an annual fishable stock of 4.10 lakh tonnes of demersal fishes and 2.70 lakh tonnes of pelagic fishes. For Tamil Nadu the respective figures are about 3.28 lakh tonnes and 1.15 lakh tonnes. A conservative estimate of the fisheries potential of Tamil Nadu can be placed at around 3.53 lakh tonnes on continental shelf while the potential in the Exclusive Economic Zone is estimated at 5.30 lakh tonnes. The demersal fishery resources of lower southern coast of Tamil Nadu are estimated to be 1.13 lakh tonnes in Palk Bay, .080 lakh tonnes in the Gulf of Mannar and 0.73 lakh tonnes in Wadge Bank area. The present level of production is only 2.60 lakh tonnes. Likewise, Tamil Nadu is endowed with vast Inland water spreads. About 3.69 lakh hectares of fresh and brackish water spreads afford vast opportunities for culture of fish and prawns. The present level of Inland Fish Production is 1.70 lakh tonnes.

Objective of the department ;

10.1 The State Fisheries Department is functioning with the objectives of (a) increasing the Marine, Inland and brackish water fish production in the State, (b) conducting research and experiments for obtaining optimum fish production from all inland water spreads in the State and for producing economic varieties of fish seeds, (c) providing ancillary facilities for the development of fishing industry, such as fishing harbours/jetties, processing and storage, servicing facilities for crafts, training etc., and (d) implementation of several schemes for the upliftment of fishermen community.

10.2 Tamil Nadu is also increasingly gaining importance in the export of marine products totalling around Rs.30 crores per annum at present. The trend of export of marine products is furnished in the table below :—

Export of Marine Products in Tamil Nadu.—

<i>Serial number and Year.</i>	<i>Quantity.</i>	<i>Value.</i>
(1)	(2)	(3)
	(IN TONNES.)	(RS. IN LAKHS.)
1. 1962	4,566	53.11
2. 1965-72	5,424	172.43
3. 1973	4,947	587.61
4. 1974	4,520	889.22
5. 1975	5,865	1,333.72
6. 1976	7,965	2,414.30
7. 1977	7,319	2,363.86
8. 1978	10,430	3,177.41
9. 1979	9,347	3,176.42
10. 1980	6,543	2,129.14
11. 1981	5,852	2,962.94
12. 1982	6,346	2,873.53

Functions :

10.3 All the functions of the department are aimed at achieving the above objectives. The chief functions of the department are : Increasing the fleet strength in the sea of Tamil Nadu, motorisation of traditional crafts and providing harbourage facilities to the crafts, etc., on the marine side and increasing the fish seed production by the induced spawning method, stocking and exploitation in all the Inland water spreads in the State in the Inland side, besides evolving measures for the upliftment of the fishermen community and strengthening of Fishermen Co-operative Societies.

10.4 The Tamil Nadu Fisheries Development Corporation established in the year 1974 is in charge of implementing various promotional and commercial activities relating to fisheries such as operation of Deep Sea fishing trawlers, procurement and marketing of fish and provision of storage facilities for processing on a large scale.

PERFORMANCE DURING THE SIXTH PLAN PERIOD :

10.5 The Union Planning Commission had approved an outlay of Rs. 2,400 lakhs for the development of fisheries in Tamil Nadu during the Sixth Five-Year Plan period. This outlay includes a sum of Rs. 1,000 lakhs for implementing externally aided projects.

10.6 As against this outlay, the actual expenditure during the Sixth Five-Year Plan period is as follows :—

Year.	Expenditure. (RS. IN LAKHS.)
1980-81	3,41.18
1981-82	3,84.18
1982-83	3,55.30
1983-84	4,50.37
1984-85 (Departmental actuals.)	6,09.14
Total ..	21,40.17

10.7 The externally aided projects envisaged in the plan proposals did not come through for want of Central Government sanction. Hence the outlay earmarked for this purpose, could not be availed. Yet, it may be seen from the above table that the actual expenditure has exceeded the plan targets otherwise.

10.8 The Sixth Five-Year Plan aimed at raising the marine and inland fish production of the State to a level of 3.00 lakh tonnes and 2.10 lakh tonnes respectively from the base level of 2.17 lakh tonnes and 1.60 lakh tonnes.

10.9 The trend of fish production during the Sixth Plan period is as follows :

Year.	Fish production.	
	Marine. (TONNES.)	Inland. (TONNES.)
1979-80 (Base year) ..	2,17,000	1,60,000
1980-81	2,27,000	1,65,000
1981-82	2,35,000	1,65,000
1982-83	2,40,000	1,75,000
1983-84	2,40,100	1,60,100*
1984-85	2,60,000	1,70,000

*Decrease is due to severe drought conditions.

SEVENTH FIVE-YEAR PLAN PROPOSALS :

10.10 The expected level of fish production at the end of 1984-85 is 4,30,000 tonnes, comprising 2,60,000 tonnes of marine fish and 1,70,000 tonnes of Inland Fish.

10.11 During the Seventh Five-Year Plan it is proposed to raise this level to 5,20,000 tonnes (3,10,000 tonnes of Marine and 2,10,000 tonnes of Inland). For achieving this goal an outlay of Rs. 2,400 lakhs is provided for the Fisheries Sector for the Seventh Five-Year Plan. The strategy for achieving the objectives of the Seventh Plan are :

(i) To introduce the necessary additional crafts and to improve the operational efficiency of the craft and gear operated by the small scale fisherman to enable them to increase their landings as well as their earnings.

(ii) To provide the infrastructural facilities such as landing and berthing jetties, fishing harbours, processing, packing and auction facilities at all major and minor landing centres :

(iii) To undertake Deep Sea Fishing activities to explore and exploit EEZ in East Coast, bordering Tamil Nadu.

(iv) To undertake Brackishwater Farming in all suitable backwaters in the State.

(v) To undertake and expand culture of fish in all irrigation and non-irrigation water-sources in the State to optimise production in inland waters.

(vi) To strengthen the Fishermen Co-operative Societies by providing adequate financial facilities to assist them to take up fishing and fish marketing.

(vii) To expand the marketing of fish in an organised way by Tamil Nadu Fisheries Development Corporation and Co-operatives to ensure availability of wholesome fish to the public at reasonable price, and

(viii) To provide basic amenities to the fishermen such as housing, link-roads and other public amenities.

10.12 The following programmes have been drawn up for implementation during the Seventh Five-Year Plan period.

PROGRAMMES FOR THE SEVENTH PLAN.

Name of the Scheme.	Target		Additional Manpower (Direct).
	Financial.	Physical	
(1)	(2)	(3)	(4)
(RUPEES IN LAKHS)			
I. Marine Fisheries—			
1(a) Purchase of FRP Boats for Inshore Fishing Stations to survey and find out the operational efficiency with different gear for different seasons.	3.00	3 Boats/60 tons annually.	12
(b) Distribution of FRP boats to Fishermen Co-operative Societies on 20 per cent subsidy and 80 per cent Loan basis from second year of the VII Plan with nets.	20.00	20 Boats/400 tons annually.	80
2. Distribution of Inboard/Outboard Motors for country crafts on 20 per cent subsidy and 80 per cent loan basis.	25.00	1,000 Engines/2,500 tons annually.	650
3. Supply of Nylon webbings to traditional crafts operators on 20 per cent subsidy and 80 per cent loan basis.	40.00	20,000 Kgs.	--
4. Distribution of Beachlanding crafts on 50 per cent subsidy and 50 per cent loan basis.	250.00	500 boats/7,500 tons annually.	1,000
5. Exploratory operations for tapping the pelagic fisheries.	18.00	1 Medium vessel, 2 carrier boats/500 tons annually.	20
II. Deep Sea Fisheries—			
1. Share Capital Assistance to TNFDC Limited for acquisition of trawlers.	0.01	....	..
III. Fishing Harbours and Landing Facilities—			
1. Establishment of landing and berthing facilities	636.81	5 spill-over and 5 new Fishing Harbour/Jetties.	1,500
2. Infrastructural facilities in fishing villages ..	60.00	12 villages.	12
3. Installation of Guide Lights	5.00	15 villages.	--
IV. Inland Fisheries—			
1. Development of Reservoiry Fisheries ..	25.00	100 tons annually.	400
2. Fish Farmers Development Agencies ..	100.00	1,000 tons annually.	1,250
3. Extension of Fish culture through Fish Farmers Development Agencies to be newly formed.	100.00	1,000 tons annually.	1,000
4. Development of cage culture for fish seeds.	25.00	20 million seeds.	--
5. Development of fresh water prawn hatcheries.	25.00	20 million seeds.	..

PROGRAMME FOR SEVENTH PLAN—cont.

Name of the Scheme.	Target.		Additional Manpower (Direct).
	Financial.	Physical.	
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
IV. Inland Fisheries—cont.			
6. Development of Inland Fisheries through World Bank assistance including creation of fish farms.		Shown Separately.	
7. Incentive to private entrepreneurs for seed production.	50.00	70 million seeds.	35
8. Construction of Fish Seed Farm under National Fish Seed Programme.	180.00	40 million seeds.	..
V. Brackishwater Fish Farm—			
1. Construction of Brackish Water Fish Farms.	100.00	125 ha./19 tons prawn and 25 tons of fish per 25 ha. per annum/2 crops.	250
2. Construction of Prawn Hatchery for production of prawn seeds.	20.00	1 Unit 30 million PL.5 Prawn Larvae annually.	50
3. Establishment of Brackish Water Fish Farmers Development Agencies in six coastal districts.	31.00	2 FFDA/22.5 tons prawn and 30 tons fish per 30 ha./annum/2 crops/FFDA.	300
VI. Research and Development—			
1. Establishment of Craft and Gear Research Unit for designing and trial operation.	20.00	1 Unit.	
2. Research Programme including Mariculture Pilot Units.	50.00	....	..
VII. Processing, Preservation and Marketing—			
1. Share Capital assistance to Tamil Nadu Fisheries Development Corporation Limited for establishment of Ice Plants and Cold Storages.	15.00	5 Units.	50
2. Fishery Products Development utilising low cost fish.	5.00	1 Ton/annum.	..
VIII. Education, Extension and Training—			
1. Training of Officials	7.50	15 persons.	..
2. Training of fishermen	13.50	1,500 persons	..
3. Extension	10.00	3 Units.	15
4. Establishment of Marine Aquarium/Marine National Park.	50.00	3 Units.	50
5. Assistance to T. N. A. U.	25.00	....	..
IX. Fishery Co-operatives—			
1. Assistance to Fishermen Co-operative Societies (Share Capital).	25.00	25 societies.	..
2. Assistance to Fishermen co-operatives (NCDC).	200.00	100 societies.	..

4. Supply of Nylons webbings to traditional craft operations ;—

10.17. This is an on-going scheme proposed to be continued in the Seventh Plan.

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs) ..	8.00	8.00	8.00	8.00	8.00	40.00
Physical (Kgs.) ..	4,000	4,000	4,000	4,000	4,000	20,000

5. Exploratory operations.—

10.18 It is proposed to undertake exploratory operation for tapping the pelagic and other resources along the entire Tamil Nadu Coast by the introduction of suitable vessels:—

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	14.00	2.00	2.00	18.00
Physical (Number of vessels)	3	..	..	3

II. Assistance for Deep Sea Fishing Operations:

10.19. The Tamil Nadu Fisheries Development Corporation has acquired two imported Mexican Trawlers which are operating for shrimp off vizag. It has got plans to increase its fleet strength by acquiring more Deep Sea Fishing Trawlers. It is proposed to assist the Tamil Nadu Fisheries Development Corporation by way of share capital to meet a part of the cost of the new trawlers it has proposed to acquire. A token provision is made for this scheme.

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	0.01	..	0.01
Physical (Number of trawler)

III. Fishing Harbours and Landing Facilities:

1. Landing facilities:—

10.20. For the efficient operation of the fishing crafts, landing facilities consisting of fishing harbours, landing jetties, wharfs, etc. are being provided at important fish landing centres in the State. Up to the end of the Sixth Plan, thirteen places have been provided with such landing facilities (including five places where the work is in progress).

10.21. During the Seventh Plan it is proposed provide landing facilities at ten places besides carrying out the spill over work in respect of the five places as noted in proceeding paragraph:—

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	115.00	125.00	146.81	130.00	120.00	636.81
Physical (Number of FH / jetties) ..	..	2	2	1	3	2
(5 spill overs 5 new)	..	..	..	..	..	10

2. Infrastructure facilities :

10.22. In important landing centres which are not covered by a harbour or jetty and where the shore line does not permit the construction of any type of landing facility, infrastructure facilities like approach roads, water, power, net mending shed, auction hall, ice plant, etc., are being provided for, to help the fishermen to process their fish and market them at commercial price. During the Seventh Plan it is proposed to provide such infrastructure facilities in atleast 12 fishing villages:—

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	10.00	10.00	10.00	15.00	15.00	60.00
Physical (Number of villages) ..	..	..	2	3	5	2
(Based on expected date of completion.)	..	..	..	..	..	12

3. Installation of guide lights :

10.23. For the safe navigation of fishing crafts guide lights are being installed at important fishing villages. As a major portion has been covered in the Sixth Plan itself it is proposed to install guide lights at 15 villages.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	2.31	2.69	..	..	..	5.00
Physical (Villages) ..	..	7	8	..	..	..
	..	..	..	..	..	15

IV. Inland Fisheries.

1. Construction of Fish Seed Farm :

10.24. The success of Inland fishery development scheme depends upon the availability of good quality seeds to the required level. About 350 million seeds are (approximately) required for development of 3.69 lakh hectares of inland waters. At present there are 21 hectares of fish seed farm areas (11 ha. seed rearing space and 10 hec. brood stock rearing space). It has been proposed to construct fish seed farms with central assistance in two places at a total cost of Rs. 180 lakhs out of which Rs. 49 lakhs will be from Central Assistance.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total
Financial (Rupee in lakhs).	50.00	50.00	50.00	30.00	..	180.00
Physical (In hectare) .. ..	..	..	5	5	10	.. 20

2. Development of Reservoir Fisheries :

10.25. The sport fish mahseer in the river system has greater attraction on tourists. The seeds of the Mahseer species have to be obtained from Maharashtra and planted in Tamil Nadu waters. Hatchery facilities have to be provided for production and propagation of Mahseer. For the above scheme and for development of fisheries in small irrigation reservoirs a sum of Rs. 25 lakhs is proposed in the Seventh Five-Year Plan.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total
Financial (Rupees in lakhs).	5.00	5.00	5.00	5.00	50.0	25.00
Physical (Tonnes of fish) ..	..	..	..	..	..	— 100 tonnes annually —

Fish Farmers Development Agency.

10.26. Since fish culture through formation of Fish Farmers Development Agencies is the best approach for extension of this food production programme so as to bring it on par with Agriculture, it is proposed that the existing eleven Fish Farmers Development Agencies should bring an additional 100 hec. each of suitable waters for fishery development under its fold. A new Agency is also proposed to be organised in Ramanathapuram district to initially take over 200 hec. of waters to be extended to 300 hec. within two or three years after implementation. The annual outlay on continuation of the existing programme is Rs. 20.00 lakhs and for bringing additional 100 hec. of waters in the existing Fish Farmers Development Agencies and to start a new Fish Farmers Development Agency in Ramanathapuram district, the outlay proposed is Rs. 20.00 lakh/annum. From this investment, apart from the current production of 448 tons of fish valued at Rs. 28.80 lakhs an additional production of 1400 tons of fish valued at Rs. 112.00 lakhs per annum by achieving an average fish production of 1500 kg./hec. is proposed. While this is the social benefit that can be directly qualified, the possibilities of fish culture as an independent profession with many people outside the fold of Fish Farmers Development Agency taking to fish farming and improving fish production as well as fish seed trade is bound to get established which is most essential for achieving substantial progress in the inland fish culture in Tamil Nadu. Fish farm construction under this programme at a cost of Rs. 50.00 lakhs is envisaged of which 50 per cent is Central loan.

Six hectares of fish seed rearing area is to be developed capable of producing six million fish annually.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total
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1. Fish Farmers Development Agencies :						
Financial (Rupees in lakhs).	20.00	20.00	20.00	20.00	20.00	100.00
Physical (Tons of fish (cum)	..	..	..	..	..	— 1,000 tonne annually —
2. Extension of fish culture through Fish Farmers Development Agencies to be newly formed.						
Financial (Rupees in lakhs).	10.00	10.00	20.00	30.00	30.00	100.00
Physical .. ..	..	..	..	..	..	— 1,000 tonnes annually —

4. Fresh Water Prawn Fishery :

10.27. Fresh water prawns command high market price. Prawn juveniles of *Macrobrachium* sp. collected from the distributaries and channels of Cauvery delta has been grown in ponds under intensive fish culture without affecting the growth of stocked carps and prawn culture in this method adds substantially to farmer's income. This culture is now being practised in Perumal Eri an irrigation tank of 2000 hec. in South Arcot District. The scheme could be extended to all water bodies in the State only if sufficient quantity of prawn seeds are made available. It is therefore proposed to establish two Central Prawn hatcheries in the State in South Arcot and Periyar districts for production of prawn seeds.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total
Financial (Rupees in lakhs).	15.00	10.00	..	25.00
Physical (Number of hatchery)	1	1	.. 2
						(20 million seeds)

5. Cage culture of fish seeds :

10.28. A cheaper technology for rearing of seeds is the cage culture of fish seeds which has shown promising results. Floating cages are installed in large deep natural tanks of two hec. and above with depth of three mets. and above and having a fair amount of natural productivity for cage culture of fish seeds. It is proposed to set up 900 floating nurseries at a cost of Rs. 18 lakhs

to give an effective seed rearing area of 3.6 ha. Investment on variable cost on this programme during the plan period is Rs. 25.00 lakhs.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	..	7.00	8.00	8.00	2.00	25.00
Physical (Number of cages) (20 million seeds)	..	300	300	300	..	900

6. Incentive for private enterprise in Fish Seed Industry :

10.29. To encourage private entrepreneurs in investing in the industry of fish seed production, it is proposed to provide incentive in the form of 25 per cent subsidy on capital cost of construction of seed farms. The construction of farm will involve an investment of Rs. 120 lakhs including 25 per cent subsidy. This will help the production of 150 million fish seeds with an annual fish production of 3,700 tons valued at Rs. 30 million.

	1985	1986	1987	1988	1989	Total		
	-86	-87	-88	-89	-90			
Financial (Rupees in lakhs)	..	10.00	10.00	15.00	15.00	50.00		
Physical (In million seeds —cum)	15	30	50	70	70

V. Brackish Water Fisheries.

1. Brackish Water Fish Farm :

10.30. In order to utilise the estuaries and backwaters in the State for culture and exploitation of prawns and fish, it is proposed to construct 250 ha. of brackishwater fish farms in the State. The cost estimated for this is Rs. 200 lakhs. (Full Cost).

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs)	..	20.00	20.00	20.00	20.00	100.00
Physical (In hectare)	..	50	50	50	50	250

2. Prawn hatchery :

10.31. It is also proposed to set up a prawn hatchery during the Seventh Plan at a cost of Rs. 20 lakhs for the production of prawn seeds.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	

Financial (Rupees in lakhs)	20.00	20.00		
Physical (Unit)	1	1

3. Brackish Water Fish Farmers Development Agencies :

10.32. Brackish water farming is capital intensive and also requires constant care and supervision. Right type of techniques have to be adopted in preparing the farms, manuring, feeding and harvesting. For the provision of technical guidance and for helping the small and individual prawn farmers by way of subsidy on capital cost, it is proposed to establish two Brackish Water Fish Farmers Development Agencies in two coastal districts during the Seventh plan, at a cost of Rs. 31 lakhs. These agencies will function on the lines of Inland Fish Farmers Development Agencies.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	

Financial (Rupees in lakhs)	..	..	..	15.00	16.00	31.00
Physical (Number of FFDA's)	..	..	..	1	1	2

VI. Research and Development.

1. Craft and Gear Research Unit :

10.33. Though the general fishing potential of the Tamil Nadu coast is quite rich, there has been a bias towards fishing for prawns because of its high unit value on the export market. Concentrated effort are to be taken for tapping the general fishery wealth for consumption locally, providing fair price for the producer and the consumer. This requirement raises the question of evolving suitable crafts and gear for economic operation and maximum production. This can be answered by establishing a Research Unit to evolve suitable designs of craft and gear and conduct trial operation for technical and economic feasibility. This long felt need is proposed to be met during the Seventh Plan at an outlay of Rs. 20.00 lakhs.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	

Financial (Rupees in lakhs)	10.00	5.00	5.00	20.00	
Physical Unit	1

2. Research programmes including Mariculture :

10.34. With the successful findings of Aqua-culture technology for both Inland, Brackish-water and Marine fish, prawn and seaweeds by various Central Institutes of Fisheries, it is but necessary that pilot units for culture of different species are established along the Tamil Nadu coastline and inland areas where large potentialities exist. These units when demonstrated for economic viability can be taken up by Co-operative in the small scale sector. It is proposed to invest an outlay of Rs. 25.00 lakhs for the purpose during the Seventh Plan.

10.35. The ongoing research programmes and the introduction of further adoptive research programmes during the Seventh Plan period will require an outlay of Rs. 25.00 lakhs.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total.
Financial (Rupees in lakhs).	5.00	5.00	5.00	10.00	25.00	50.00
Physical	— Carrying out research —					

VII. Processing, Preservation and Marketing.

1. Share Capital Assistance to Tamil Nadu Fisheries Development Corporation for Establishment of Ice Plants and Cold Storages.

10.36. The Tamil Nadu Fisheries Development Corporation has been installing Ice Plants, Cold storages and Freezing Plants after assessing the need. The Corporation may require funds for the establishment of the above plants. It is therefore proposed to give a share capital assistance of Rs. 15.00 lakhs to the Tamil Nadu Fisheries Development Corporation to install five such units in the State.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total.
Financial (Rupees in lakhs).	..	3.00	6.00	3.00	3.00	15.00
Physical (Unit)	..	2	1	1	5	

2. Fishery Products Development utilising low cost fish :

10.37. An important aspect in successful marketing strategy is to develop different products in addition to traditional fish sale. In order to provide a fair price to both the consumer and producer it is proposed to introduce fishery by-products for sales in hinterland and urban areas for which an outlay of Rs. 5.00 lakhs is proposed in the Seventh Plan.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total.
Financial (Rupees in lakhs).	..	..	..	..	5.00	5.00
Physical .. ..	..	..	..	..	1	1
Unit	(One Tonne per annum)					

VIII. Education, Extension and Training.

1. Training of Fishermen :

10.38. There are six Fishermen Training Centres in the State and these Centres provide training to the fishermen on the improved methods of fishing, operation of the mechanised fishing boats, fabrication and mending of nets, etc. So far (as on 1st January 1982), 4,883 fishermen have been trained in these Centres.

10.39. At Tuticorin, a Junior Mechanic Course is also being conducted to impart training in repairing and over-hauling the marine diesel engines.

10.40. The fishermen-trainees in these Centres are being paid stipend at the rate of Rs. 75 per month, per trainee for the entire period of training, viz., ten months.

10.41. This training programme is proposed to be continued in the Seventh Plan period with an outlay of Rs. 13.50 lakhs.

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total.
Financial (Rupees in lakhs).	20.0	20.0	3.00	3.00	3.50	13.50
Physical (Persons) .. ..	..	300	300	300	300	1500

2. Training of Officials :

10.42. There are several Central Institutes offering orientation and refresher training in various fisheries fields like Marine Fishery Exploitation, Aqua-culture techniques, Management, etc. The Officials of this Department are being deputed to these Institutes for training. As training is essential and beneficial, such deputation of officials shall be continued in the Seventh Plan period for which an outlay of Rs. 7.50 lakhs is provided:

	1985 -86	1986 -87	1987 -88	1988 -89	1989 -90	Total.
Financial (Rupees in lakhs).	2.50	2.50	2.50	7.50
Physical (Persons)	5	5	5
				5	5	15

3. Extension :

10.43. Fisheries extension has assumed importance with more and more fishermen, fish farmers and entrepreneurs entering the field of aquaculture and fish-based industries. Extension centres have already been established for fishery education among fishermen and also two stations for extending assistance on mariculture. It is proposed to extend the coverage to all areas effectively during Seventh Plan. An amount of Rs. 10.00 lakhs is provided in the Seventh Plan.

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs).	..	2.00	1.00	3.00	4.00	10.00
Physical (Units)	1	..	1	3

4. Marine National Park and Aquarium :

10.44. The Government constituted a High Level Committee under the Chairmanship of Thiru B. Sivaraman, I.C.S. (Retd.) to formulate a working programme for the establishment of a Marine National Park off Ramanathapuram and Thirunelveli coastline encompassing all the islands along the coastline. The establishment of a Marine National Park has been decided by the Government as a matter of policy to preserve the existing environmental and ecological conditions which harbour rare and endangered species of animals and plants. The Government of India have also indicated that formation of such Marine National Parks should be encouraged.

10.45. The Committee has had many sittings and its report is expected shortly. The implementation of the Marine National Park will be taken up during the Seventh Plan. Along with such formation of environmental preserves it is also necessary that aquaria are established at different suitable places in the State for educating the public covering all ages, on the rich fauna and flora available off Tamil Nadu coast and the need for their preservation.

10.46. An outlay of Rs. 50.00 lakhs is provided for the above scheme for the Seventh Plan period:

	1985	1986	1987	1988	1989	Total.
	-86	-87	88	-89	-90	
Financial (Rupees in lakhs).	..	10.00	10.00	10.00	20.00	50.00
Physical (Units)	1	..	1	3

5. Assistance to Tamil Nadu Agricultural University :

10.47. For implementing the Fisheries Research schemes an outlay of Rs. 25.00 lakhs is provided in the Seventh Plan as Assistance to Tamil Nadu Agricultural University:

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs).	5.00	10.00	10.00	25.00

IX. Fishery Co-operatives.

10.48. In recent years, the Fishermen Co-operative Societies are being encouraged to take up programmes like operation of mechanised fishing boats, preservation and marketing of fish, etc. The N.C.D.C. has also been assisting the Fishermen Co-operative Societies for diversification and expansion of the activities which include construction of Godowns, purchase of boats and gear, purchase of marketing vans, etc. These societies are not economically viable to provide credit to the members for procuring fishing implements, etc. In order to revitalise the Fishermen Co-operative Societies it is proposed to assist them by way of share capital, loan and subsidy. Substantial assistance from N.C.D.C. is also expected to flow to the Fishermen Co-operative societies.

10.49. For the Seventh Plan period an outlay of Rs. 225.00 lakhs is provided for the following two schemes:

1. Assistance to Fishermen Co-operative Societies (share capital):

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs).	5.00	5.00	5.00	5.00	5.00	25.00
Physical (Number of Societies)	..	5	5	5	5	25

2. Assistance to Fishermen Co-operative Societies (National Co-operative Development Corporation)

	1985	1986	1987	1988	1989	Total.
	-86	-87	-88	-89	-90	
Financial (Rupees in lakhs).	40.00	40.00	40.00	40.00	40.00	200.00
Physical (Number of Societies)	..	20	20	20	20	100

X. Socio Economic Project.

10.50. There are 7 mari-time districts along the 1000 km. coast of Tamil Nadu. Nearly four lakh marine fishermen live in 402 coastal village who depend solely on fishing for their livelihood. The fishermen live in clusters along and very close to sea and there are 402 well defined fishing villages at present along the coast.

1. Housing.—Construction of houses to Fishermen:

10.51. Fishermen in these villages live mostly in huts without basic amenities. These huts are susceptible to damages due to cyclone, floods and fire. There is therefore, an urgent need to provide houses for the fishermen in the coastal villages.

10.52. The State Government had been assisting the fishermen with subsidy and loan to construct houses till 1974 by which 5,934 houses were thus provided. In 1975, Government decided to provide houses free of cost to fishermen and 6,643 houses have been constructed as follows:—

By the end of Fifth Plan	5,171
Annual Plan 1978—80	1,002
Sixth Plan (upto 1982—83)	470
Total	6643

Under construction in 1983—84 and proposed in 1984—85. 4,288

10.53. Since most of the marine fisherment are yet to be provided with housing facilities, the fishermen housing scheme is proposed to be continued till such time the marine fishermen who are below the poverty line are provided with housing. Hence, this scheme has been included in the Seventh Plan with an allocation of Rs. 250.00 lakhs for constructing 500 houses every year during the Plan period.

	1985	1986	1987	1988	1989	Total
	-86	-87	-88	-89	-90	
Financial						
(Rupees in lakhs).	50.00	50.00	50.00	50.00	50.00	250.00
Physical						
(Number of houses)	500	500	500	500	500	2,500

XI. Direction and Administration.

**1. Strengthening of the Administrative set up—
Cost on staff and quarters :**

10.54. Due to the introduction of various developmental schemes and welfare schemes the department has grown in size and it becomes necessary to strengthen the administrative set up at Headquarters and at regional and functional level. The functional units of the department are located in remote areas where there are no residential accommodation including private buildings. Hence, construction of quarters for staff working in these areas becomes necessary. For these purposes a sum of Rs. 25.00 lakhs is proposed in the Seventh Plan:

Financial (Rs. in lakhs)						
1985—86	1986—87	1987—88	1988—89	1989—90	Total	
—	5.00	5.00	5.00	10.00	25.00	
Physical .. ..	..	..	..	..	..	— No physical Target. —

PHYSICAL TARGET FOR SEVENTH PLAN

(PRODUCTION SECTOR).

Items.	Units.	Base year level 1984—85.	Terminal year Target 1989—90.	1985—86. 1986—87. 1987—88. 1988—89. 1989—90.				
				(4)	(5)	(6)	(7)	(8)
(1)	(2)	(3)	(3)	(4)	(5)	(6)	(7)	(8)
Fish Production :—								
(a) Inland—(1000 tonnes)		170	210	175	180	190	200	210
(b) Marine (1,000 tonnes)		260	310	270	280	290	300	310
Total (a—b) ..		430	520	445	460	480	500	520

II. Mechanised Fishing Boats numbers (cum).	2,575	3,098	2,575	2,783	2,888	2,993	3,098
III. Traditional Crafts Numbers (cum).	40,000	..	..	..	..	..	..
IV. Engines for Crafts Numbers (cum).	220	1,220	420	620	820	1,020	1,220
V. Deep Sea Fishing Vessels Numbers (cum).	4	7	4	4	6	7	7
VI. Fish Seed Production :—							
(a) Fry—Million ..	150	540	165	225	300	495	540
(b) Nursery Area Hectares (cum).	21	121	24	36	51	91	121

CHAPTER 11.

FORESTS.

11.0. Forests constitute a most important renewable resource and in Tamil Nadu they are managed to serve the economic, social and cultural needs of the people. Tamil Nadu has the distinction of having kept the forests under scientific management for more than 125 years. The Madras Forest Act has been formulated in the year 1882. Tamil Nadu is also enforcing Acts for regulation for the cutting of trees in hill areas and for regulating of management of private forests. The Wildlife Protection Act 1972 is in force in Tamil Nadu from 1974.

11.1. The Tamil Nadu has a geographical area of 1,30,057 sq. km. The present land use pattern has left only 22,234 sq. km. of areas under forests which accounts for 17.1 per cent. The national forest policy 1952 stipulates that 33 per cent of the geographical area is to be forests as the optimum coverage required for India. But Tamil Nadu is 5 per cent below the national average and 16 per cent below the optimum coverage.

11.2. The functions of the Forest Department with regard to forest management, are basically three, viz., Conservation, Development and Production. Conservation forestry aims to ensure a sustained flow of social benefits from forests to all generations past, present and future. Forest Department, while striving to shape the forestry technology to reap optimum benefits under the prevailing conditions, is very much concerned that the benefits the present generation enjoys, should not in any way deprive the future generation of their rightful and due share of the benefits. Conservation forestry is applied primarily to forests to Tropical wet evergreen (2.7 per cent), Tropical semi evergreen (1.2 per cent) Littoral and swamps (0.65 per cent), Sub Tropical broad leaved hill forests (5.9 per cent) and Montane wet temperate forests (1.6 per cent) Conservation is the rule in these forests on account of their bring river catchments, important plant formation and animal communities, Reservoir of zones, etc. Development forestry is practiced in forests which are naturally less valuable and in forest lands where the tree cover is inadequate. The practice is often referred to as 'reforestation of degraded forests'. Production forestry is directed towards production of material goods of forests for consumption. Timber, Fuelwood,

Pulpwood, Matchwood, Sandalwood and Wattle-bark are some of the produce.

11.3. In pursuance of these three functions, Government of Tamil Nadu have formulated many schemes and the Forest Department have implemented all these schemes achieving both physical and financial targets in all the Five Year Plans.

PLANNING IN RETROSPECT.

11.4. First Five-Year Plan was the period when Forestry received low priority. The total outlay for the plan schemes for the entire First Plan period was only Rs. 30.43 lakhs. Resumption and rehabilitation of ex-zamin and Panchayat forest, formation of fuel wood and matchwood Plantations were chief items of works undertaken during the First Plan.

11.5. The need for priority to Forestry sector was gradually recognised in subsequent plan period and more funds were allocated. The details of achievements made in subsequent plans are furnished below:—

	(RS. IN LAKHS).
I Plan	30.43
II Plan	1,47.00
III Plan	3,72.14
Post III Plan period (3 year) ..	2,79.99
IV Five Year Plan period	5,74.71
V Five Year Plan Period	11,98.33
VI Five Year Plan Period	60,52.63

PRODUCTION.

11.6. Timber and fuelwood are the primary produces of the forests. Immediately after re-organisation of the State, the annual production of timber was 40,020 mt³. (1956-57) and the trend was maintained more or less upto 1977-78. The harvest of timber was made mainly by extracting those silviculturally available trees from moist deciduous forests and from thinning and/or clear felling few older plantations. But consequent to the switch over of the policy to the furtherance of Conservation, the timber production has fallen steeply to 6,400 Cu.m. (1982-83). Thus timber is the greatest deficit produce of forests, in the State.

11.7. As regards the production of fuelwood the reliance was primarily on the harvest of fuel coupes and the clearing of the jungle growth. The present conservatonpolicy has resulted in the closure of all fuel coupes, which in turn affected the fuelwood productions. While the production in 1956-57 was 2.85 lakhs, cum., it is only 0.93 lakh cu. m. in 1982-83. Today fuelwood is obtained from the pulpwood plantation as reject and from social forestry plantations. However, it is earnestly hoped that the massive Social Forestry and Rural fuelwood of the State may reduce the severity of the deficit considerably.

11.8. Creation of large scale man-made forests with species of Eucalyptus and Wattle has put the State in a better position with regard to het production of industrial wood to industries like pulpwood, rayan, tannin, etc. The production of industrial wood has been on the increase for the past many years.

11.9. The other important items of forest produces, viz., Rubber, Tea, Cashew, Sandalwood,

etc, are produced in considerable quantity. The trend in the production is on the increase except in some instances where one finds a slight fall. Sandalwood production is more or less at constant level. It is around 2,400 tonnes of heartwood and 3,600 tonnes sapwood per annum. There is a huge potential to increase the production of Sandalwood but the market prices are adverse.

11.10. The items of productions which are in small quantity but capable of earning substantial revenue to the State are tannin materials like gallnut, edible produces like Tamarind, Mango and Honey Medicinal plants, produces supporting small scale industries, like canes and reeds, animal produces like Ivory, Deer horns, hides, etc., constitute the host of Minor Forest Produce. The revenue collection has reached to Rs. 76.2 lakhs in 1982-83 as compared to Rs. 13.4 lakhs in 1960-61.

PRODUCTION TRENDS IN FORESTRY.

11.11 The production trends of forest produces are tabulated below ;—

Serial number.	Produce.	Unit.	1960-61.	1965-66.	1970-71.	1975-76
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1.1. Teak	Cu.m.	230	5,117	1,573	4,522
	1.2. Other Timber	Do.	35,253	29,446	57,997	24,784
	1.3. Total Timber	Do.	35,483	34,563	59,570	29,306
2	Fuelwood	Tonnes.	17,349	4,46,706	3,97,600	3,22,485
3	Pulpwood .. .. .	..	..	..	..	..
4	Sandalwood Heartwood	Tonnes.	2,109	1,406	562	1,473
5	Rubber	Tonnes	..	..	187	867
6	Tea	Tonnes.	..	..	1	1,409
7	Cashew	Tonnes.	67	541	771	1,692
8	Bamboo	Rs. in Millions.	0.86	1.32	3.14	3.32
9	Grazing	Rs. in Millions.	0.33	0.57	0.55	0.86
10	Other Minor Forest Produce	Rs. in Millions.	1.34	3.61	3.46	3.31

Serial number.	Produce.	Unit.	1980-81.	1981-82.	1982-83.	1983-84.
			(8)	(9)	(10)	(11)
1	1.1. Teak	Cu.m.	1,641	1,730	1,730	1,231
	1.2. Other Timber	Do.	3,642	..	5,090	..
	1.3. Total Timber		5,283	1,730	6,820	1,231
2	Fuelwood	Tonnes.	57,440	58,045	93,341	31,017
3	Pulpwood .. .. .	..	2,21,203	2,83,380	2,59,439	2,20,647
4	Sandalwood Heartwood, ..	Tonnes.	2,336	1,755	4,625	2,660
5	Rubber	Do.	2,266	2,044	1,358	2,216
6	Tea	Do.	8,724	9,840	11,591	16,869
7	Cashew	Do.	527	1,964	814	1,088
8	Bamboo	Rs. in Millions.	2.28	26,846	1.36	11,516
9	Grazing	Do.	0.30	1,471	1.40	1,462
10	Other Minor Forest Produce ..	Do.	4.52	5,184	7.62	4.50

REVIEW OF PERFORMANCE DURING SIXTH FIVE-YEAR PLAN PERIOD.

11.12. The principal objectives of the Sixth Five-Year Plan under Forestry Sector were ;—

(1) Extension of forestry activity through massive social forestry programme in areas outside Reserve Forests with a view to increase areas under vegetative cover and to maintain ecological balance and reduce environmental pollution ; and

(2) To raise plantation of industrial and commercial use in order to meet the increasing demand from pulpwood based industries.

11.13. The approved outlay for State Forestry Sector Schemes, for the Sixth Five-Year Plan is Rs. 57.00 crores. The details of achievements both physical and financial under State Forestry Schemes are given in the table below ;—

Year.	Physical.		Financial.	
	Target.	Achievement.	Target.	Achievement.
(1)	(2)	(3)	(4)	(5)
	(HECTARES).		(RS. IN LAKHS).	
1980—85	2,21,712	2,12,672	5,700	6052.63

11.14. The Physical target has been almost achieved and the financial target exceeded by Rs. 3.53 crores.

SOCIAL FORESTRY PROJECT IN TAMIL NADU.

11.15. One of the noteworthy features in the achievements made during the Sixth Five Year Plan is the launching of Social Forestry schemes on a massive scale under SIDA (Swedish International Development Authority) Aided Social Forestry Project from the year 1981-82 onwards. Tamil Nadu has about 16,819 villages. Each village has some parts of its area set apart as poramboke for a common purpose. One of the objectives of the project is to create forests in such lands. We have been raising forests in poramboke lands for over two decades. In the beginning this was called farm forestry. Extensive areas mainly tank foreshores were planted up under this scheme. Social Forestry provides for the growing of trees on all types of poramboke land. It also encourages planting of trees on privately owned lands that are unfit for agriculture.

11.16. The period of the project is 10 years. This is divided into two periods of five years for facility of implementation. The first phase from April 1981 to March 1986 is to be executed with Swedish aid (SIDA) at a cost of Rs. 45 crores. The first phase has been extended by one year upto 1986-87 by the Government of India.

BROAD OBJECTIVES.

1. Establishing tree plantations in and around villages, maintaining and harvesting them and gradual transfer of these responsibilities from the Tamil Nadu Forest Department to the people of the Village concerned.

2. Improving the economic status of weaker section in rural society by establishing productive tree crop on their lands which are often unfit for cultivation.

3. To make available to people of villages their requirements of forest products, i.e., small timber, firewood, bamboos, fodder, green leaf manure, fruits, oil seeds, etc., from the harvest of poramboke plantation and other sources.

4. To provide additional opportunities for sustained employment.

The Project comprises six components.

I. Tree cultivation Incentive Programme :

11.17. This is provided for growing trees on the lands of poor farmers. Nurseries of tree

seedlings are raised in Panchayat headquarters. Economically backward farmers are identified and seedlings are supplied to them free of cost. Up to 500 such seedlings are supplied to each family under this scheme. A cash incentive is also offered to encourage the growing of trees. A farmer who has successfully grown 500 seedlings for two years on his land therefore gets a total cash incentive of Rs. 1,250 at Rs. 2.50 per surviving seedling. These trees will belong entirely to the farmer. Government has no right over them.

11.18. 20,000 farmers are expected to be covered annually and 1,00,000 farmers in 5 years. 1.26 crores of tree are expected to be grown all over the state under this component at an estimated cost of Rs. 1.43 crores.

II. (a) Raising tree plantation on poramboke plains

11.19. This component aims at converting unproductive poramboke plains into productive tree plantations. The revenue so obtained can then be put to use for a tangible social benefit. Eucalyptus, red sanders, tamarind, neem, Pungan, Parambai, etc., are the primary species.

11.20. 14,700 ha. are to be covered in five years at 2,940 ha. annually at an estimated cost of Rs. 2.8 crores.

II. b. Hill poramboke afforestation

11.21. This component aims to convert hilly porambokes that are barren and degraded into plantations of trees. Incidentally this will improve the grazing resources of the villages and also the quality of the environment. The species grown will be hardy trees like velvel, odai, parambai, veppalai, alinji, etc., which will be grown.

11.22. Annually about 4,900 ha. of hill poramboke will be planted up to cover 24,500 ha. in five years at an estimated cost of Rs. 3.15 crores.

III. Tank foreshores plantations.

12.23. Plantation of suitable tree species are raised on the foreshore portion of tanks. Auction sales of nature plantations so raised yield good revenue, 50 per cent of which would be given to the panchayats concerned. Intermediate yield by way of pruned material to be used as firewood will also be made available to the poor sections of the rural community. Karuvil is the most suitable species because it can tolerate prolonged submersion. Other species, notably velvel, come up well on the other foreshores where the soil

is light coloured with little or no prospect of submersion. Tank foreshore plantations, mainly of karuvel, have been raised extensively. At age 10 (maturity) the plantations are sold in auction and half of the revenue so obtained is given to the panchayat concerned. This leads to substantiate financial benefit that can be used to improve the quality of rural life. Raising of tank foreshore plantations is the largest single component in magnitude.

11.24. Target is 1,32,000 ha. in five years at an estimated cost of Rs. 15.5 crores with an annual physical target of 26,400 ha.

IV. Fodder tree plantations.

11.25. This aims to provide useful tree fodder for village cattle. A much acclaimed tree fodder Kubabul or Subabul Plantations are established in suitable localities on ploughed soils. It is proposed to plant up 1,050 ha. annually to cover 5,250 ha. in five years at an expected cost of Rs. 78.29 lakhs.

V. Strip plantations.

11.26. A. Road Avenues.—It is proposed to raise trees along both sides of roads to provide shade, usufructs and ornamental value. Tamarind is the principal species except a long field margins. Other species that can be grown for shade are neem, pungan, iluppai, naval, neernathi, etc., and others like Deloniz regia (May flower, Flamboyant) and Peltophorum. More than one row of trees is raised wherever practicable.

11.27. The annual target is 735 Km. covering 3,575 Km. in five years at an estimated cost of Rs. 43.5 lakhs.

11.28. B. Canal bank plantations.—The object is to grow trees along the banks of canals and streams, making use of the proximity of water to raise available tree species. Valuable timbers such as teak and misc are grown along such canal banks with much success in Thanjavur district and the experience gained is a source of confidence to venture future. The Annual target is 525 kms. In five years 2625 kms of Canal banks will be planted at an estimated cost of Rs. 3.3 crores.

11.29. C. Railway line plantations.—Tamil Nadu has an extensive net work of railway tracks. Under this component trees are grown on both sides of such tracks to the extent practicable, species used are Eucalyptus, Cassia siamea, Pungan, Veppalai, Alingi, etc. One or more row are raised on either side according to land availability.

11.30. Annual target is 105 km. to cover 525 km. in five years at an estimated cost of Rs. 23.7 lakhs.

VI. Extension of Trees plantations :

11.31. The objectives are to supply technical knowhow about tree cultivation, establish the concept of tree cultivation, as a crop and help farmers who want to grow trees. Species that are suitable as tree crops are eucalyptus, subabul (Koobabul) casurina, hopok (Silk cotton), ailanthus excelsa, bamboo, teak and some fruits yielding trees (lime, wood-apple, elandai, guaya, drumstick, etc). Technical knowhow is made available through all possible media not only at the beginning but even during growth of the tree crop or even to trees supplied in small numbers to be grown in and around homestead singly and in small groves. It is expected that the Forest Department will sell 75 lakhs of seedling every year and 3.75 crores of seedlings in five years at an estimated cost of Rs. 1.05 crores.

11.32. The success of the project depends upon the co-operation and support of the people. Social Forestry committees will be formed in each village to place before the department the needs of the village and see that they are met. They will also help to get the concurrence of the concerned Unions for taking up planting of promabokes. They will be formed of four or five people on the basis of unanimous approval and so will reflect the pulse of the people and regulate implementation accordingly. Similar committees can also be formed at panchayat union, taluk and district levels also.

11.33. The Social Forestry Monitoring Advisory Board consisting of eminent personalities from universities and management institutions periodically monitor the implementation of this project. The major chunk of the plan outlay every year is set apart for this social forestry scheme and the scheme is implemented at a fast pace throughout the State with the fullest co-operation and awareness of the public, especially the rural people. Against the achievement of Rs. 6,052.63 lakhs under State forestry Schemes during Sixth Plan an amount of Rs. 2,967.20 lakhs was spent towards implementation of the Social Forestry Scheme.

11.34. Apart from the State Forestry Schemes, there are also centrally sponsored schemes and special schemes such as Western Ghat Development Programme, Area Development Schemes, Soil Conservation Scheme, etc., which are in operation under other developmental heads. The total investments under these Heads till the end of the Sixth Plan is Rs. 1,619.70 lakhs.

APPROACH, STRATEGY AND PROGRAMMES FOR THE SEVENTH PLAN ;

11.35. Since the First Five-Year Plan, the perception approach and strategy have vastly changed. Forests which were considered as a property for protection and conservation in the last century, continued to be so in the first two or three decades of the present century also, had changed to resources capable of manipulation and development. Of late, besides foresters, other well meaning critics like ecologists, environmentalists and wildlife enthusiasts have shown great concern in the management of forests for more than one reason. While preparing the Seventh Five-Year Plan due consideration is given to different thoughts and view points so that forests are managed to bring out the best.

11.36. During Seventh Plan, Forest Management will primarily dwell around the following activities :—

1. Expanding forest areas wherever possible.
2. Conserving the Wildlife heritage.
3. Generating employment through social forestry programmes.
4. Creating assets in rural areas for the specific benefit of the Village Community through their participation.
5. Strengthening the forest system to provide life support to the tribal community living in forests.
6. Multiplying the production of fuel and timber.
7. Enriching the fodder and pasture facilities for the village cattle depending on forests.

8. Converting the degraded scrub lands into wooded forests by afforestation.

9. Supplying raw material to the forest based industries in Tamil Nadu.

10. Managing the traded forest produces like Sandal, Rubber, Tea, Cashew, Oil Seeds, etc., on commercial lines.

11. Encouraging the integration of tree culture with agriculture

12. Modernising forest protection to contain depletion of forests wealth.

13. Establishing specialised organisational units for the management of forests in the watersheds of the principal rivers of the State.

14. Restructuring the organisation of research wing, and

15. Establishing organisational units for evaluation and monitoring of schemes.

11.37. The approach for the Seventh Plan is "Agressive Forestry" where all components of forest will be activated to tap the entire production potential of the forest resources. In achieving this, the operations will be continuously subjected to measurements of evaluation and monitoring. Increase in productivity of resource is the basic theme of forest development in the State during the Seventh Plan.

11.38. The Seventh Five-Year Plan outlay provided for the Forestry Sector is Rs. 70.00 crores consisting of Rs. 68.00 crores for the Forest Department and Rs. 2.00 crores for the Cinchona Department.

11.39. The schemewise financial outlay for the Forest Department during the Seventh Plan period is furnished below :—

**SCHEMewise PROVISION FOR THE SEVENTH PLAN.
FORESTS.**

Serial number.	Scheme.	Outlay proposed.	
		State Schemes.	Centrally Sponsored Schemes.
(1)	(2)	(3)	(4)
(RS. IN LAKHS).			
1	Sida aided social Forestry	46 00	
2	Rural Fuelwood (Centrally Sponsored)	200	400
3	Arignar Anna Zoological Park	300	
4	Fuelwood Plantations	300	
5	Reforestation of degraded Forests	200	
6	Wattle Plantations	15	
7	Pulpwood Plantation	200	
8	Research (TREE)	100	

SCHEMewise PROVISION FOR THE SEVENTH PLAN—cont.
FORESTS—cont.

Serial number.	Scheme.	Outlay proposed.	
		State Schemes.	Centrally-Sponsored Schemes.
(1)	(2)	(3)	(4)
		(RS. IN LAKHS).	
9	Working Plan	10	..
10	FEMAS	40	..
11	Tribal Sub-Plan	200	..
12	Sandal Plantations	100	..
13	Minor Forest Produce	100	..
14	Forest Protection	50	..
15	Amenities to staff	10	..
16	Publicity	20	..
17	Project Timber Teak and other Hardwood species	30	..
18	Annamalai Wildlife Sanctuary (Centrally sponsored)	10	20
19	Mudumalai Wildlife Sanctuary (Centrally Sponsored)	10	20
20	Kalakadu Sanctuary (Centrally Sponsored)	5	10
21	Mundanthurai Wildlife-Sanctuary (Centrally Sponsored)	10	20
22	Guindy National Park (Centrally Sponsored)	10	20
23	Point Calimere Sanctuary (Centrally Sponsored)	5	10
24	Mukurthi Wildlife Sanctuary (Centrally Sponsored)	5	10
25	Marine National Park	5	..
26	Crocodile Breeding (Centrally Sponsored)	5	10
27	Nature Conservation	50	..
28	Communication (Roads)	100	..
29	Consolidation	20	..
30	Timber Operation and Forest Utilisation	10	..
31	Buildings	50	..
32	Cashew Plantations	10	..
33	Softwood Plantations	10	..
34	Shelter Belts	5	..
35	Wildlife Exhibition (Centrally-Sponsored)	5	10
		6800	530

*Note.—The figures under column (4) above indicate the full cost of the schemes. (State and Central Expenditure).

1. *Sida Aided Social Forestry* —

11.40. A massive Social Forestry Project with the aid from Swedish International Development Authority is being implemented with

effect from 1st April 1981 onwards. The project period is 5 years and the estimated cost is Rs. 450 million. The targets of the various components are :—

(1)	(2)
1 Tree cultivation "Incentive Programme" .. .. .	.. Distribution of 12.6 million seedlings to 100,000 families (20 thousand families a year).
2 Plantations in Ponnamboke plains and hills .. .. .	.. 14,700 hectares of plain plantation and 24,500 hectares of hill plantation.
3 Plantations on tank Foreshores .. .. .	.. 132,000 hectares of tank foreshores plantations.
4 Strip Plantations (Roadside, canal sides, etc.) .. .. .	.. 6,075 Kms. of strip plantations.
5 Tree cultivation "Extension Programmes" .. .. .	.. Distribution at cost price of 37.5 million seedlings to private farmers.
6 Fodder Plantations .. .. .	.. 5,250 hectares of fodder plantations.

11.41. The period of Phase I of the Project has been extended by one more year upto 1986-87. The estimated cost has also been increased by Rs. 265.57 lakhs.

11.42. In the Seventh-Plan, 1985-90 an outlay of Rs. 45,00.00 lakhs has been provided towards raising block plantation over 53,000 ha. strip plantation over 1,320 km. and supply of 250 million seedlings to the public.

2. Rural Fuelwood Plantation (Centrally Sponsored Scheme) —

11.43. This is a Centrally Sponsored Scheme implemented from Sixth Five Year Plan. The object of the scheme is to raise fuelwood plantations in the community waste lands, degraded forest areas, coastal waste lands and in the lands along the roads, canals, banks, ponds and railway tracts, near the villages to make fuel wood available to the villages and to meet the shortage of fuelwood in the rural areas which is posing a serious problem to the protection of productive forests in the State.

11.44. For the Seventh Plan period, an outlay of Rs. 400.00 lakhs (full cost) is provided for this scheme for 6 Districts (including two additional Districts, viz., South Arcot and North Arcot) towards raising block Plantations over 13,500 ha. strip plantation over 750 Km. and raising and supply of 500 lakhs of seedlings.

3. Arignar Anna Zoological Park —

11.45. In view of the request of Indian Railways to hand over the lands now occupied by the present zoo under the control of the Corporation of Madras, for the expansion of the Madras Central Station, it was decided by the Government to establish a modern Zoological Park at Vandalur Reserved Forests, 30 Km. from Madras City. The total cost of the Project is Rs. 7.00 crores. Originally, it was proposed to establish the Zoological Park over an extent of 140 ha. Considering the need for more areas for future expansion and also to arrange Lion-safari, etc., the extent of the proposed park has been expanded and fixed at 510 ha. Some of the Patta lands adjacent to the forest areas have also been acquired for this purpose. The extent of the Zoological Park is likely to be extended further.

11.46. The Zoological Park was named Arignar Anna Zoological Park and opened for public from 24th July 1985. This scheme has been included in the Seventh Plan 1985-90 with an outlay of Rs. 300 lakhs for carrying out

development works to the Zoological Park on modern lines.

4. Fuelwood Plantations.—

11.47. The object of the scheme is to raise fuelwood plantations in the forest areas adjoining cities and towns and padugai lands in order to cater to the fuelwood needs of the population.

11.48. In the seventh plan for 1985-90 an outlay of Rs. 300.00 lakhs has been provided for raising plantation over 9,000 ha.

5. Reforestation of Degraded Forests.—

11.49. The object of the scheme is to take up afforestation work in all degraded forest areas in order to improve the productivity of scrub forests and to meet the increasing demand for fuelwood and small timber.

11.50. During the seventh plan period an outlay of Rs. 200.00 lakhs has been provided to raise plantations over 7000 ha. under this scheme.

6. Wattle.—

11.51. The object of the scheme is to raise wattle plantations in the Nilgiris and Upper Palanis to supply raw materials to Industries. Wattle Bark is used for the extraction of tannin and wattlewood for the manufacture of rayon pulp. A sum of Rs. 15.00 lakhs has been included for the implementation of the scheme during the seventh plan (1985-90). It is proposed to raise plantations over 600 ha. besides carrying out thinning operations and natural regeneration.

7. Pulpwood.—

11.52. The object of the scheme is to raise plantation of quick growing species to provide raw materials for the wood-pulp based industries like paper, rayon, etc.

11.53. The pulpwood scheme hitherto implemented under Western Ghat Development Programme has been brought under State Plan under this head. In the seventh plan for 1985-90 an outlay of Rs. 200.00 lakhs has been provided for raising plantation over 2500 ha. and carrying out I.C.O.

8. TREE—(Training, Research, Education and Extension)—

11.54. The object of the scheme is to enlarge the Research Programme of the Forest Department by taking up investigation on various aspects of Silviculture and allied matters and conducting

experiments to find out the best species and most suitable regeneration techniques for different climate and soil conditions.

11.55. In the Seventh Plan 1985-90 an outlay of Rs. 100.00 lakhs has been provided towards establishing three sub-centres at Tiruchirappally, Salem and Coimbatore to integrate existing research programmes, extension and education under unified command by establishing an organisation in addition to continuing various research programme such as TREE improvement, silvicultural research experiment, Bio-metrics (Opening and maintenance of sample plots), construction of seed cleaning shed, purchase of instruments, equipments, chemical, etc. and collection, grading, cleaning and supply of seeds.

9. Working Plans :

11.56. Working Plans form the basis of management of Forests. The working plans lay down specific prescriptions regarding regeneration, exploitation and other aspects of management of Forests Divisions for every year. The scheme provides for strengthening the organisation and purchase of essential equipments to modernise the preparation of working plan.

11.57. The Seventh Plan outlay for the scheme is Rs. 10.00 lakhs towards formation of one more circle and Working Plan Divisions to reorganise the existing circle and revision of working plans.

10. Establishment of Project Formulation, Evaluation, monitoring and Statistics (FEMAS):

11.58. Forest Development is mainly resource building, its maintenance and utilisation. The level of forest Development will be reflected on the capability of identifying areas of development, formulation of projects to fit into the demands of the area identified. The field executives could not divert their fullest concentration into this special job. Unless a special wing with full complement of staff is constituted with the committed purpose expertise in the projection formulation may not get developed. To achieve this goal a composite unit is required to be formed.

11.59. During Seventh Plan period it is proposed to form a separate formulation, evaluation, monitoring and Statistics wing with adequate staff in headquarters and required Field Investigators and Field Supervisors in the Divisional Offices. An outlay of Rs. 40.00 lakhs has been provided for this scheme in the Seventh Five Year Plan.

11. Tribal Sub-Plan.

Afforestation, Communications and buildings :

11.60. The object of the scheme is to improve the economic conditions of the Hill Tribes in the forest areas by providing them employment, education, housing and other amenities, by implementing plantation programmes, providing educational and housing facilities and better communications.

11.61. For Seventh Plan an outlay of Rs. 200.00 lakhs has been provided. An area of 4000 ha. will be covered under Afforestation programme besides carrying out road works and construction of school building in the Tribal areas.

12. Sandal Plantations ;

11.62. The object of the Scheme is to improve the sandal wealth of the State by expanding sandal plantations and encouraging natural sandal by intensive cultural operations. It is also proposed to form 5 Estates to bring the valuable sandal plantations under crop management system so as to maximise the revenue from sandal on a sustained basis consistent with the policy of safeguarding the industrial growth in the State.

11.63. In the Seventh Plan (1985-90) an outlay of Rs. 100.00 lakhs has been made towards raising sandal plantations over 400 ha. and for establishment of sandal estate.

13. Minor Forest Produce ;

11.64 The object of the scheme is to raise Minor Forest Produce Yielding plantations such as tamarind, Gallnut, Soapnut, Eucalyptus citriodera etc., since there is vast scope for increasing the Revenue by raising concentrated plantations of some of these valuable species. It is also proposed to implement the scheme under Farm Management basis into three Groups of (i) Oilseed Farms, (ii) Tamarind Farms and (iii) Fruit Farms.

11.65. For the Seventh Plan period, an outlay of Rs. 100.00 lakhs has been provided for this scheme towards raising 3,500 hectares of plantations in farm basis for effective regulation of yield and increasing productivity by adopting silvicultural practices.

14. Forest Protection ;

11.66. The object of the Scheme is to reconstitute the protections system to protect forest wealth from fires, theft, poaching, illicit fellings, etc., The scheme envisages fire protection works

strengthening the protection staff and intensifying protection measures to conserve forest wealth and provide the protection staff with basic amenities, like housing, equipments, vehicles, communication facilities, etc.

11.67. For the Seventh Plan period (1985-90) an outlay of Rs. 50.00 lakhs has been made for this scheme. During Seventh Plan it is proposed to strengthen protection system by establishing following programmes:—

(1) Net work of protection system—creation of strike force,

(2) Tele-communication facilities—installation of VHF sets in the sandal bearing areas,

(3) Opening more number of check posts,

(4) Improved technique of fire fighting, fire training works and

(5) Employment of more number of staff and protection watchers.

15. *Labour and Staff Amenities :*

11.68. The object of the scheme is to provide amenities to the labour and staff engaged in forestry operations, particularly in the interior forests where even basic amenities are lacking.

11.69. For the Seventh Plan period, an outlay of Rs. 10.00 lakhs has been made for this scheme towards providing quarters, supply of cumbles, medical and educational facilities.

16. *Forest Publicity ;*

11.70. The object of the scheme is to re-establish the cultural link of forests and forestry into the life style of people and to inculcate in the minds of the public through organised propaganda and publicity the role of forests in the welfare of the public and the need to conserve and develop the forests and wild life.

11.71. For the Seventh Plan period, a tentative outlay of Rs. 20.00 lakhs has been provided towards publicity and propaganda such as purchase of publicity material, production of films, erection of boardings, posters, printing, etc. It is also proposed to establish five Vanavalayams with the components of (a) Auditorium, (b) Museum, and (c) a Mini Zoological Park in the selected places where some infrastructure is already available and where there is larger tourists flow viz., (1) near Forestry Training School, Vaigai (2) near Maruthamalai temple, (3) at Amirthi near Vellore, (4) Kurumbalathy Reserve Forest near Salem and (5) at Sathanur Dam.

17. *Project Timber—Teak and Red Sandars ;*

11.72. The object of the Scheme is to raise Teak, Red Sandars and other hard wood species to augment the timber resources of the State and to convert the unproductive forests into valuable timber bearing forests and thereby increase the assets of the State.

11.73. In the Seventh Plan period (1985-90) an outlay of Rs. 30.00 lakhs has been provided for raising 2 million trees under this scheme.

18. *Anamalai Wildlife Sanctuary (New scheme):*

11.74. The Anamalai Wildlife Sanctuary spread over an extent of 950.60 sq. km. and it is the biggest sanctuary in Tamil Nadu. The Sanctuary harbours a wide range of animal and bird species. The more important common species are Bonnet monkey, lion tailed monkey, common langur, tiger, leopard, black panther, Civet, Mongoose, Jackal, Sloth bear, deers, etc.

11.75. During Seventh Plan it is proposed to undertake various development works in this Sanctuary under this new Centrally sponsored Scheme at a total cost (full cost) of Rs. 20.00 lakhs.

19. *Schemes for Development of Mudumalai Wildlife Sanctuary (Centrally sponsored scheme):*

11.76. This is a Centrally Sponsored scheme implemented from Sixth Five Year Plan. The scheme is implemented in the Nilgiris District. The object of the scheme is to undertake development works such as habitat improvement, laying of roads, provision of water facilities such as construction of check dams, construction of quarters for staff in the sanctuary areas.

11.77. For the Seventh Plan period, an outlay of Rs. 20.00 lakhs (full cost) has been provided towards carrying out development work in the sanctuary area.

20. *Scheme for creation of Sanctuary for Lion-tailed Macaque (Centrally sponsored scheme) :*

11.78. The scheme is implemented in Tirunelveli District, under Centrally Sponsored scheme. Under this scheme, development works such as forming nature trails, construction of check dams, growing of fodder species, construction of quarter for staff, laying of roads, etc., are done. For the Seventh Plan period a provision of Rs. 10.00 lakhs (full cost) has been provided for carrying out development works in the Kalakadu sanctuary areas.

21. *Mundanthurai Wild-life Sanctuary (New Scheme) :*

11.79. Mundanthurai Sanctuary consists of the entire Ambasamudram Range and Part of Nanguneri Range in Tirunelveli District.

11.80 Mundanthurai Wildlife Sanctuary was constituted in the year 1972, under the Wild Birds and Animals Protection Act, 1972. The Mundanthurai Plateau and the adjoining hills have been the abode of varied forms of Wildlife. Tigers are the pre-dominant carnivores.

11.81 During Seventh Plan period, it is proposed to carry out various development works in the sanctuary area under an exclusive scheme with an outlay of Rs. 20.00 lakhs (full cost). The scheme has been sanctioned for implementation a Centrally sponsored scheme from 1985-86. It is proposed to carry out habitat improvement works in the Sanctuary area and improvements in the existing roads and maintenances of buildings within the Sanctuary area.

22. *Development of Guindy National Park :*

11.82 This Centrally sponsored scheme is implemented to carry out development works for preservation and conservation of the Wildlife in Guindy National Park. For the Seventh Plan period a provision of Rs. 20.00 lakhs (full cost) has been made towards carrying out the development works in Guindy National Park.

23. *Schemes for Development of point Calimere Wildlife Sanctuary (Centrally sponsored Scheme) :*

11.83 This is one of the Centrally sponsored schemes implemented from Sixth Five Year Plan. The scheme is implemented in the Thanjavur District. The object is to undertake development works such as forming of roads, provision of water facilities, habitat improvement, raising of fodder, construction of quarters for staff, etc. in the sanctuary area.

11.84 An outlay of Rs. 10.00 lakhs (full cost) has been provided for Seventh Plan period for this scheme to carry out the development works and to give protection to the Avifanna by employing additional staff.

24. *Mukunthi Wildlife Sanctuary (Centrally Sponsored Scheme) :*

11.85 For the preservation and conservation of the Nilgiris Tahr a sanctuary named Mukunthi Wildlife Sanctuary has been established in the Nilgiris. An amount of Rs. 6.02 lakhs has been invested towards acquisition of lands, construction of quarters for staff and employment of staff for protection of the Nilgiris Tahr during the Sixth plan period and the scheme is implemented as a centrally sponsored scheme. This scheme has been included in the Seventh Plan

1985-90 with an outlay of Rs. 10.00 lakhs (full cost) towards carrying out development works in sanctuary area.

25. *Establishment of a Marine National Park :*

11.86 With a view to protect the endangered marine species and to preserve the breeding and browsing grounds, a marine National Park in the Gulf of Mannar is proposed to be established. The coastal areas will be protected by employment of staff equipped with sophisticated equipments. A study of the eco-system in this area will be undertaken and in due course captive breeding works will be undertaken.

11.87 An outlay of Rs. 5.00 lakhs has been provided in the Seventh Plan 1985-90 to ensure maintenance of viable Marine population for scientific, economic, aesthetic, cultural and ecological value and to preserve and protect the 21 islands and surrounds of Gulf of Mannar of biological importance as a national heritage from environmental and human pressures by establishing a Marine National Park.

26. *Scheme for Captive Breeding of Crocodiles at Sathanur Dam (Centrally Sponsored Scheme) :*

11.88 This Centrally sponsored scheme is implemented from Sixth Five Year Plan in North Arcot District. Under this Scheme, the Crocodile Breeding Centre at Sathanur is maintained. The Crocodiles born in captivity are maintained besides regular and systematic breeding of crocodiles in this centre. Construction of quarters for staff and various other improvement works for the crocodile complex are done.

11.89 For the Seventh Plan period, a provision of Rs. 10.00 lakhs (full cost) has been made to continue to implement this scheme for captive breeding of Crocodile.

27. *Nature conservation :*

11.90 The object of the scheme is to carry out improvements to the various wildlife sanctuaries in Tamil Nadu and to undertake necessary measures for habitat improvement. The scheme is implemented in almost all the districts.

11.91 For Seventh Plan, an outlay of Rs. 50.00 lakhs has been provided for carrying out improvement works in Sanctuaries for promoting tourism and habitat improvement.

28. Communication (Roads) :

11.92 The object of the scheme is to lay new roads and improve the existing ones within Forest areas in order to facilitate development of forests and to enable easy transport of extracted produce. The net work of roads is necessary for carrying out plantations and other development works.

11.93 In the Seventh Plan period (1985-90) an outlay of Rs. 100.00 lakhs has been provided towards laying new Roads over 20 km. and improvement to old roads. An amount of Rs. 100.00 lakhs provided for formation of Kadamalaikundu Road in Madurai District by Highways Department in the Annual Plan 1985-86 is not included.

29. Consolidation of Forests :

11.94 The object of the scheme is to undertake survey of ex-zamin forests and constitute these areas as Reserved Forest under Tamil Nadu Forest Act, 1882.

11.95 For the Seventh Plan period, an outlay of Rs. 20.00 lakhs has been provided for this scheme.

30. Timber Operation and Forest Utilisation :

11.96 The object of the scheme is to provide improved facilities for transport of timber and other Forest Produce, introduce improved techniques in logging operations and provide amenities to the staff and labour engaged in forestry operations in the interior forests.

11.97 In the Seventh Plan (1985-90) an outlay of Rs. 10.00 lakhs has been provided for this scheme, for carrying out following works :—

1. Compound wall to Mettupalayam Range.
2. Fencing Iruttupallam Sale Depot.
3. Improvement to Inspection shed of Government Timber Depot, Mettupalayam.
4. Spill over works of weigh Bridge installation and purchase of vehicles, machineries, accoutrements, amenities to labourers.

31. Buildings :

11.98 The object of the scheme is to construct quarters for staff and labour employed in the Department.

11.99 In most of the outstations where Forest Department staff have to work private accommodation is not available for rent.

11.100 For the Seventh Plan period a tentative outlay of Rs. 50.00 lakhs has been provided.

32. Cashew Plantations :

11.101 The object of the scheme is to raise Cashew Plantation in suitable areas and also to improve the yield from the plantations by undertaking intensive cultural operations like clearing the intervening growth, soil working, application of fertilisers, pesticides, etc.

11.102 In the Seventh Plan 1985-90 an outlay of Rs. 10.00 lakhs has been provided for implementation of the scheme over an area of 600 ha. and also to carry out Intensive cultural Operation Works.

33. Soft Wood :

11.103 Match Industry is a very important small scale industry in Tamil Nadu which depends largely on other Estates for its matchwood requirements. Therefore, it is proposed to take up planting of matchwood species wherever suitable conditions prevail.

11.104 In the Seventh Plan (1985-90) an outlay of Rs. 10.00 lakhs has been provided for implementation of the scheme.

34. Shelter Belts :

11.105 The Scheme of raising shelter belts along the coastal areas of Tamil Nadu is a scheme approved by the Government of India. The scheme envisages raising plantations in Revenue and forest lands in the coastal districts of Chengalpattu, South Arcot, Thanjavur, Ramanathapuram and Tirunelveli to act as wind brakes and to minimise damage by cyclones.

11.106 In the Seventh-Plan (1985-90) an outlay of Rs. 5.00 lakhs has been provided to raise 200 hectares of plantations.

35. Wildlife Exhibition (Centrally Sponsored Scheme)—

11.107 This scheme is also being implemented from the Sixth Plan period as a Centrally Sponsored Scheme.

11.108 The object of the setting up of permanent exhibition is to inculcate awareness in the minds of people about the conservation of Wildlife.

through display of suitable specimens, film shows, library, etc.

11.109 For the Seventh Plan, an outlay of Rs. 10.00 lakhs (full cost) has been provided for conducting exhibition on Wildlife.

CINCHONA

11.110 The Department is mainly engaged in the cultivation of Cinchona and manufacture of Quinine salts used in anti-malarials, analgesics, etc. The Department has also undertaken cultivation and processing of other medicinal and essential oil bearing crops.

11.111 It is proposed to intensify the cultivation of the Cinchona crop in the available areas adopting the latest techniques and also through vegetative propagation methods. Cultivation of Medicinal and Aromatic Plants will be enlarged to meet the growing demand within the country. Intensive research will be continued for evolving high yielding strains of Medicinal and Aromatic Plants. Analysis of soil samples and plants materials drawn from the different areas of the plantations to determine the fertiliser requirements will be continued. The factories of the department are proposed to be provided with modern equipment to maintain the quality of products to conform to the best international standards and to improve the efficiency. Manufacturing of Caffeine in the Medicinal and Essential Oils Factory at Naduvattam has been commenced under Rural Oriented Scheme. Labour welfare measures and essential basic amenities such as provision of standard quarters, extension of electricity to labour quarters, water supply, etc., will be provided. The Department has taken up a phased programme of providing standard houses to workers as per the recommendations of the Labour Housing Advisory Committee.

11.112 All the schemes implemented by this Department are in consonance with topographic and agro-climatic conditions of the regions and provide for employment of local weaker sections of society.

Performance during the Sixth Plan Period :

11.113 During the Sixth Plan an outlay of Rs. 200.00 lakhs was provided for the Cinchona Department for implementing its scheme. As against this outlay an amount of Rs. 240.44 lakhs was spent during the plan period representing 120 per cent of achievement over the target

fixed. The details of expenditure made during the Sixth Plan period is as follows ;—

<i>Year.</i>	<i>Expenditure.</i>
	(RS. IN LAKHS)
1980-81	42.02
1981-82	67.65
1982-83	43.66
1983-84	45.05
1984-85	42.06
Total	240.44

Proposals for Implementation of Plan Schemes During the Seventh Five-Year Plan :

11.114 The Cinchona Department will implement the following schemes (continuing Schemes) during the Seventh Five-Year Plan for an outlay of Rs. 2.00 crores.

<i>Serial No.</i>	<i>Name of the Schemes.</i>	<i>Financial outlay for seventh Plan period.</i>
		(RS. IN LAKHS)
1.	Scheme for Intensive Cultivation of Cinchona and Vegetative Propagation	61.46
2.	Scheme for Expansion of Medicinal and Aromatic Plants	28.57
3.	Scheme for Intensive Research on Medicinal and Aromatic Plants	5.00
4.	Scheme for Gradual Modernisation of plant and machinery and equipments for Government Quinine Factory, Cinchona and Medicinal and essential Oils Factory, Naduvattam	5.00
5.	Scheme for the provision of Buildings, roads and other amenities to workers and staff of the department	30.00
6.	Schemes for the manufacture of Caffeine from Tea Waste	19.97
		200.00

1. Scheme for Intensive Cultivation of Cinchona and Vegetative Propagation :

11.115 On account of the non-availability of fresh forest areas, the cultivation has to be repeated in the areas vacated by uprootal.

11.116 The technique of filling up the gaps did not yield the required results in terms of growth performance. The young plants had no free growth as they had to struggle against the competition from the roots of the old plants already in the field. Hence new planting is done after uprooting the bad areas and preparing the land properly. During the Seventh Plan period, 250 hectares are proposed to be brought under new cultivation bearing in mind the demand for Quinine products in the internal and international market. At present, there is a glut in demand and fall in prices. In view of this, the planting programme drawn up for the Seventh Plan period has also been restricted to 250 ha., i.e., 50 ha. per year as against larger areas taken up during Sixth Plan period.

11.117 By undertaking this cultivation, the Department will be generating an employment potential for about 300 local labourers during the plan period.

2. Scheme for Expansion and Intensive Cultivation of Medicinal and Aromatic Plants :

11.118 The subsidiary industry of cultivation of Medicinal and Essential Oil bearing crops such as Geranium, Eucalyptus Citriodora, Java Citronella, etc., started on a small scale during the sixties to augment the revenues of the department, has been successfully expanded to meet the demand from the market. Vast scope for increasing the production of oils obtained from these plants is anticipated in view of the greater use of these oils in soap, cosmetics and perfumery industries. The Department could not meet the demand due to limited production. Against this back-ground and the ample scope to expand the cultivation of these species in larger areas, the Department formulated the scheme "Expansion and Intensive Cultivation of Medicinal and Aromatic Plants". These crops are shrub and tree crops which will help conserve soil and prevent erosion. A total area of 500 hectares will be planted during the Seventh Plan period.

11.119 By undertaking this scheme about 800 locals will be provided with employment.

3. Scheme for Intensive Research on Medicinal and Aromatic Plants :

11.120 Although planting material for a number of Medicinal and Essential oil crops is available, considerable research has to be done to identify the correct and economic strains to evolve high yielders and also to determine the optimum conditions for planting, maintenance, harvest, distillation, storage of oil, etc. As such, it was found essential to intensify the research already taken up by the Department and standardise economic and profitable cultivation methods and processing techniques. Such trials will lead to reduction in cost and enable the Department to meet the increasing demands for final products and also earn larger profits. Soil analysis in a systematic manner has to be carried out in different divisions of the department to fix requirements of fertilisers. The plan materials of different crops have to be analysed to determine at the uptake of the fertilisers by the plants. The scheme 'Intensive Research and Development of Medicinal and Aromatic Plants' is envisaged to undertake the above work. Under the scheme, it is also proposed to lay Research Plots with various species and study the manurial requirements, plant protection measures, etc.

11.121 It is proposed to lay experimental plots at 3.00 ha. per year and undertake intensive research work in the department to fix up ideal conditions for the good growth of the plants and maximum yield of end products.

11.122 Additionally 2,500 Nos. of soil samples and plant material samples are proposed to be analysed.

11.123 The advanced aspects of research like pests and diseases control have been entrusted to the Tamil Nadu Agricultural University sharing the expenditure on 50:50 basis. The research work to evolve a process for the conversion of Quinine to Quinidine has also been to the Central Drug Research Laboratories, entrusted Lucknow. By implementing the scheme an average of 15 local will be provided with employment.

4. Scheme for Gradual Modernisation of plant and equipments for the Quinine Factory, Cinchona and Medicinal and Essential Oils Factory, Naduvattam :

11.124 Most of the equipments in the Quinine Factory, Cinchona were acquired at the time of commissioning the factory in 1955. Some

of the equipments have become old and obsolete. With the rapid advances in science and technology there is now an imperative need to modernise the factory. The quality of the products have to be maintained at the highest international standards for export.

11.125 The Medicinal and Essential Oils Factory, Naduvattam also needs modern sophisticated equipments for the purification and grading of Medicinal and Essential Oils. It is also proposed to provide extra equipments for increasing the production of household utility products, like Cinfresh, Cinspray and Cinomo which are in great demand.

5. Scheme for provision of Buildings, Roads and other amenities to workers and staff of the Department :

11.126 The departmental plantations and factories are situated in the remote localities in the Coimbatore and Nilgiris Districts. The residential buildings for the workers were constructed more than three decades ago and they have outlived their purpose. Construction of houses has not kept pace with the increase in the strength of the staff also. The workers quarters do not conform to the standards prescribed in the Plantation Housing Advisory Board specifications. Electricity and protected water supply are not available in many of the divisions. The roads inside the plantations are mostly fair weather roads. These basic amenities have to be provided to workers and staff members in the Department. The construction of standard

quarters for workers is obligatory on the part of the department and is proposed to be undertaken in a phased programme. As against total requirements of 1,281 labour quarters 411 labour quarters have been constructed or remodelled and work is in progress in respect of 200 labour quarters. A total number of 160 houses will be constructed during the Seventh Plan period.

6. Scheme for the manufacture of Caffeine from Tea Waste :

11.127 Caffeine is an important drug widely used in many pharmaceutical preparation. The country is not able to meet the annual requirements of Caffeine and large quantity of Caffeine are imported. Hence the increase in the local production of Caffeine will restrict the import of Caffeine and save foreign exchange to the country. There is no Caffeine manufacturing units in Tamil Nadu and Tea Waste is being taken to neighbouring States for processing. The Medicinal and Essential Oils Factory, Naduvattam has got infrastructural facilities for the manufacture of Caffeine and this department has developed its own technical know-how for the manufacture of Caffeine.

11.128 The scheme aims at providing 2.5 metric tonne of Caffeine utilising 165 metric tonne of Tea Waste available with Indco Tea Factories and TANTEA in the Nilgiris which are State sponsored or Government Undertakings. The scheme provides employment opportunities to three staff members besides providing continued employment to 15 daily paid workers.

SIXTH PLAN ACHIVEMENT AND SEVENTH PLAN TARGETS—FORESTS.

Serial number and scheme.	Sixth Five Year Plan achievements.		Seventh Five-year Plan targets.	
	Financial.	Physical.	Financial.	Physical.
(1)	(2)	(3)	(4)	(5)
	(RS. IN LAKHS.)		(RS. IN LAKHS.)	
1. SIDA aided Social Forestry.	2,967.20	BP : 1,40,380 Ha. SP : 8,129 Km. S : 668.70 lakhs.	46,00.00	BP : 53,000 Ha. SP : 1,320 Km. S : 250 millions.
2. Rural Fuelwood plantations.	486.26	BP : 23,171 Ha. AP : 677 Km. S : 290 lalhs.	200.00	BP : 13,500 Ha. SP : 750 Km. S : 500 lakhs.
3. Arignar Anna Zoological Park.	289.27	....	300.00	Development works.
4. Fuelwood plantations.	346.40	P : 23,744 Ha.	3,00.00	P : 9,000 Ha.
5. Reforestation of Degraded Forests.	257.90	P : 15,532 Ha.	2,00.00	P : 7,000 Ha.

SIXTH PLAN ACHIVEMENT AND SEVENTH PLAN TARGET—FORESTS (*cont.*)

Serial number and Scheme.	Sixth Five Year Plan achievements.		Seventh Five-Year Plan target.	
	Financial.	Physical.	Financial.	Physical.
	(1)	(3)	(4)	(5)
	(RS. IN LAKHS.)		(RS. IN LAKHS.)	
6. Wattle Plantations ..	24.92	P : 4,501 Ha.	15.00	P : 600 Ha.
7. Pulpwood plantations.	280.47	P : 1,0912 Ha. GP : 4,441 Ha. ICO : 2,871 Ha.	2,00.00	P : 2500 Ha. and carrying out ICO.
8. Research—TREE (Training, Research Educational and Extension).	46.37	....	1,00.00	....
9. Working plans ..	2.14	....	10.00	....
10. Establishment of Project formulation, Evaluation, Moni- toring and Statistics (FEMAS).	0.29	....	40.00	....
11. Tribal Sub-Plan : Afforestation, Com- munication and Buildings.	209.70	BP : 6,127 Ha. AP : 71 Km.	2,00.00	BP : 4000 Ha.
12. Sandal plantations ..	135.42	P : 850 Ha. Tending : 1,618 Ha. Bush showing : 1,185 Ha.	1,00.00	P : 400 Ha. and establishment of Sandal Estate.:
13. Minor Forest Produce.:	95.45	BP : 5,441 Ha. AP : 5 Km. ICO : 2,384 Ha.	1,00.00	P : 3,500 Ha.
14. Forest protection: ..	88.09	Strengthening the protection system.	50.00	Strengthening the protection system.
15. Labour and staff Amenities.	24.02	Provision of quarters, medical and edu- cational facilities.:	10.00	Provision of quarters, cumbles, medical and educational facilities.
16. Forest Publicity ..	7.33	Publicity materials.	20.00	Publicity matirials and establishment of Vanavalayoms.
17. Project Timber-Teak and Sanders.	39.32	2,348 Ha.	30.00	2 million trees.
18. Anamalai wild Life Sanctuary.	..	....	10.00	Developmental works.
19. Mudumalai Wildlife Sanctuary.	40.34	Developmental works.	10.00	Developmental works.
20. Schemes for the creation of sanctuary for Lion- Tailed Macaque.	27.75	Do.	5.00	Do.

SIXTH PLAN ACHIEVEMENT AND SEVENTH PLAN TARGET—FORESTS (cont.)

Serial number and Scheme (1)	Sixth Five Year Plan achievements.		Seventh Five Year Plan target.	
	Financial. (2)	Physical. (3)	Financial. (4)	Physical. (5):
	(RS. IN LAKHS.)		(RS. IN LAKHS.)	
21. Mudumalai Wildlife sanctuary.	..	..	10.00	Do.
22. Development of Guindy National Park.	12.97	Developmental work .	10.00	Do.
23. Development of Point Calimere Wildlife Sanctuary.	10.14	Do.	5.00	Do.
24. Establishment of Nilgiris Tahr sanctuary (Mukunthi Wildlife sanctuary).	6.02	Do.	5.00	Do.
25. Establishment of Marine National Park.	..	....	5.00	..
26. Captive Breeding of Crocodiles.	8.88	Breeding and construction of quarter , etc.	5.00	Breeding and improvement works.
27. Nature conservation ..	124.15	Improvement works.	50.00	Improvement works.
28. Communication (Roads).	135.30	Developmental works.	100.00	.. 20 Kms.
29. Consolidation Forests.	27.07	Transport, improved Techniques and amenities to staff and Labour.	20.00	Amenities to Labour, improvement to Buildings, etc.
30. Timber operation and Forest utilisation.	38.32	Transport, improved Techniques and amenities to staff and Labour.	10.00	Amenities to Labour, Improvement to Buildings, etc.
31. Buildings	115.90	Construction works.	50.00	Construction, etc.
32. Cashew plantations ..	36.71	P : 1,129 Ha.	10.00	ICO : 600 Ha.
33. Softwood plantations	8.01	P : 583 Ha.	10.00	P ; 300 Ha
34. Shelter Belts	21.64	P : 1,125 Ha.	5.00	P : 200 Ha.
35. Wild Life Exhibition:..	4.85	Conduct of Exhibition.	5.00	Conduct of Exhibition.

NOTE : P : Plantation.
 BP : Block plantation.
 SP : Strip plantation.
 AP : Avenue plantation.
 GP : Gap plantation.
 IOC : Intensive Cultural Operation.
 S : Seedlings supplied.

CINCHONA

SEVENTH FIVE-YEAR PLAN TARGETS.

Serial number and name of Schemes.	Physical planting and maintenance.	Financial.		
		Revenue.	Capital.	Total.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS.)				
State Plan Schemes.				
1. Schemes for Intensive Cultivation of Cinchona and Vegetative Propagation.	Planting of new 250 Ha. Cinchona.	61.46	..	61.46
2. Schemes for Expansion of Medicinal and Aromatic Plants.	Planting of Medicinal and Aromatic Oil yielding plants.	28.57	..	28.57
3. Scheme for Intensive Research on Medicinal and Aromatic Plants.	Research plots .. 15 Ha.	5.00	..	5.00
4. Scheme for Gradual Modernisation of Plant and equipments for the Quinine Factory, Cinchona and Medicinal and Essential Oils Factory, Naduvattam.	Purchase of equipments.	..	5.00	5.00
5. Scheme for provision of buildings, roads and other amenities to workers and staff of the department.	Construction of 160 labour quarters and 10 staff quarters and other amenities.	..	80.00	80.00
6. Schemes for the manufacture of Caffeine from Tea waste.	12,500 Kg.	19.97	..	19.97
		115.00	85.00	200.00

CHAPTER 12.

INVESTMENT IN AGRICULTURAL FINANCIAL INSTITUTIONS.

12.0. The long term credit needs of the agriculturists are met by the Tamil Nadu State Co-operative Land Development Bank through a net work of 182 Primary Land Development Banks situated at Block or Taluk level. These Land Development Banks provide loans for minor irrigation purposes like sinking of wells, deepening of wells, installation of pumpsets, laying of pipelines, etc., and for non-minor irrigation purposes like development of plantation crops like Coffee, Cloves, Cocoa, etc. and for diversified activities like poultry, dairying, sheep farming, etc. During the year 1984-85, Rs. 17.72 crores were disbursed as loans for these purposes.

12.1. The Primary Land Development Banks issue long term loans to farmers under normal programmes and under NABARD assisted schemes, for various purposes, by borrowing from the Tamil Nadu State Land Development Bank which in turn raises the needed funds by floatation of debentures under ordinary programmes and under special programmes.

Sixth Plan programme and Performance :

12.2. During the Sixth Five-Year Plan period (1980-85) it was programmed to issue long term loans to the extent of Rs. 80 crores (Rupees 38 crores under normal programme and Rs. 42 crores under special debenture programme). It was estimated that the above programmes would involve State Government Contributions of Rs. 550 lakhs with an equal amount of contribution from the Government of India.

12.3. Long term loans were issued to the extent of Rs. 60.42 crores during the Sixth Five-Year Plan period. The funds required for the issue of long term agricultural loans were raised by the Tamil Nadu Co-operative State Land Development Bank through floatation of debentures. The details of Sixth Plan Outlay and the performance were as given below :—

Serial number and name of the Scheme.	Sixth Plan Outlay.	Expenditure 1980-85.
(1)	(2)	(3)
	(RUPEES IN CRORES.)	
1. Contribution towards normal debentures ..	2.15	1.35
2. Contribution towards special debentures ..	3.35	1.57
Total ..	5.50	2.92

12.4. The shortfall in the performance of the Sixth Plan Outlay was due to ineligibility of a number of Primary Land Development Banks for unrestricted lending due to heavy overdues at the members' level and also reduction of the rate of Government contribution in the case of special debentures with effect from 1st September 1981.

Seventh Five-Year Plan (1985-90) Programme :

12.5. During the Seventh Five-Year Plan period it has been programmed to issue long term loans to the extent of Rs. 120 crores fixed by the Union Planning Commission (Rs. 25 crores under normal programme and Rs. 95 crores under special debenture programme). The State Government contributions for the above programmes has been fixed at Rs. 510 lakhs with an equal amount of contribution from the Government of India. The details of the schemes are explained below :—

1. Contribution towards the debentures of the Tamil Nadu Co-operative State Land Development Bank for normal transactions :—

12.6. The State Land Development Bank raises the needed funds for issue of long term loans through the floatation of ordinary and special debentures. According to the existing guidelines of the NABARD, the issue of loans for minor irrigation purposes and other diversified purposes shall be only on schematic basis with refinance facilities from NABARD. The issue of loans under normal programme is limited to purposes like laying pipelines, cattleshed, farmhouse, fencing of lands, discharge of prior debts, etc. The object of the scheme is to enable the State Government to make their contribution in the ordinary debentures of the State Land Development Banks and to claim matching contribution from the Government of India.

12.7. The ordinary debenture programme of the State Land Development Bank is fixed by the NABARD taking into account the internal resources to be involved in the normal lending programme. The internal resources of the bank have already been absorbed in heavy overdues. It is, therefore, necessary that the entire ordinary lending programme is fixed as ordinary debenture programme without any involvement of internal resources in ordinary lending programme. Under normal programme, it is proposed to issue loans to the extent of Rs. 5 crores during each year of the Seventh Plan. This can be achieved

only when the recovery performance of Land Development Banks, which is currently not satisfactory due to successive natural calamities in the recent past and also other factors, etc., is improved.

12.8. In the case of normal debentures, the State Government's contributions are generally estimated at 5 per cent of the total debenture programme on a matching basis by Government of India. The actual amount to be contributed by the State Government is however indicated by the NABARD every year taking into account the support that would be forthcoming from agencies like Life Insurance Corporation, State Bank of India, other Commercial Banks and sister State Land Development Banks. With reference to the lending programme of Rs. 5 crores per year, the State Government contribution to the normal debentures is estimated at Rs. 25 lakhs every year at 5 per cent of the lending programme. A total capital provision of Rs. 125 lakhs is thus proposed for the Seventh Plan period.

2. Contribution towards the debentures of the Tamil Nadu Co-operative State Land Development Bank for special scheme :—

12.9. The State Land Development Bank raises the needed funds for issue of long term loans for the development of minor irrigation and non-Minor Irrigation purposes by way of floatation of special development debentures. According

(a) Minor Irrigation .. .. .	..	..	..	..	..	..	..	..
(b) Non-Minor Irrigation (diversified) :								
(i) Identified Small Farmers .. .. .	..	..	..	..	..	..	..	..
(ii) Other Small Farmers .. .. .	..	..	..	..	..	..	..	..
(iii) Other than Small Farmers .. .. .	..	..	..	..	..	..	..	..
(c) Farm Mechanisation .. .. .	..	..	..	..	..	..	..	..

12.12. Out of the total projection of Rs. 95 crores under special lending programme during the Seventh Five-Year Plan period ;—

(i) a sum of Rs. 20 crores will be for Minor Irrigation and non-Minor irrigation (diversified) in respect of identified small Farmers.

(ii) a sum of Rs. 43.60 crores will be for non-minor irrigation (diversified) in respect of other small farmers and other than small farmers and.

(iii) a sum of Rs. 31.40 crores will be for Farm Mechanisation.

to the existing guidelines of the NABARD, issue of loans for minor irrigation purposes like sinking of new irrigation wells, installation of pumpset, deepening of existing wells and other diversified purposes like plantation crops, sheep breeding, poultry development, dairying, etc., shall be done only on schematic basis with refinance facilities from NABARD. The object of the scheme is also to make Government contribution in the special debentures of the State Land Development Bank and to claim matching contribution from the Government of India.

12.10. The projection for lending under this scheme / programme is given below :—

Year.	Amount.
	(RUPEES IN CRORES.)
1985-86	15
1986-87	15
1987-88	18
1988-89	22
1989-90	25

Total	95

12.11. The debentures floated by the State Land Development Bank under this schematic basis are subscribed by the NABARD, State Government and Government of India at the following rates from 1st September 1981 onwards ;

	NABARD	State Government.	Government of India.
	(IN PER CENT.)		
(a) Minor Irrigation	95	2.5	2.5
(b) Non-Minor Irrigation (diversified) :			
(i) Identified Small Farmers	95	2.5	2.5
(ii) Other Small Farmers	90	5	5
(iii) Other than Small Farmers	85	7.5	7.5
(c) Farm Mechanisation	75	12.5	12.5

12.13. This will enable the borrowers to develop their lands. A total capital provision of Rs. 385 lakhs is only proposed under this scheme during the Seventh Five-Year Plan period.

12.14. The amount of State Government contribution towards ordinary debentures and special development debentures during the year 1984-85 is Rs. 25 lakhs and Rs. 52 lakhs respectively. The Seventh Plan Outlay for these schemes and the phasing of the outlay is exhibited in the table below.

SEVENTH FIVE YEAR PLAN 1985-90.

INVESTMENTS IN AGRICULTURAL FINANCIAL INSTITUTIONS.

DETAILS OF SCHEMES AND BREAK DOWN OF FINANCIAL OUTLAY YEARWISE.

(RUPEES IN LAKHS.)

<i>Serial number and name of the Scheme.</i>	<i>Seventh Plan (1985-90) Outlay.</i>	<i>Year-wise phasing outlay.</i>				
		1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Contribution towards the debentures of the Tamil Nadu Co-operative State Land Development Bank for Normal Transactions	125.00	25.00	25.00	25.00	25.00	25.00
2. Contribution towards the debentures of the Tamil Nadu Co-operative State Land Development Bank for special schemes ..	385.00	25.00	75.00	85.00	95.00	105.00
Total ..	510.00	50.00	100.00	110.00	120.00	130.00

CHAPTER 13.

MARKETING, STORAGE AND WAREHOUSING.

Introduction :

13.0 The main purpose of all agricultural developmental programmes is improvement of the economic conditions of the farmers. This cannot be achieved unless the farmer is enabled to obtain proper prices for his produce.

13.1 In order to ensure such fair prices financial provisions are made in the plans for the Marketing, Storage and Warehousing schemes which provide the necessary facilities to the farmers.

Performance during Sixth Plan period :

13.2 An outlay of Rs. 500.00 lakhs has been provided in the Sixth Five-Year Plan 1980-85 under 'Marketing, Storage and Warehousing'. Against this outlay an amount of Rs. 406.45 lakhs has been spent during the Sixth Plan period. The financial achievement under this Head is as follows :—

(RUPEES IN LAKHS.)

<i>Head of development.</i>	<i>Base year 1979-80 Level.</i>	<i>Sixth Plan 1980-85 Target.</i>	<i>1980-81 Actuals.</i>	<i>1981-82 Actuals.</i>	<i>1982-83 Actuals.</i>	<i>1983-84 Actuals.</i>	<i>1984-85 Anticipated achievement.</i>	<i>Total Achievement for the Sixth Plan.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Marketing, Storage and Warehousing	30.94	500.00	59.59	59.03	110.20	84.63	93.00	406.45

13.3 It may be seen that an amount of Rs. 406.45 lakhs has been spent as against the outlay of Rs. 500.00 lakhs provided for the Sixth Plan period. The reason for the shortfall in the expenditure, which is 81.29 per cent of the Sixth Plan Target is due to the lesser expenditure on Agricultural Marketing Schemes.

I. AGRICULTURAL MARKETING.

13.4 Agricultural marketing programmes aim to regulate the processing, grading, packing and marketing of agricultural produce. Regulation of Agricultural marketing through the Establi-

ment of modern market yards, facilities for proper storage, arrangements for advancing credit, transport and plant protection facilities, dissemination of market intelligence, quality control and Agmarking facilities besides the provisions of amenities like rest sheds for farmers and cattle, water droughts, bank extension corners, etc. constitute major activities of the Agricultural Marketing Department.

13.5 The financial outlay and the achievement during the Sixth Plan Period under Agricultural Marketing schemes are as follows :—

<i>Serial No.</i>	<i>Year</i>	<i>Expenditure (Rs. in lakhs)</i>	<i>Serial No.</i>	<i>Year.</i>	<i>Expenditure (Rs. in lakhs)</i>
1.	Base year 1979-80	8.98	5.	1982-83	66.30
2.	Sixth Plan 1980-85 outlay	300.00	6.	1983-84	28.89
3.	1980-81	22.20	7.	1984-85 (RE)	29.62
4.	1981-82	23.70	8.	Total Sixth Plan Expenditure	170.71

13.6 As against the outlay of Rs. 300.00 lakhs provided for the schemes under Agricultural Marketing Department for the Sixth Plan Period, only an amount of Rs. 170.71 lakhs has been spent during the plan period representing 56.9 per cent.

Programmes for Seventh Five-Year Plan :

13.7 An amount of Rs. 500 lakhs is provided for Agricultural Marketing schemes including an amount of Rs. 200 lakhs for the schemes with World Bank Assistance. The following schemes are proposed to be implemented during the VII Five-Year Plan period by the Agricultural Marketing department.

<i>Serial number and name of scheme.</i>	<i>Seventh Plan Outlay.</i>
	(RS. IN LAKHS.)
Agricultural Marketing :—	
1 Scheme for the establishment of five state Agmark Labs.. ..	15.25
2 Scheme for construction of buildings for twelve Agmark Labs ..	42.00
3 Scheme for establishment of two kapas grading centres	4.35
4 Strengthening of Department of Agricultural Marketing ..	53.50
5 Construction of buildings for Directorate of Agricultural Marketing	38.00
6 Scheme for establishment of processing units in selected Regulated Markets	61.82
7 Scheme for Establishment of Vigilance and enforcement Squads	25.95
8 Scheme for establishment of Publicity and Propaganda Units.	21.53
9 Scheme for improvement in commercial grading in Regulated Markets	37.60
10 Agricultural Marketing schemes with World Bank Assistance ..	200.00
Total ..	500.00

1. Scheme for the establishment of State Agmark Grading Laboratory.

13.8 The State Department of Agricultural Marketing is taking up Agmark Grading of Vegetable Oils, ghee, honey, ground spices like turmeric, coriander powder, etc. Agmark Grading ensures supply of quality products to the consumer public and help to prevent adulteration of these commodities which are widely used by the public. Representative samples of these commodities are taken by the Agricultural Officers and are periodically tested for their quality in Agmark Laboratories as per specifications laid down by the Government of India. The samples which confirm to the standards laid down are given Agmark seals entitling the entire bulk product from which samples drawn for their quality approval and better prices.

13.9 There are at present 36 Agmark Laboratories in the State distributed all over Tamil Nadu, undertaking such quality work. During the Seventh Plan, it is proposed to establish five more Agmark Laboratories in important commercial centres which do not have any laboratory at present. It is programmed to establish the laboratory every year during the seventh plan period, and the total expenditure involved is Rs. 15.25 lakhs for the establishment of five Agmark Laboratories.

2. Construction of building for the existing Agmark Laboratories :—

13.10 There are at present 36 Agmark Laboratories functioning in Tamilnadu. Out of this, only ten Agmark Laboratories are functioning in own buildings. The Laboratories which are functioning in private buildings do not have proper facilities for laboratory work. Further, exorbitant rents are also being demanded by the landlords and so it is proposed to construct six buildings to accommodate 12 Laboratories during the Seventh Plan period at a total cost of Rs. 42.00 lakhs, each laboratory costing Rs. 3.50 lakhs.

3. Establishment of Kapas Grading :

13.11 Kapas Grading is being advocated in the Regulated Market to make the farmers quality conscious about cotton produce tendered by them in the Regulated Markets, and also to help the farmers to get better prices for their produce by virtue of the uniform quality of the produce supplied by them. Grading also helps in pooling produce from different sources and securing more competitive prices. There are

at present 11 kapas grading centres in the major cotton growing areas in the State helping farmers to grade their produce and also to get better price for their produce. Two more centres one in Thanjavur District and another at Tirunelveli District are proposed at an estimated cost of Rs. 4.35 lakhs.

4. Strengthening of Department of Agricultural Marketing :

13.12 After the formation of the Department of Agricultural Marketing, many new schemes have been introduced in the State as follows :—

1. Establishment of 21 new Agmark Labs.
2. Establishment of 50 New Commercial Grading Centres.
3. Establishment of Kapas Grading Scheme at Sathyamangalam.
4. Establishment of Producers' Level Grading Centres at Villupuram and Punjaipuliampatti.

13.13 The eight Assistant Directors of Agriculture existing from the beginning look after all these schemes. As the jurisdiction is wide and unmanageable, since such Assistant Director of Agriculture (Marketing) has to cover two districts at present with Assistant Director of Agriculture (Marketing) Coimbatore having to look after the scheme work in three districts, need for more compact management units is felt. If the jurisdiction of the Assistant Director of Agriculture (Marketing) is confined to one district as in other Departments he can enforce the quality control work of Agmark Labs, Commercial Grading and Kapas Grading Works, more effectively. Hence, it is proposed to have one post each of Assistant Director of Agriculture (Marketing) in five more District Headquarters in the following places, viz., Erode, Dharmapuri, Thanjore, Virudhu nagar and Nagercoil on an outlay of Rs. 53.50 lakhs during the seventh Five Year Plan period.

5. Construction of office building for the Directorate of Agricultural Marketing:—

13.14 During the short span of about seven years since the formation of the new Department of Agricultural Marketing marked improvements are seen in different wings of the Department. Few of the salient achievement are given below :

(a) Number of functioning market committees increased from eleven to thirteen.

(b) More Regulated Markets, were opened in important places raising the total to 264 as on date.

(c) Arrivals of Agricultural Commodities to the Regulated Markets substantially increased.

(d) Number of Agmark laboratories increased from 13 to 36.

(e) Revenue collection of Market Committees substantially increased.

(f) Number of farmers taking advantage of the Regulated Markets have also been increased.

(g) Number of Commercial Grading Centres increased from 52 to 102.

13.15 It is needless to state that permanent buildings are to be provided for this Directorate of Agricultural Marketing at Trichy, since the department pays Rs. 0.40 lakh as rent for its office accommodation in Trichy. Provision of permanent building alone will minimise this enormous recurring expenditure. During Seventh Five Year Plan period, a sum of Rs. 38.00 lakhs towards the constructions of building for this Directorate at Trichy is provided.

6. Scheme for provision of Processing units in Selected Regulated Markets :

13.16 Processing facilities are essential requirements for orderly marketing. But the farmers are unable to pay much attention to this aspect. They generally dispose of their produce in the raw form, with minimum amount of cleaning and drying. Cotton kapas are mostly disposed of as such and in the case of groundnut it is sold in the form of pods in major areas of the State.

13.17 If Kapas and groundnut are sold in the processed form as lint and kernal respectively, the farmers will get more returns. The trader who buys unshelled groundnut tends to quote low price. Similarly, the millers and wholesale dealers in cotton always quote lower price because of element of doubt in the out turn of lint. Thus, the farmers are deprived of their due share of profit on the price paid for kernal or lint by different procuring agencies. The farmers also may avoid unnecessary transport charges when they sell their produce in the processed form. Moreover, setting up processing units in Regulated Markets will improve market arrivals in the Regulated Markets where the facilities are created.

13.18. Hence it is proposed to establish ten ginning, five groundnut decorticating and eight Turmeric polisher units in selected regulated markets, where these produce are assembled in large quantities to enable the farmers to get more return when they sell their produce in the processed form. Nominal processing charges will be collected from the farmers. The financial outlay for this proposal is Rs. 61.82 lakhs.

7. Schemes for the Establishment of Vigilance and Enforcement Squad :

13.19 The main source of the income for market committee is market fee and licence fee. The Superintendents/Supervisors of Regulated Markets are responsible for collecting these fees. The market fee for the transactions taking place within the premises of the traders are collected through the accounts rendered by the traders themselves. Usually the traders have their own system of maintaining records to evade the payment of market fees and their trading activities have to be closely watched for the entire quantum of produce handled by them. The present system lends itself amenable for evasion of fees due to the market Committees. The limited number of staff available at present are not sufficient to tackle generally a large number of trading premises in the market area. So, there is considerable revenue loss for all the market committees.

13.20. The existing system of collection of market fees can be further improved by surprise and periodical inspection by an agency not directly under the control of Market Committee. The proposed Vigilance and Enforcement Squads will work under the direct control of Director of Agricultural Marketing. These squads will take up surprise inspection of traders dealing in notified commodities, thereby avoiding the evasion of market fees and licence fees. To start with it is proposed to establish such squads with headquarters at Trichy, Madurai, Coimbatore and Vellore at a total outlay of Rs. 25.95 lakhs. It is expected that the income of the market committee will increase and with that they can provide more amenities to farmers in the Regulated Market.

8. Scheme for the Establishment of Publicity and Propaganda Units.

13.21. The Department of Agricultural Marketing has established 264 numbers of Regulated Markets in this State with a view to

help the farmers to get better price for their produce. Due to dominance of private merchants and commission agents, the arrivals of agricultural produce are meagre compared to the marketable surplus. Further the farmers being mostly illiterate, do not have proper knowledge of the advantages of selling their agricultural produce in Regulated Markets. To help the farmers, largely, the message on inherent advantages in the integrated system of Regulated Marketing have to be carried to the doorsteps of all the rural house holds.

13.22. Similarly the consuming public should be made aware of the evil effects of adulteration in the food articles and they should be exhorted to buy only quality food stuffs graded under Agmark Seals. Adequate attention has not been paid in this item of work in Tamil Nadu. To realise these objectives effective publicity and propaganda units are necessary and adequate measures have to be taken to enlighten the rural mass and consuming public through leaflets, handouts, cinema slider, wall paintings and other audiovisual equipments.

13.23. It is proposed to have four publicity and propaganda units in the place at Vellore, Salem, Thanjavur and Tirunelveli initially during the Seventh Plan period at an outlay of Rs. 21.53 lakhs.

9. Scheme for the Improvement of Commercial Grading in Regulated Markets.

13.24. Commercial Grading facilities are already provided in a number of Regulated Markets in Tamil Nadu to make the producers to realise the importance of grading of agricultural produce before sale, and to place him in a better bargaining position in the transaction. Necessary grading equipments are not provided still in about 50 commercial grading centres due to financial constraints and in about 25 commercial grading centres only moisture meters have been provided. The inadequacy of grading equipments is often felt when the dispute arises between the trader and grading staff on the quality factors and such hurdle is to be removed as to improve the efficiency in grading. Hence it is proposed during this plan period to provide all the necessary grading equipments in the above commercial grading centres at a cost of Rs. 6.00 lakhs.

13.25. There is also difference in the staff pattern in the existing 50 commercial grading centres, in which only Graders in the cadre of

Assistant Agricultural Officers are working. In the remaining 52 centres an Agricultural Officer, Assistant Agricultural Officer and Laboratory boy are working. Now the work load in these 50 centres have increased considerably. Besides they are undertaking grading of agricultural produces at the farm level also. To have uniform staff pattern in all commercial grading centres and to cope up the increased work it is proposed to create posts of an Agricultural Officer and laboratory boy in these 50 centres for an outlay of Rs. 31.60 lakhs during this plan period. These personnel will also take care of the storage of agricultural produce to be stocked by the farmers in the rural godowns being built with central assistance in 89 Regulated Markets in this State. The total outlay for establishment and towards the purchase of grading equipments is about Rs. 37.60 lakhs.

II. SEED CERTIFICATION DEPARTMENT.

A. Seed Certification (Marketing, storage and warehousing-Agricultural Marketing and quality control) :

13.26. Seed Certification is a process designed to secure, maintain and make available certain prescribed levels of genetic purity, physical purity-

and physiological quality of superior cross varieties.

13.27 The main functions of the Department of Seed Certification is regulatory and it has to certify the seeds offered for Certification as per Seeds Act, 1966. The process involves verification of source of seeds, registration of application, field inspections at prescribed times from Vegetative to harvest stage, supervision of post-harvest operations like thrashing, processing, taking of samples and tagging.

13.28 Since, the functions of this Department are regulatory in nature and the Seed Certification is voluntary as per Seed Act, 1966, no specific physical target can be fixed. The crop offered for certification alone can be taken up for certification. In fact, the achievement of physical target of area under each crop mainly depends upon the voluntary co-operation and programmes of the Seed Producers both in Public and Private sectors apart from the various development activities of the Department of Seed Certification at field level. The following is the target and achievement made under Seed Certification programme during the Sixth Plan period.

PHYSICAL TARGET AND ACHIEVEMENT DURING THE SIXTH PLAN.

<i>Serial number and details.</i>	1980-81	1981-82	1982-83	1983-84	1984-85	<i>Total for Sixth Plan.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
I. SEED CERTIFICATION SCHEME—						
<i>(a) Area Registered (in hectares)—</i>						
(1) Target	11,800	14,000	14,000	16,000	18,000	73,800
(2) Achievements	12,725	17,226	16,911	15,021	23,352	85,235

Physical target and achievement during the Sixth Plan.

13.29 While formulating the projections for the Seventh Plan period 1985-90 the programme of Seed Producers such as the Department of Agriculture, Oilseeds and Horticulture, during the Sixth Plan period has

been taken into consideration, besides the area that would be offered for Certification by Private Producers, based on the past trend. The Physical Target with Annual Phasing fixed crop-wise and year-wise for implementation during the Seventh Plan period 1985-90 is furnished below :

PROGRAMME FOR THE SEVENTH PLAN (1985-90).

UNIT IN HECTARES.

Serial number and Crop.	Seventh Five-Year Plan (1985-90).					Total for five years.
	1985-86	1986-87	1987-88	1988-89	1989-90	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SEED CERTIFICATION—						
1. Paddy	8,800	10,400	11,600	11,600	11,600	54,000
2. Variety millet	750	800	850	900	1,000	4,300
3. Hybrid millet	3,200	3,400	3,600	3,800	4,000	18,000
4. Variety cotton	2,300	2,400	2,500	2,600	2,700	12,500
5 Hybrid cotton	325	350	376	400	424	1,875
6. Pulses	4,240	4,320	4,400	4,540	4,800	22,300
7. Oilseeds	650	700	750	800	850	3,750
8. Vegetables	475	500	524	550	576	2,625
Total	20,740	22,870	24,600	25,190	25,950	1,19,350

13.30 For achieving the above physical target the additional technical staff based on the norms and yardstick and also supporting non-technical staff at Office level are absolutely necessary.

13.31 New Schemes and Training Programmes are proposed to be implemented during the Seventh Plan period.

Agricultural Marketing and Quality Control Schemes :

Serial number and Scheme.	Seventh Plan Outlay. (RS. IN LAKHS.)
1. Annual Plan Schemes (1985-86 and 1986-87)	25.75
2. Establishing a Seed Certification Farm with an extent of 30 ha. for conducting grow-out test; imparting Crop Certification Training to staff and Seed Producer-Grower	25.24
3. Provision of mobility to the Deputy Director of Agriculture (Seed Certification) and field	

4. Provision of Communication facility to the Deputy Directors of Agriculture and Assistant Directors of Agriculture (Seed Certification)

8.70

5. Provision of Safety Racks (Iron) for storage of certificate tags..

4.00

6. Strengthening of the Training Wing, Establishment of Printing Press and setting up of a Seed Processing Complex to give training

19.37

7. Sanction of Additional Agricultural Officers based on the increase in area under Certification during the Seventh Plan period

55.66

Total

143.00

1. Establishment of Seed Certification Farm with an extent of 30 hectares for conducting Grow-out-Tests and to impart training on Seed Certification to staff and Producer-Growers

13.32. The provision of a farm separately to this Department to conduct grow-out-tests for Hybrid Cotton and its parents and to test all foundation seeds of Hybrid Crops; impart practical training to staff/producer-growers on identification of new varieties released by raising an assembly of crops for inspection and study of crops; new developments in Seed Production Science and Technology and Demonstrate the practical aspects in Seed Certification Programmes.

13.33. Grow-out-tests are conducted for Hybrid Cotton Seeds and its parents to ensure minimum Seed Certification Standard. To conduct Grow-out-Test for a single sample, with its control for comparison, an area of 2 cents are required. During 1984-85, more than 3,000 samples have been received and grow-out-tests have been laid out in a small areas of land in Sathyamangalam, Mettur, Inungur, Vadagarai, Navlack, Bhavani-sagar State Seed Farms belonging to the Agriculture and Oilseeds Departments as a temporary measure. To conduct the grow-out-tests and for providing training, it is essential to have an exclusively separate farm with an extent of 30 hectares. The Government of India will bear 50 per cent. of the cost of land under its assistance programme.

2. Provision of Mobility to the Deputy Directors of Agriculture (Seed Certification).

13.34. It is necessary to provide mobility (Car) to the Deputy Directors of Agriculture (Seed Certification) Coimbatore and Madurai in view of the following reasons:—

(1) Deputy Directors of Agriculture (Seed Certification), has to undertake frequent inspections of Seed Production Plots. He has also to make surprise inspections to Seed Plots and Processing Centres.

(2) He has to undertake re-inspection of Seed Plots in case of appeal by Seed Producers and also take Seed Plot Inspection for confirming the liable for Rejection Report issued by Agricultural Officers (Seed Certification).

(3) He has to make inspections in various stages of post-harvest operations like thrashing, processing, sampling, bagging, tagging and revalidation.

(4) Arranging Co-ordination/Training and Promotional Activities on Seed Certification in various places in his jurisdiction among Sister Department, Q1431 Government and Private Producers and Distributors and Research Stations.

(5) Arranging Grow out-Test Plots and Inspection of Grow-out-Test Plots.

13.35 To perform the above functions effectively and to ensure the quality of seeds certified, it is necessary that the Deputy Directors of Agriculture (Seed Certification) are provided with cars.

3. Provision of Communication Facilities.

13.36 The Seed Producers such as National Seeds Corporation, Co-operative Institutions, Private Traders, other farmers and Government sectors have to approach Assistant Directors of Agriculture (Seed Certification) for fixing up programme of field inspections of the concerned Agricultural Officers (Seed Certification), programmes for processing, tagging, revalidation and for getting information regarding the germination, results, grow-out-test result and stock of tags and other information and Seed Certification.

13.37 The Seed Producers have to contact the Deputy Directors of Agriculture (Seed Certification) for confirmation of liable for rejection, appeal on the rejection order issued, fixing of reinspection dates, allocation of staff in peak season, information about grow-out-test results, availability of breeder and foundation seeds, etc.

13.38 At present, they have to go to the office of the Deputy Directors of Agriculture (Seed Certification) and Assistant Directors of Agriculture (Seed Certification) for getting such information. Since, Deputy Directors of Agriculture (Seed Certification) are touring officers, they may not be able to meet them when they are not at their headquarters. If there is phone facility, they can obtain information on phone and also ascertain the time when Deputy Directors of Agriculture (Seed Certification) will be available for discussion.

13.39 Therefore provision of telephones to each of the Assistant Directors of Agriculture and Deputy Directors of Agriculture is quite essential.

4. Provision of Safety Rack (Iron) for Storage of Certificate Tags.

13.40 The most important symbol of Certification is the tag of seal of the S.S.C.A. This is printed by Government under security conditions

and stocked and sold and accounted by Director of Seed Certification through his Deputy Directors of Agriculture and Assistant Directors of Agriculture. The number per years runs into 30 lakhs of Blue, White-tags-cloth bound and machine numbered. Safety of storage and accounting is of paramount importance. Loss due to white ants, moisture, fire, theft, etc., should be prevented. At present provision and facilities for storage of the huge stock at the Regional/Sub Divisional Level have not been provided. Hence, accounting has become a problem as well as safety.

13.41 It is therefore very essential and felt need for supply of a minimum of 5 Steel lockers Rack Type for each office to be supplied through TANSI, or any Government Unit at a cost of Rs. 5,000 each unit with Safety Lock arrangements. Hence, 80 such lockers are needed at a cost of Rs. 4. lakhs which will meet the cost of investments.

5. Strengthening of Training Wing.

13.42 Training is an important aspect in Seed Certification. Training is a continuous process due to continuing development in Seed Production Technology, changes in Certification Standards, Rules and Procedures and evaluation of new varieties of crops. The Certification staff should keep pace with these developments and changes.

13.43 At present there is no separate staff for this purpose. The existing staff are having enough workload for performing the statutory functions on Seed Certification and it is not possible to utilise them for this purpose without detriment to their normal functions. The proposed wing will also be incharge of propaganda and publicity.

13.44 The training programmes and promotional work will be as follows :—

(a) Training of new recruits (Agricultural Officers—Seed Certification) before they are put in independent regular charge:

13.45 The duration of training will be of one month or more based on actual experiments when the scheme is implemented. The course content will consist of seeds act, certification rules and procedures and also practical training in inspections, processing, sampling, tagging and identification of varieties of crops.

(b) Seasonal re-orientation training:

13.46 This is meant for all the Agricultural Officers (Seed Certification) in batches, each batch consisting of about 10 Agricultural Officers. The duration will be one week or more depending on the need. The course content will be changesa

in rules and procedures, new development in Seed Production Technology and identification of new varieties released and taken up for certification.

(c) Training to Seed Producers and Growers :

13.47 The training would be of one day's duration for each crop. The training would be available to private producers and growers and also to staff of the Agriculture Department involved in certified seed production as well as Quasi-Government Organisations or Co-operatives. All the major crops would be covered and the training would be at the District or Divisional Level depending upon the intensity of certified seed production in the area. The course content will be oriented towards the practical aspects to be followed in certified seed production.

13.48 In order to strengthen the Training Wing, it is proposed to set up (1) a Seed Processing Unit Complex, (2) Science and Trade Library for working Certification and Inspection staff, (3) an Off-set Printing Press. The Seed Science Library will be the Knowledge Power House for staff; the Seed Processing Unit will be utilised to give training to staff and Producer-Growers in the process of cleaning, thrashing, processing and tagging, (4) for giving short courses of Inservice and Refresher Training to staff, the staff and personal of Private Seed Farm Growers, Seed Nurseryman, Seed Distributors, Quasi Government/Co-operative Societies and (5) finally a Orientation Course for Officers of Sister Departments like Co-operative Seed Societies, Animal Husbandry, State Farm Corporation, Marketing and Agricultural Seed Centre Personnels.

6. Sanctioning of additional Agricultural Officers (Seed Certification) to cover the additional area proposed to be brought under Seventh Five-Year Plan with supporting office staff :

13.49 The area under Seed Certification which is 8,000 hectares at the end of Sixth Five-Year Plan is proposed to be increased to 25,950 hectares by the end of Seventh Five-Year Plan with a gradual increase every year, taking into consideration of the needs of private seed growers as well as the Seed Production Programme of Agricultural Department as per National Seed Production Programme Phase III.

13.50 Seed Certification work is an intensively professionalised personnel based programme where each field of the seed crop offered has to be personally and scrupulously and scientifically scrutinised

The personal efficiency and sincerity of the professionalised Agricultural Certification Officer alone counts the fate of any high yielding strain of Hybrid crop to continue in the field of the farmer.

13.51 Hence, purity of seeds and its true to the original type released by the Breeder can be sustained and substantially utilised for the benefit of the producer and ultimately to the consumers, only when there is trained scrutinising Certification staff. So, the strength of trained staff is essential over the plan period 1936-1990 and with a small complement of Assistant to the second level officers to supervise and guide the Field Officers.

(b) Seed Inspection (Agriculture-Crop Husbandry-Multiplication and Distribution of Seeds):

13.52 The concept of using good quality seed for better production has considerably increased

among farmers. Almost all released varieties are being notified now and then under the Seeds Act, 1966 and seeds of these varieties begin to flow steadily to the network of sales points for sales to the farmers. As the seed industries grow, there is every likelihood of increasing violations of Seed Laws by dealers allowing entry of sub-standard and spurious, seeds in the market. To have an effective check on such activities, the Seeds Act, 1966 has paved the way for the regulatory control on the quality of seeds (notified varieties only) to be sold to farmers. The Seed Inspection Wing organises inspections and pursues legal action when violations are noticed.

13.53 For the Sixth Five-Year Plan a target of 5,000 per year was fixed for taking seed sample and a target of 5,000 Nos. per year was fixed for inspection of seed selling Points. The following is the target and achievement made under Seed inspection Programme during the Sixth Plan period.

INSPECTION PROGRAMME DURING THE SIXTH PLAN PERIOD.

PHYSICAL TARGET AND ACHIEVEMENT FOR THE SIXTH PLAN.

Serial number and details.	1980-81.	1981-82.	1982-83.	1983-84.	1984-85.	Total for Sixth Plan.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
II. Seed Inspection :						
(a) Number of Selling Points Inspected—						
(1) Target	4,400	5,000	5,000	5,000	19,400
(2) Achievement	1,145	5,737	8,066	7,790	22,738
(b) Number of Seed Samples drawn—						
(1) Target	2,200	5,000	5,000	5,000	17,200
(2) Achievement	1,297	3,932	5,141	4,950	15,320

Physical target and achievement for the Sixth Plan

13.54 The Public Sector Departments like Agriculture, Oilseeds, Horticulture and also private agencies engaged in Seed production have increased their seed production.

13.55 To maintain the standard of seed distributed through selling points frequent inspection and drawing of seed samples and testing them are necessary.

13.56 The Seed (Control) Order, 1983 (under Essential Commodities Act) has increased the activities of the seed inspection staff to have more inspections and follow-up action in this regard.

13.57 During Seventh Five-Year Plan, it is proposed to increase the target under Inspection of Seed Selling Points and taking Seed Samples for Testing as furnished in the table below :

TARGET FOR THE SEVENTH FIVE YEAR PLAN (1985-90).

Serial number and item.	Seventh Five-Year Plan 1985-90.					Total for seventh Plan.
	1985-86 Target.	1986-87 Target.	1987-88 Target.	1988-89 Target.	1989-90 Target.	
<i>Independent Seed Inspectorate—</i>						
1. Number of Inspection of Sale Points.	5,400	5,800	6,200	6,600	7,000	31,000
Total ..	5,400	5,800	6,200	6,600	7,000	31,000
2. Number of samples to be taken.	5,400	5,800	6,200	5,600	7,000	31,000
Total ..	5,400	5,800	6,200	6,600	7,000	31,000

13.58. In order to meet the increasing need it is proposed to strengthen the Seed Inspectorate with additional Offices under overall supervision of a separate Deputy Director of Agriculture (Seed Inspection) at Coimbatore. The Assistant Directors of Agriculture (Seed Inspection) have to be provided with suitable mobility for effectively and independently carrying out their functions.

13.59. The transfer of Seed Testing Laboratories under the control of the Department of Seed Certification is under the consideration of the Government and the scheme to strengthen them is included in these proposals.

13.60. The following schemes are proposed under Seventh Five-Year Plan:—

(1) *Agriculture—Crop Husbandry—Multiplication and Distribution of Seeds Schemes.*

Serial number and scheme.	Seventh Plan Outlay. (2) (RS. IN LAKHS)
1. Strengthening of Seed Inspectorate.	44.62
2. Provision of mobility to Assistant Director of Agriculture (Seed Inspection)	9.50
3. Establishment of new Seed Testing Laboratories	102.48
4. Strengthening of Seed Testing Laboratories	0.40
Total ..	157.00

1. STRENGTHENING OF SEED INSPECTORATE

13.61. In order to intensify the inspection work, the creation of the following new offices are proposed.

13.62. One Deputy Director of Agriculture at Coimbatore will be incharge of the entire seed inspection work in the State. He will be assisted by minimum staff.

13.63. Four Assistant Directors of Agriculture (Seed Inspection) will be required one each at (1) Tirunelveli, (2) Thanjavur, (3) Salem and (4) Madras.

2. PROVISION OF MOBILITY TO ASSISTANT DIRECTOR OF AGRICULTURE (SEED INSPECTION).

13.64. There are five Assistant Directors of Agriculture (Seed Inspection) in this Department. Their main functions are—

(1) The Assistant Directors of Agriculture have to conduct inspections of Seed Selling Points located in remote areas which are not easily accessible.

(2) The Assistant Directors of Agriculture (Seed Inspection) have to collect samples of seeds from various selling points and to transport them in a public conveyance is very difficult, considering the safety of the samples taken. If any information on the distribution of spurious seeds to farmers are received, they have to rush up to the spot to arrest further flow of sub-standard seeds. They cannot completely rely on public conveyance for this, as the selling points are situated in remote places.

13.65. Hence, provision of mobility to the Assistant Directors of Agriculture (Seed Inspection) is necessary.

13.66. Provision is therefore made for purchase of five jeeps and employment of five light vehicle drivers to man them.

3. ESTABLISHMENT OF NEW SEED TESTING LABORATORIES.

NATIONAL SEED PROGRAMME, PHASE—III.

13.67. The part played by the Seed Centre in the production, multiplication and distribution of seeds do not stop with it. The seeds so multiplied by them has to be subjected to tests to ascertain its potential and quality before its distribution. Hence, seed testing is essentially a quality determination process which provides information of the seed regarding its germinability, purity, moisture content and admixture of other crop as well as weed seeds. Hence, it is proposed to start four more Seed Testing Laboratories in the State.

13.68. The Seed Testing Laboratory at Coimbatore is the premier testing station established in 1964 with a view to cater to the needs of entire State of Tamil Nadu. As the number of samples handled were too large and with a view to expedite the results to Seed Certification Agencies, a second laboratory was installed in 1970 at Madurai to cater to the needs of the Southern districts such as Madurai, Ramanathapuram, Tirunelveli and Kanyakumari in addition to Tiruchirappalli, Thanjavur and Pudukottai.

13.69. A third seed Testing Laboratory was started at Kudimianmalai for analysing the service samples, i.e., samples received from departmental agencies due to the discontinuation of the free testing of farmers' sample.

13.70. The use of good quality seeds is a continuous process, year after year and also season after season. As and when seeds are received from Seed Certification Agencies, Seed Law Enforcement Agencies, Departmental Seed Production Centres and Farmers, seed testing facilities are to be provided to the above agencies and as such it is a never ending process. Seed Testing Service is an important adjunct to Seed Production.

13.71. Establishment of this facility is itself an objective and has to be continued as long as Seed Production is continued.

13.72. Therefore, it is proposed to open four laboratories at Thanjavur, Chingleput, Tirunelveli and Salem.

MANPOWER AND MATERIALS.

MANPOWER.

13.73. The International Seed Testing Association in a model staffing pattern of a Laboratory for the tropical areas have indicated an optimum staff of eight trained analysts for a capacity of only 5,000 samples a year so that the testing will be of high standard. But, the State Seed Testing Laboratories, Madurai and Coimbatore have analysed 10,000 Seed Samples per year with similar staff pattern as stated in the I.S.T.A. It is pertinent also to state that the range of activities diversified beyond the capacity of the limited staff and it is felt that four more seed testing laboratories have to be established in keeping with the enlarged scope of its activities.

III. ESTABLISHMENT OF FERTILIZER CONTROL LABORATORY.

(DEPARTMENT OF AGRICULTURE).

13.74. There are about 15,000 numbers of fertilizer sale points in the State. The existing six fertiliser control laboratories are capable of analysing 10,600 samples.

13.75. The outlay of Rs. 10.00 lakhs provided in the Seventh Five Year Plan is to meet out the recurring expenditure like cost of laboratory chemicals and equipments.

13.76. For purchase of 130 numbers of quick fertiliser testing kits at a cost of Rs. 7.36 lakhs which is a new scheme has been included under Crop Husbandry.

IV. STORAGE AND WAREHOUSING.

ASSISTANCE TO TAMIL NADU WAREHOUSING CORPORATION FOR CONSTRUCTION OF ADDITIONAL GODOWNS.

13.77. Tamil Nadu Warehousing Corporation was set up in the year 1957 and started its activities during 1958. It is running warehouses in the State for the storage of agricultural produce, seeds, manures, fertilisers, agricultural implements

and other notified commodities. One of the objects of establishing the State Warehousing Corporation is to acquire and build godowns and warehouses at various places within the State to create additional storage capacity to cater to the needs of the agriculturists, farmers, Co-operative Societies, Public Sector undertakings of State and Central Government and other institutions for depositing their produce. To meet out the expenditure on construction of godowns, Government of Tamil Nadu and Central Warehousing Corporation are contributing towards share capital of Tamil Nadu Warehousing Corporation every year. Upto the year 1984-85 both the shareholders contributed a sum of Rs. 501 lakhs towards the share capital contribution and the entire money was utilised for construction of godowns to create additional storage capacity in Tamil Nadu.

13.78. During the Sixth Plan period, a target of 1.22 lakh Mts. was fixed for Tamil Nadu Warehousing Corporation to create additional storage capacity at various places in Tamil Nadu. Against this target during the Sixth Plan period, additional storage capacity for 1.75 lakh Mts. was created. During the Seventh Plan period, it is proposed to create 2.52 lakh Mts. of additional storage capacity in all the districts of Tamil Nadu for which a sum of Rs. 12.86 crores would be required. This amount will be met as shown below :

	(RS. IN LAKHS.)
I Internally generated funds	400
2 Share Capital Contribution :	
(i) State Government	150
(ii) Central Warehousing Corporation.	150
(iii) Institutional finance	586
Total	1,286

13.79. Taking into consideration the increased need for storage capacity resulting in the steep rise in production of various commodities, it is proposed by the Government of Tamil Nadu to contribute towards the share capital of the Tamil Nadu Warehousing Corporation a sum of Rs. 1.50 crores for entire period of Seventh Plan at the rate of Rs. 30 lakhs for each year.

13.80 The financial and physical targets for the above scheme is as follows :

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Year.	No. of godowns.	Capacity in Mts.	Cost of construction.
(1)	(2)	(3)	(4)
			(RS. IN LAKHS.)
1985-86	30	90,000	450.00
1986-87	14	42,000	210.00
1987-88	14	42,000	210.00
1988-89	14	42,000	224.00
1989-90	12	36,000	192.00
	74	2,52,000	1286.00

V. FABRICATION AND DISTRIBUTION OF IMPROVED STORAGE STRUCTURES TO FARMERS (ENCOFED).

13.81. The objective of this scheme is to assist the Tamil Nadu Agro Engineering and Services Co-operative Federation towards storage facilities at farmers level and fabrication and distribution of improved storage structures to the farmers. In the past the Tamil Nadu Agro Engineering and Service Co-operative Federation was sanctioned with a total financial assistance of Rs. 57.00 lakhs as revolving fund over the years for fabrication and distribution of metal storage bins to farmers under the 'Save Grain Campaign' programme of the Government of India. Out of this, a sum of Rs. 45.40 lakhs has been refunded back to Government. As there is imperative need to continue the programme this scheme has been included in the Seventh Five Year Plan with an outlay of Rs. 40.00 lakhs to distribute 6000 bins during the plan period.

ABSTRACT.

SEVENTH FIVE-YEAR PLAN—1985—90.

Department wise allocation :

Serial number and Department.	Seventh Plan Outlay.
(1)	(2)
	(RS. IN LAKHS.)
1 Department of Agricultural Marketing.	500.00
2 Department of Seed Certification ..	300.00
3 Tamil Nadu Warehousing Corporation.	150.00
4 Tamil Nadu Agro Engineering and Service Co-operative Federation.	40.00
5. Department of Agriculture ..	10.00
Total ..	1,000.00

CHAPTER 14.

SPECIAL AREA PROGRAMME FOR RURAL DEVELOPMENT.

MASSIVE PROGRAMME OF ASSISTANCE TO SMALL AND MARGINAL FARMERS FOR INCREASING AGRICULTURAL PRODUCTION :

14.0. The Massive Programme of assistance to the Small and Marginal farmers for increasing agricultural production was introduced in Tamil Nadu during 1983-84. Assistance is provided for improving minor irrigation facilities by sinking irrigation wells or repairing the existing wells or installation of pumpsets. Assistance is also given for land development. The small and marginal farmers are also supplied minikits of seeds and fertilisers. The amount allocated as subsidy per block is Rs. 5.00 lakhs. The criteria adopted for assistance under the Integrated Rural Development Programme are followed under this programme. The cost of the scheme is shared equally between State and Central Government.

14.1. An amount of Rs. 2391.77 lakhs was spent during Sixth Plan and the details of physical achievements are as follows :—

I. Minor Irrigation :—

(1) Number of families benefitted ..	75,612
(2) Hectares benefitted	86,443

II. Land Development :—

(1) Number of families benefitted ..	8,651
(2) Hectares benefitted	10,454

14.2. Further, under Minor Irrigation, the details of the number of wells sunk, pumpsets installed, etc., are as follows:—

	(Numbers)
(1) Construction of wells	5,822
(2) Construction of tube-wells	2,284
(3) Pumpsets installed	4,436
(4) Diesel engines installed	4,451
(5) Electric motors installed	3,817

14.7 Details of achievement made during

Year.	Subsidy.	Credit mobilised.
(1)	(2)	(3)
	(Rupees in lakhs)	
1980-81	1691	2967
1981-82	2810	4736
1982-83	3416	6287
1983-84	3369	5975
1984-85	3375	5763
Total ..	14,661	25,728

14.3. Massive Programme will be continued during Seventh Plan period at a cost of Rs. 9450 lakhs.

INTEGRATED RURAL DEVELOPMENT PROGRAMME.

14.4. Integrated Rural Development Programme (IRDP) has been in implementation since 1978-79 with the twin goals of (i) the removal of unemployment and significant under employment in rural areas, and (ii) an appreciable rise in the standard of living of the poorest sections of the population in rural areas. Its main focus has been on raising rural families above the poverty line which is defined as per capita annual income of Rs. 700 and for an average family of five it is Rs. 3,500 per annum.

14.5 Direct subsidy assistance is provided to beneficiary families for taking up various schemes under Agriculture, Minor Irrigation, Animal Husbandry, Forestry, Fisheries, Sericulture sectors and for Industries, Services and Business (ISB) sectors and virtually all activities in rural areas are supported under IRDP. Maximum subsidy for creating an income earning asset for a family is 33 per cent of a value of the asset and the remaining value is raised as a loan to the family from the Bank.

Achievement during the Sixth Plan :

14.6 During Sixth Plan period, assistance was provided to 600 families on an average in each block every year. Phased coverage was replaced by total coverage. It was extended to all the then 376 blocks in the State and now 378 blocks with effect from 2nd October 1980.

Sixth Plan are given below :—

	Total.	Target of families to be assisted.	Families assisted.
(1)	(2)	(3)	(4)
1980-81	4658	2,25,600	2,53,323
1981-82	7546	2,25,600	3,58,225
1982-83	9703	2,25,600	2,71,563
1983-84	9344	2,26,650	2,77,641
1984-85	9138	2,26,650	2,33,264
Total ..	40,389	11,30,100	13,96,016

14.8 It may be seen that Sixth Plan target has been overreached. Out of the 13.96 lakhs beneficiaries assisted 4.85 lakhs belonged to Scheduled Castes and Scheduled Tribes and 3.30 lakhs were women.

Training of Rural Youth for Self Employment, (TRYSEM) :

14.9 Training of Rural Youth for Self-Employment (TRYSEM) is an integral part of the Integrated Rural Development Programme under which training is provided to the rural poor youth so that they learn a skill which they can use to get themselves self-employed. The full cost of such training is met from IRDP funds.

14.10 The performance under TRYSEM is as follows :—

Year.	Number of persons trained.	Number of persons placed in gainfull employment (both self-employment and wage employment.)
(1)	(2)	(3)
1980-81 ..	16,297	9,555
1981-82 ..	61,117	47,929
1982-83 ..	40,468	42,289
1983-84 ..	30,970	29,503
1984-85 ..	17,250	10,116
Total ..	1,66,102	1,39,392

Programme for Seventh Five-Year Plan :

14.11 According to the approach to Seventh Plan, the emphasis on rural employment through programmes like IRDP, National Rural Employment Programme, etc. will continue with better planning, closer monitoring and tighter organisation for effective implementation. Programmes such as IRDP will have to be widened and their focus sharpened for taking the benefit to the target groups and households.

14.12 Past experience and evaluation reports point to the strategy for Seventh Plan. Firstly, the gains made during the Sixth Plan will have to be consolidated and those beneficiaries who have not been able to cross the poverty line revealed in the physical survey carried out, will have to be given the second dose of assistance quickly. Total subsidy which a family should be entitled to, including second dose, should, of course, not exceed the prescribed limit.

14.13 The second part of the strategy would be to take up new beneficiaries. The investment per new family should be atleast Rs. 6,000 so that he is able to get a return from the assets, as would

enable the family to cross the poverty line in one go and once and for all. Government's policy for Seventh Plan envisages an average credit linked subsidy of Rs. 2,000 per new family with a matching term credit of Rs. 4,000 per family from Bank to ensure asset creation at an average cost of Rs. 6,000 per new family. Among the new IRDP families to be assisted, a minimum of 33 1/3 per cent should belong to women headed households.

14.14 No norm is fixed for old families in view of limited overall allocations and resource constraints.

14.15 According to the formula adopted by the Planning Commission, which is in line with the policy of selectivity being introduced in the Seventh Plan, the IRDP outlay is worked out on the basis of incidence of poverty. As per 1981 Census the rural population in Tamil Nadu is 324.6 lakhs, and the percentage of population below the poverty line according to 1977-78 population is 55.68. As per the formula below the State Government needs to provide for Rs. 16,281 lakhs during the Seventh Plan as their share, because the total requirement of funds comes to Rs. 32,562 lakhs. This would mean a provision of subsidy at the rate of Rs. 2,000 per household in respect of 10.86 lakhs households, and provision of second dose of subsidy at the rate of Rs. 500 per household to 8.66 lakhs households who have not yet crossed the poverty line on the basis of 40 per cent of the success formula. The *modus operandi* of this formula for calculating the requirements of outlays during Seventh Plan (1985-90) is given below :

(1) Rural population in 1981 as per census (lakhs)	324.6
(2) Percentage of population below poverty line according to 1977-78 population	55.68
(3) No. of persons below poverty line in 1981 on the basis of extrapolation of population based on the percentage given in item (2) in lakhs	180.74
(4) No. of households Families (Lakhs) below the poverty line in 1981	36.15
(5) No. of households (lakhs) assisted in 6th Plan	14.43
(6) Balance of household's (lakhs)	21.72
(7) No. of households crossing the poverty line on the basis of 40 per cent of success (lakhs)—(14.43 × 40 per cent)	5.77
(8) No. of households requiring second dose of assistance (item 5-7) lakhs (14.43—5.77)	8.66

Funds required during Seventh Plan.—

(Rs. crores)

(a) First dose of assistance due at the rate of Rs. 2,000 subsidy on 50 per cent coverage of balance households (10.86 × @2,000)	217.20
(b) Second dose of assistance to be given to families who are still below the poverty line at Rs. 500 subsidy (8.66 × 500)	43.30
(c) Total of (a) and (b)	260.50
(d) Infrastructural requirements at 25 per cent of the funds at (a) & (b)	65.12
(e) Total of (c) & (d) of which State share at 50 per cent	325.62 162.81

14.16. All the requirements of the strengthening of the administration, TRYSEM, DWCRA, etc., should also be met out of this provision for IRDP.

14.17. While distributing all India's IRDP outlay based on "Selectivity based on poverty incidence" approach Union Planning Commission appears to have adopted number five (5) as the average number of rural persons per rural household. According to 1981 census results released by Government of India it is 4.61 for Tamil Nadu as against 5.59 for all India. If the above unit is adopted, then IRDP outlay for Tamil Nadu is likely to get increased further.

14.18. Even though a higher outlay of Rs. 162,81.00 lakhs as per the above formula is needed, an outlay of Rs. 128,75.00 lakhs has been provided in the Seventh Plan to assist 16.63 lakhs of beneficiaries both new families and old families with second dose of assistance put together.

DROUGHT PRONE AREA PROGRAMME.

14.19. Certain regions are highly prone to frequent incidence of droughts due to erratic and poor rain fall of the region. Routine relief measures undertaken after the visitation of drought had no permanent or lasting effect to improve the condition of the people or the area affected. Rural works programme implemented in such regions earlier was inadequate to meet the situation and, therefore, it called for a different strategy which would mitigate the sufferings of the people and conserve the scarce resources of the area. It was reoriented and styled as Drought Prone Area Programme. It has been under implementation since 1972-73. The expenditure is equally shared by the Centre and the State.

14.20. Drought Prone Areas programme is by and large an area development programme aiming at an integrated development of Drought Prone Areas by utilising the natural resources like, land water, plant, animal and human resources to the optimum level with an eye on the restoration of ecological balance. The Programmes formulated would fall under: (1) Water and Soil Conservation, (2) Afforestation (3) Ground Water Development, (4) Dry Land Crop Improvement Practices, (5) Cattle Progeny Development, (6) Dairy Development (7) Sericulture Horticulture development and strengthening of infra-structural facilities.

SIXTH PLAN PERFORMANCE.

14.21 During the Sixth Plan, the scheme was implemented in 40 Blocks upto 1981-82, and in 30 blocks from 1982-83 to 1984-85 in Dharmapuri, Ramanathapuram (Composite) and Pudukkottai Districts. As against the Sixth Plan outlay of Rs. 1,800 lakhs the expenditure incurred was Rs. 1,572.40 lakhs. Some of the important developmental activities implemented since inception of the DPAP and physical aspects of the targets and achievements made so far under various sectors are discussed hereunder, districtwise.

DHARMAPURI DISTRICT

14.22. DPAP has been under implementation in this District for over a decade now. Investments in various sectors have touched Rs. 25.40 crores till 1984-85.

It has resulted in a gradual but perceptible transformation in the country side. Multifaceted and multisectoral activities launched have helped to a great extent in maintaining the ecological balance.

14.23. Until 1982-83, DPAP was implemented in all the blocks of this District. But Six blocks were excluded from the operation in the year 1982-83. The achievements made since its inception and during Sixth Plan are discussed as below:

Irrigation :

14.24. As the district is drought prone greater emphasis was given to taking up irrigation works to tap the existing potential. Upto the end of Fifth Five Year Plan along with 44 new works, repairing of old tanks and standardisation works were taken up and executed at a total cost of Rs. 318.08 lakhs. This brought 13,823 ac. of new ayacut resulting an increase of 9,047 tonnes of food production.

14.25. During the Sixth Plan Period 11 new works were completed at a cost of Rs. 118.39 lakhs. This has brought 939.98 ha. of new ayacut resulting in an increase of 1,431 tonnes of food production. In conjunction with these efforts to tap the potential, measures to conserve water were also taken up.

Soil Conservation :

14.26. Under soil conservation the uneven private lands are subjected to shaping and levelling through bulldozers and wherever necessary contour bunds were also formed. This had helped to a great extent in preserving the sparse rain water and helped to conserve the top soil from being eroded, thus enriching the soil properties and enabling the realisation of more yield from the very same land that had once suffered from scouring, erosion, etc. So far 22,701 ha. of land has been benefitted by these measures, the achievement in the Sixth Five Year Plan being 4, 872 ha.

Percolation Ponds :

14.27. The water so stored in the percolation ponds through the process of infiltration in the sub-soil is found capable of recharging the wells located within the effective zone of influence stretching to 3,000 feet radius and in this process arresting soil erosion also. The harnessing of the water effected through recharge enables stabilization of existing areas on one side and brings about additional areas on the other under the commands of well.

During the Sixth Plan, 153 Percolation ponds were constructed at a total cost of Rs. 63.94 lakhs. The area so stabilised was of about 6,000 ha. and 2,223 ha. were additionally brought under cultivation as a result of percolation effects. Out of total amount spent on this item since introduction of DPAP 64 per cent constitutes the allocation during 6th Five Year Plan.

Command Area Development in Pambar Reservoir Project Ayacut :

14.28. The Command areas of this reservoir about 4,000 Acs. were taken up for development. Under this land levelling and water management works were taken up. Under land levelling, the undulating topography was levelled with the help of bulldozers. Under water management, field boothies were laid and pipe laying was also done for scientific management of irrigation water, controlled and regulated

watering, and lesser wastage of water enroute. Out of the total area of the ayacut, the area so treated during the 6th Five Year Plan was:

Land Levelling	532 ha.
Water Management	995 ha.
Total	<u>1,527 ha.</u>

Mini Watershed Development :

14.29. The main strategy of DPAP is the development of Mini Watershed. So far 3 watersheds viz., Maharajakadai, Govindapuram and Kadathur Mini watersheds have been taken up for comprehensive development. All the works in respect of the 3 Mini Watersheds have been completed.

Horticulture :

14.30. Dharmapuri District is historically famous for horticultural crops. It is found best suited for such crops. Area under these crops constitutes 1/4 of the total such area in the State. However during pre-DPAP era these crops were languishing with low yield on account of poor tending and inadequate up-keep and maintenance.

To increase the area under horticultural crops subsidy linked loans were sanctioned for Grapevine orchards, Mango orchards, Coconut Thopes, Vegetable Seeds, etc. About 240 ha. have been additionally brought under these crops during the Sixth Plan period.

14.31. During 6th Five Year Plan a giant orchard was established at Jeenur covering an area of 80 ha. Mango species were raised in 70 ha. and the remaining area was left for cultivation of miscellaneous fruit orchard now. This orchard now serves as a model orchard for the farmers around this area to adopt proper package of practices.

During 6th Five Year Plan 70 demonstration plots were laid in Mango and 20 in Grapes. These demonstrations are continued for 3 consecutive years to spread the usefulness of adopting proper package of practices and earning assured income.

14.32. Turning the attention on improved production of the existing crops covering more than 20,000 acre under Mango, protective measures were introduced under DPAP by way of treating chemicals against the pests. The major problem confronted in Mango production is the pest menace and presence of stemborer and mango hopper. Therefore a special scheme was launched in 1981-82, and 1982-83 and control operations were done. The total area

so far treated is about 8,772 ha. against stemborer and Mango hopper. The additional income earned through the pest control measures works out at Rs. 20.00 lakhs per annum at the rate of Rs. 500.00 per hectare due to additional yield.

Sericulture :

14.33. Sericulture is one of the traditional activities popular in the district under DPAP.

Infrastructure facilities have been created for the development of Sericulture in this District. Mulberry cultivation, silk worm rearing, silk reeling and finally silk weaving are organised in sequential order in this district. DPAP has provided assistance covering the entire range of activities from the mulberry plant to woven silk.

14.34. A three fold expansion of activity under mulberry had been brought about. From 4,000 acres in 1976-77, the coverage has now been raised to 12,000 acres. Stipend assistance, farmer training, introduction of mulberry cultivation in dry lands, subsidising the cost of cultivation, laying out model plots were some of the measures introduced.

14.35. To support this expansion in the acreage, infrastructure development was also given due importance. A marketing yard, rural minifilature, chawkie silk farm, grainags and local seed zones were established. The bivoltine seed farm was modernised. Training of rural women in reeling at six centres was organised. In all, an investment of Rs. 81-55 lakhs was made during this plan period.

Agriculture—Dry land Development.

14.36. The tradition bound agriculturists of Dharamapuri District were exposed to the simple and easily adoptable new technology and induced to follow the same through extension and demonstration. In all, 1,743 demonstrations were laid out till the end of the 6th Plan, with 1,425 demonstrations in the 6th Five year Plan itself. Cultivators who were persuaded to adopt the new technology came to realise a sizeable income which varied between Rs. 217 and Rs. 680 per ha.

Infrastructure facilities :

14.37. Basic infrastructure facilities to the individual as well as to the area were provided under DPAP. Twenty-five Double Bullock Carts, and fifteen Power Sprayers, have been supplied, during 1980-81. After 1981-82, the beneficiary oriented schemes were discontinued.

A seed processing Unit and a Central Seed Godown were provided in State Seed Farm at Papparapatty to procure, process, store and supply the seeds to the farmers.

Oilseeds Development :

Establishment of Oil Seeds Farm at Agasipalli:

14.38. For supplying quality Oilseeds to the farmers and to demonstrate the proper package of practices, an Oilseeds Farm at Agasipalli, was established.

Basic infrastructural facilities and staff were also provided.

Animal Husbandry :

14.39 This District is traditionally a sheep and calf rearing area. So concrete steps were taken to organise Animal Husbandry activity in such a manner as to fully exploit the available potential.

Sheep Development :

14.40. To add to the sheep wealth, 350 sheep units were distributed through Sheep Breeders Co-operative Societies.

During the Sixth Plan period, two Mobile units were established in this district to carryout deworming,

Provision of infrastructure facilities for cross-bred calves :

14.41 High yielding Cross-bred calves were obtained from outside the district for supply to the District Livestock Farm, Hosur and about 278 calves were distributed to willing individuals also for rearing.

In order to produce crossbred calves on a massive scale in this district itself, facilities like liquid Nitrogen and Insemination straws were provided to the Veterinary Institutions.

Establishment of Additional Veterinary Dispensaries :

14.42. To meet the demand for medical service eight Additional Veterinary Dispensaries have been created with the necessary infrastructure.

Establishment of a Diagnostic Laboratory-Building:

14.43. A building is being constructed at a total cost of Rs. 5.00 lakhs for housing the Diagnostic Laboratory for detecting the many viral diseases afflicting the animals and a Tissue Culture Laboratory.

Infrastructure development to District Livestock Farm, Hosur :

14.44. For regeneration of the declining pasture and fodder area in the District Livestock Farm,

Hosur, 50 acres were additionally proposed for development under irrigated condition. For this 10 bore wells for improving the existing irrigation potential and providing necessary conveying arrangements, like cement channels and reconstruction of old channels were provided.

Dairy Development. :

14.45. Milk production when viewed against, the number of animals available in Dharmapuri district is disproportionately low. So necessary infrastructure facilities for augmenting milk production were provided.

Organisation of Milk Producers Co-operative Societies :

14.46. Under this scheme, equipments and registers, etc., worth Rs. 5,000 were supplied to each of the new milk producers Co-operative Societies. About 185 societies have been benefited by this assistance during Sixth Plan.

Dairy staff for Chilling Centres :

14.47. Two chilling plants, one at Dharmapuri and another at Krishnagiri at a cost of Rs. 29.00 lakhs were established under D.P.A.P. They commenced production during 1978-79. Amenities worth Rs. 9.00 lakhs were provided to these centres during 1980-81. They have been provided with staff facilities during 1980-81 and 1981-82 to the tune of Rs. 4.00 lakhs. Now both these chilling plants handle 60,000 litres of milk every day.

Forestry :

14.48 The quality of the forests in Dharmapuri district needs improvement. Taking cognisance of forest potentialities massive investments to create infrastructural-facilities like Central Nurseries, extension centres and a package of other assistance as an adjunct to the long term forest plantation were provided.

Reafforestation of degraded forests, barren hills and lands at the disposal of Government outside Reserve Forest :

14.49. The first step taken towards improving the quality and cover of forest area is to restock the degraded forests with valuable species. Another area where concentrated attention was riveted was on reafforestation of barren hills.

107D-4-20

Avenue Plantation :

14.50. On various strips of the newly formed roads avenue trees which provided usufructs on the one side and enhanced the aesthetic value on the other were raised. About 19 Km. have been covered, during the sixth plan period.

Catchment Area Protection :

14.51. In the Bikkanahalli tank across the Ayalottipallam Odai, the rate of siltation into the dam was observed to be very heavy resulting in complete choking of the sluices. To open up the catchment area, soil conservation and comprehensive afforestation of the area, construction of checkdams, construction of rivetment walls, free distribution of seedlings to farmers, etc., were carried out at a total cost of Rs. 20.43 lakhs covering an area of about 200 ha.

Fisheries :

14.52. Before 1979-80, the Fisheries activities in this district were very limited.

Additional Fish Ponds.

14.53. A Fish farm was established in Chinnar Reservoir Project during 1979-80 which also supplies 15 lakhs fingerlings every year. 10 Additional Fish Ponds were also constructed at Chinnar Reservoir during 1982-83.

Induced Carp Spawning Centre:

14.54. During sixth plan period an induced carp spawning centre has been established at Pambar Reservoir Project to produce 12.5 lakhs of fingerlings.

Breeder Ponds at Hogenakkal :

14.55. Two breeder ponds are being constructed at Hogenakkal to collect about 3,000 to 4,000 major carp breeder annually and transport them to Krishnagiri Reservoir Project and Chinnar Reservoir Project for production of fingerlings. The fingerlings requirement of the entire district (i.e. 80,000 fingerlings) will be fully met from the above ponds.

Uplifting Weaker Sections

Assistance to Jaggery Manufacturing Co-operative Societies :

14.56. There were 39 Co-operative Societies engaged in manufacturing palm jaggery. Godowns were constructed for 9 jaggery Manufacturing Co-operative Societies at a total cost of Rs.3.60 lakhs. 15 worksheds were also constructed for Jaggery Manufacturing Co-operative Societies at a total cost of Rs. 6.40 lakhs.

Extension of Palm trees Palmnut Planting :

14.57. To replenish the stock of Palmyrah trees and to add up to the Palm wealth of this district, 36 lakhs of palmnuts have been planted along roadside and tank bunds with the active involvement of Forest department under the Social Forestry Scheme.

The physical targets and achievements of sixth plan in this district are given in Annexure I.

**RAMANATHAPURAM DISTRICT
(COMPOSITE)**

14.58. The composite Ramanathapuram district being highly prone to frequent drought was taken up as one among the 74 Drought Prone Areas Programme (1) D.P.A.P. Districts in India. It was in operation in all the 32 Blocks of the District since 1974-75. But from 1982-83, 16 Blocks were excluded from the purview of D.P.A.P. by the Government of India based on the guidelines of Task Force, 1980.

Since its inception investment under several sectoral schemes to the tune of Rs. 26.22 Crores has been made under D.P.A.P. during the V and VI Five-Year Plan in the Composite Ramanathapuram District. This has had a significant impact on the all round development of the district.

Surface Irrigation :

14.59. Ramanathapuram has virtually no canal irrigation. Its main source of irrigation is constituted by numerous, scattered, small and rainfed tanks. There are about 37,000 tanks in the State, out of them about 3,000 the largest number for any District are located in Ramanathapuram alone.

The works conceived aimed at putting the District ancient irrigation system in order and minimise the instability experienced in agricultural production on account of frequent visitation of drought. During the initial years mostly improvement and standardisation works were taken up. Out of 9 new tanks, 7 tanks have been completed during the Sixth Plan period.

Ground Water Development :

14.60. As there are no perennial rivers and irrigation canals and with the scanty rainfall, tapping of ground water source became necessary in this district. During the VI Plan period out of 324 wells, 321 wells have been sunk. The scheme has become very popular among the farmers and there is great demand for the sinking of community wells. Till

1984-85 about 370 wells have been sunk with an irrigation potential of about 7,000 ha. benefiting about 20,000 small and marginal farmers. Under Ground Water Development, 16 per cent of the total expenditure was spent.

Soil and Moisture Conservation :

14.61. Though the soil conservation works are in operation in the district from the Sixties, only from 1974-75, the works were carried out in a comprehensive manner on water shed basis to prevent soil erosion and increase soil moisture to have a successful dry farming. Since sizeable areas remained uncultivated a scheme on dry land demonstration cum research Project at Sivakasi was introduced through which soil conservation measures and improved agronomic practices were carried out simultaneously. This resulted in improved agricultural production under dry condition. The scheme was subsequently extended in Sattur and Paramakudi.

Agriculture :

14.62. There are about 8,000 tanks both big and small which are the main source of irrigation. However these tanks seldom meet the full water requirement of the crops raised.

Mobile Testing Unit :

14.63. To provide on the spot situation and specific analytical results of soil and water samples to the farmers, two mobile soil testing laboratories at Paramakudy and Aruppukottai were commissioned during 1978 and were continued under D.P.A.P. upto 1982-83, and 86,048 numbers of Soil Samples were analysed during Sixth Plan.

Cotton Seed Processing Centre :

14.64. Cotton is a very important crop and grown in about 50,000 ha. Establishment of a Cotton Seed Processing Centre at a cost of Rs. 13.35 lakhs sanctioned during 1983-84 will go a long way in ensuring production and supply of quality certified cotton seeds to the cotton growers of the district.

Farmers Training Centre :

14.65. A Farmers Training Centre was established during 1978 at Paramakudi and was continued upto 1982-83. This had helped the farmers to adopt modern agricultural practices which led to increased productivity in the farm sector. Special emphasis was given to dry land farming and the farmers have been trained to adopt, modern dry land farming technology.

All the above mentioned efforts had created conducive atmosphere for the ushering in of Training and Visit System in the district.

Afforestation:

14.66. As the forest cover is very meagre, concerted efforts have been taken to increase the area under Forest.

Till recently all the afforestation activities in the district were carried out under D.P.A.P. and the Tamil Nadu Forest Plantation Corporation later stepped in as an additional agency. This sector was further strengthened with the advent of SWEDISH International Development Agency (SIDA). An area of 13,700 ha. has been brought under afforestation so far.

Sericulture:

14.67 Sericulture is a new venture in this District. The scheme aims at to bring about 7,000 acres by 1990 covering about 500 acrs annually.

About 2,000 small farmers have been trained in Sericulture and nearly 1,000 farmers have taken to Sericulture in the private holdings. The average areas cultivated per family is about 0.50 cents.

The infrastructure facilities provided had enabled to establish 11 model mulberry plantations, 11 chawkies, rearing centres, 2 demonstration cum training centres and 10 sericulturists and silk reeling Industrial Co-operative societies covering the entire district. Further a seed station at Pilavakkal which is coming up fast would meet the silk worm seed requirements of the district.

Upto 1984-85, a total sum of about Rs. 169.49 lakhs has been spent for the sector. The value of silk production increased from 1,000 kg. during 1980-81 to about 5,000 kg. in 1983-84.

Horticulture:

14.68 Horticulture is one of the important programmes implemented. Orchards raised under protective irrigation are performing well in the area particularly mango, gova, lime are coming up well.

Nemam Orchard :

14.69 The Nemam Orchard near Kundrakud an extent of 45 acres was a pilot measure in this direction. An additional area of about 23 acres has been developed and an orchard has been

formed during 1982-83. Mango, Gova, Saptao Bar and Jack have been raised in the orchards. This orchard isto serve as demonstration cum seed producing and supply unit. Necessary infrastructure facilities have been provided to develop the orchards.

Block Level Nursery Scheme :

14.70 The scheme for establishing Block Level Nursery was started during 1981-82 with a view to produce fruit plants of seed origin fuel, fodder and other commercial seedlings to meet the demands of seedlings under Intensive Tree Planting Programme.

Under this sector, a sum of Rs. 35.32 lakhs had been spent upto 1983-84.

Oil Seed Development:

14.71 The following schemes were taken up under Oil Seeds Development during 1984-85 viz. (1) Mobile sun flower seed processing unit at Aruppukottai (2) Establishment of a Coconut Mother Palm Garden at Singampunari and (3) Establishment of a Parasite Breeding Station at Manamadurai. Works are under progress and will be a boon to Oil Seed Development in the district

Animal Husbandry:

14.72. Animal Husbandry consisting of dairying, Sheep rearing and Poultry farming is the main ancillary occupation of the people of this District.

Infrastructure Development :

14.73. Infrastructure facilities were provided for Chettinadu Cattle Farm by stocking murrha buffalo bulls, she buffalo and cross-breed heifer calves. Cattleshed facilities and irrigation facilities were also provided to the farm.

Sheep farm at Sathur was provided with ewes and rams for multiplication and distribution to the farmers. Water supply facilities were also provided to the farm.

Distribution of milch animal :

14.74. During Sixth Plan period in order to uplift the weaker section of the population 2351 milch animals and 179 sheep units were distributed through milk supply societies and sheep breeding societies, and totally 70,000 milch animals and 2,000 Sheep units were distributed since introduction of the scheme.

Key Village Scheme :

14.75. The Key Village scheme was introduced to meet the growing demand for quality animals by up grading the local non discript animals by extending Artificial Insemination facilities. The key village scheme with Sivaganga as its head-quarters commenced working from 01-07-1978 with 11 main centres and number of sub centres. Apart from providing AI facilities, these centres also extended health cover to the local cattle population.

Veterinary Institution :

14.76. The Veterinary dispensary at Aruppukottai was upgraded as a clinical centre. The centre has been provided with modern equipment like advance clinical lab, operation theatre for surgical cases and to tackle all problems on the diagnosis and treatment of complicated cases.

Mobile Veterinary Units :

14.77. Mobile Veterinary Units were also set up under DPAP at Sivaganga, Ramanathapuram, Virudhunagar and Kamuthi to go round and cover a number of milch animals supplied under DPAP and IRDP, with Prephyletic and curative treatment. The Units cover interior villages where there are no veterinary dispensaries and helps in filling up a crucial gap in veterinary service.

Dairy Development:

14.78. The number of cows increased from 1.92 lakhs to 2.65 lakhs, bullocks from 3.14 lakhs to 3.48 lakhs. She buffaloes from 22.33 lakhs to 26.74 lakhs. The daily average milk production is about 73,000 litres and more than 60 p.c. of the milk produced is handled by co-operatives.

With the supply of milch animals from 1980-81, the creation of infrastructure facilities is largely done. The milk produce co-operatives have been helped to strengthen their managerial capabilities and were provided with essential infrastructure.

Building and other equipments :

14.79. The milk co-operatives were provided with laboratory-cum-godowns for hygenic milk collection, testing, storing and distribution of milk and equipment and diesel vans, Tricycles etc.

Chilling Centre :

14.80. The chilling centres at Virudhunagar, Srivilliputtur, Singampuneri and Paramakudi were also expanded to absorb the production from the societies.

Liquid Nitrogen Plant :

14.81. For the introduction of frozen semen technique and to meet the liquid nitrogen requirement in Ramanathapuram District, a LN 2 Plant has been sanctioned during 1983-84 at Virudhunagar with an outlay of Rs. 48.40 lakhs.

Pasteurisation Plant :

14.82. Yet another prestigious activity under Dairying is the setting up of pasteurisation plant at Karaikudi at a cost of Rs. 150 lakhs with a capacity of 50,000 LPD. The NDDS Bangalore has taken up the construction. The civil works are in progress and the plant is expected to be commissioned by the end of 1985.

Fisheries:

14.83. Ramanathapuram is one of the largest maritime district in Tamil Nadu having a largest coast of about 260 Kms. However the inland water sources is seasonal.

Initially assistance to help the smaller fishermen was introduced during 1979-80. Fibre glass boats and wooden vallams were supplied to fishermen. Managerial assistance to fishermen Co-op. was also provided.

Subsequently development of inland fisheries was taken up in a big way from 1982-83. A total sum of Rs. 42.76 lakhs has been spent during Sixth Plan on fisheries development.

The establishment of a Fish Farm at Pilavakkal at a cost of Rs. 12.79 lakhs was approved during 1982-83 and establishment of a glass jar hatchery was sanctioned during 1983-84. These works are under progress and would enable to produce the required amount of fingerlings within the district. Further for intensive pisciculture, tanks were identified for providing protected in-lets and out-lets.

Palmgur Industry:

14.84 Palmyrah is the most important tree crop in the district as it has special applicability in the district due to its drought resistant quality. It is estimated that there are about 60 la. Palmyrah trees in the District.

Free grants were provided to identified tappers and artisans. They were provided with Rs. 1200 of which 33 1/3 percent was provided as free of grant. This to a large extent helped the artisans to come out of the clutches of the middlemen whom they depended for the supply of loans for the purchase of raw materials.

Worksheds ;

14.85. In the Villages gur boiling activities are undertaken in improvised sheds by the ladies under tiring conditions. In order to provide adequate shelter to gur boilers, semi pucca shelters have been provided through primary societies.

Godowns :

14.86 In order to guard against dryage and metting of Jaggery during rainy season pucca godc wns for storage were also provided through subsidy.

The package of efforts provided at Rs. 112.94 lakhs incurred sofar have greatly helped in exploiting hitherto untapped palm wealth and uplifting the condition of the tappers in the district.

The physical targets and achievements of sixth plan in this distriet are given in Annexure II.

PUDUKOTTAI DISTRICT.

14.87. DPAP was introduced in this District in 1982-83 during Sixth Plan period and has been actually in implementation since 1983-84 covering four Blocks namely Pudukottai, Gandarava Kottai Karambakudi and Thiruvarangulam. An amount of Rs. 161.98 lakhs was allotted to this District during Sixth Plan period. Physical aspects of achievement under various sectors are discussed below :

Minor Irrigation :

14.88. Construction of four anicuts at a cost of Rs. 27.05 lakhs was taken up under this programme during the Sixth Plan period. Of these 3 anicuts were completed during 1984-85. These anicuts help in conserving water in the tank for utilising it for food production. After the completion of these anicuts, anticipated additional production will be about 25 per cent. These works will stablise irrigation in 287 hectares.

Agricultural Engineering :

14.89. Upto 1984-85 out of 30 Nos. of bore wells programmed, 27 Nos. were completed, and 5 Nos. energised. After the energisation of all these wells, 600 Hectares of additional area will be brought under irrigation, benefiting about 1,200 small and marginal farmers.

An area of 2,190 hectares was brought under Soil conservation measures on a watershed basis, benefitting 1,047 farmers.

Agriculture :

14.90. To safeguard against crop failure and to step up yield in rainfed crops of Groundnut and pulses, 620 demonstrations in farmers' fields were laid and 300 M.Ts. of additional production were obtained through these demonstrations.

Sericulture :

14.91. It is attempted to bring more areas and also to train the villagers in silk worm rearing. Five Rural Chawkie rearing centres were established in 1982-83. About 160 rural unemployed have been trained in these Chawkie Centres.

Two model mulberry plantations were established during Sixth Plan. From these centres, mulberry cuttings will be supplied to 100 Small farmers every year and 50 acres will be brought under sericulture. It is estimated that about 6,000 Kgs. of cocoons will be produced.

Horticulture :

14.92. In this District, there is vast scope for the development of horticultural crops During 1984-85, a scheme was sanctioned to bring 1,000 hectares under Horticultural crops. Preliminary works have been completed and the area will be covered during 1985-86. It is also proposed to layout 200 demonstration plots. to bring home to the ryots the impact of manuring and plant protection measures. It is estimated that 7,000 M.Ts. under fruits and 6,500 M.Ts. under Vegetables will be produced. In addition it is also expected to generate employment potential for about 3,50,000 mandays.

Oilseeds :

14.93. Pudukottai is one of the major oil seeds (Groundnut) tracts, With a view to supplying quality seeds to groundnut growing farmers infrastructure facilities were taken up in the State Oil Seed Farm at Vellalaviduthy during the year 1984-85. From this farm, quality seeds will be supplied to 1,250 acres every year. This will give an additional production of 62 M.Ts. worth about Rs. 2.5 lakhs.

Animal Husbandry :

14.94. Four Veterinary dispensaries and one mobile veterinary unit were opened for the farmers of DPAP Blocks. Every year it is programmed to give health cover to 40,000 animals in addition to artificial insemination.

Forestry :

14.95. Under DPAP 305 Hectares were brought under Social Forestry during Sixth Plan at a cost of Rs. 3.66 lakhs.

The physical targets and achievements of Sixth Plan in this district are given in the Annexure III.

SEVENTH PLAN PROGRAMME.

14.96. The strategy during Seventh Plan would be the same as those decided during sixth plan. Fresh programmes will be implemented on a mini watershed basis adopting an integrated area

approach. Various sectoral programmes of the area will be integrated into the watershed plan.

Inter Departmental group reviewed the representation received from the Government on the recommendations of the Task Force on the DPAP and Desert Development Programme. Government of India have accepted the recommendations of the Inter departmental group and accordingly it has been decided to extend the DPAP to 43 blocks in four Districts.

14.97 Revised coverage of the Drought Prone Area Programme during Seventh Plan is given below :

DPAP—DISTRICT-WISE COVERAGE AND ALLOCATIONS FOR SEVENTH PLAN.

<i>District.</i>	<i>Number of Blocks covered at present under the programme.</i>	<i>Names of Blocks included under the programme from 1985-86.</i>	<i>Name of Blocks excluded from the programme from 1985-86.</i>	<i>Total Number of Blocks covered under the programme.</i>	<i>Total VII Plan allocations needed at Rs. 12 lakhs for 1985-86 and of Rs. 15.00 lakhs per block for the rest of seventh plan.</i>
(1)	(2)	(3)	(4)	(5)	(6)
1 Dharmapuri ...	10	1 Dharmapuri .. 2 Pallacode ..	..	12	864.00
2 Ramanathapuram.	16	1 Mudukulathur .. 2 Paramakudi .. 3 Sivakasi .. 4 Kalayar Koil .. 5 Devakottai .. 6 Kannangudi .. 7 Narikudi .. 8 Singampunari .. 9 Tiruppulani .. 10 Vembakottai ..	1 Aruppukottai .. 2 Manamadurai .. 3 Ramanathapuram .. 4 R. S. Mangalam .. 5 Tiruvadanaai .. 6 Tiruchuli .. 7 Virudhunagar .. 8 Watrap ..	18	1,296.00
3 Pudukottai ..	4	..	..	4	288.00
4 Tirunelveli ..	..	1 Keyathur .. 2 Kovilpatti .. 3 Sattankulam .. 4 Tuticorin .. 5 Ottapidaram .. 6 Vilathikulam .. 7 Padur .. 8 Kuruvikulam .. 9 Udangudi ..	..	9	648.00
Total ..	30	21	8	43	3,096.00

(RS. IN LAKHS).

14.98. Funds for 1985-86 have been allocated at Rs. 12 lakhs per Block including the matching share of the State Government. Allocation during 1986-87 and remaining years of Seventh Plan will be Rs. 15 lakhs per Block per year to be shared equally between Centre and State. Hence total outlay for Seventh Plan will be Rs. 3,096 lakhs and State share is Rs. 15.48 lakhs. An amount Rs. 1,275 lakhs has been provided in the State Plan and provision of balance amount consequent on the enhanced allocation is under consideration.

It will be ensured that 40 per cent of the small and marginal farmers to be benefitted in the command area are scheduled castes.

DHARMAPURI DISTRICT.

14.99. Besides continuing the on going schemes, a detailed investigation of three watershed areas of Gundalam, Nagarkoodal and Annamalai halli has been started to develop them on an integrated area approach as the underlying strategy for DPAP District during Seventh Plan. Sectoral investment to these identified watersheds will be directed with the object of achieving a "convergence" effect which would spatially stimulate activities within the water sheds.

14.100 Poultry Farming will be introduced under DPAP during Seventh Plan period as this scheme has been slowly gaining momentum in this District, thanks to schemes under IRDP and other beneficiary oriented schemes. With a view to encouraging poultry farming in rural areas it is proposed to set up a poultry hamlet in a Adi-Dravidar village, so that the members of that community can, besides earning wages will learn Poultry Farming and subsequently they will be inclined to start a poultry farm of their own.

RAMANATHAPURAM DISTRICT (COMPOSITE).

14.101. In this region of the erstwhile Ramanathapuram District no major schemes under Agriculture, Horticulture, Oilseeds etc. were taken up so far. The number of community wells sunk is also comparatively less. Hence, in the current plan major portion of the outlay has been earmarked for the above sectoral activities. Large amount is required to create the basic infrastructure.

14.102 For the first time assistance will be extended to Poultry Development and Apiculture. Poultry farming is becoming popular among small farmers and marginal farmers. However, poor farmers in villages, especially, in backward areas do not have sufficient motivation to take to poultry farming for want of certain infrastructure. Hence, it is proposed to introduce poultry farming in D.P.A.P. Blocks so that people can take to Poultry farming as subsidiary occupation.

14.103 The schemes suggested by Departments of Animal Husbandry Deputy Registrar (Dairying) and Ramanathapuram District Co-operative Milk Producers Union Limited have been merged into one viz. "Dairy and Fodder Development", to be implemented in a compact area earmarked to each agency covering Fodder Development, Health Care and Breeding activities.

14.104 Four miniwater sheds have been identified in Ramanathapuram District. Viz. (1) Gundar Watershed in Neeravi village (2) Gundar Watershed near Kamuthi fort area (3) Malatar Watershed in Melaselvanoor Villages. The Agricultural Engineering Department have already done soil and water conservation works in the first two water sheds. The Departments of Agriculture, Horticulture, Forest and Agricultural Engineering (Ground Water) will be roped in to take up works in these mini water sheds.

PUDUKKOTTAI DISTRICT.

14.105 It is proposed to take up construction of an anicut at an estimated cost of Rs. 11.00 lakhs with an ayacut of 285 Acres.

Under Horticulture Development, infrastructure facilities to Mahatma Gandhi Rural Orchard will be provided.

Besides, Soil and Water Conservation measures construction of Community Bore wells, Sericulture, Horticulture, Social Forestry and Dry Land Development schemes will be stepped up during Seventh Plan period.

TIRUNELVELI DISTRICT.

14.106 D.P.A.P. will be introduced during Seventh Plan period in 9 Blocks of this District from 1985-86.

ANNEXURE I.

DHARMAPURI DISTRICT.

Physical Targets and Achievements of Sixth Plan 1980—85.

<i>Serial Number.</i>	<i>Name of the scheme.</i>	<i>Unit.</i>	<i>Target.</i>	<i>Achievement.</i>
(1)	(2)	(3)	(4)	(5)
<i>Minor Irrigation :—</i>				
1	Forming New Tanks	Nos.	16	11
<i>I. Agricultural Engineering—</i>				
1	Soil Conservation Works	Ha.	5,600	4,872
2	Percolation Ponds	Nos.	155	153
3	C.A.D. in PRP area			
	(i) Land Levelling	Ha.	532	532
	(ii) Water Management	Ha.	995	995
4	Mini Watershed Development :—			
	(i) Contour bunding	Ha.	660	704
	(ii) Land Levelling	Ha.	360	328
	(iii) Pipe Laying	Rmt.	4,200	4,264
	(iv) Checkdams	Nos.	139	225
	(v) Land shaping	Ha.	240	223
	(vi) Percolation Ponds	Nos.	15	14
<i>IV. Horticulture :—</i>				
1	Extension of area under Horticulture Crops	Ha.	240	240
2	Establishment of a Giant Orchard at Jeenur	Ha.	80	80
3	Scheme for increasing Mango Production :			
	(i) Control operations for Stemborer and Mangohopper	Ha.	10,000	8,772
	(ii) Gap filling in Mango orchards	No. grafts.	20,000	4,000
4	Establishment of an Horticulture Seed Centre at Denkanikottah.	No.	1	1
5	Scheme for development of Elite Tamarind	Ha.	125	125
<i>V. Sericulture :—</i>				
1	Cocoon Market Yards	No.	1	1
2	Demonstration-cum--training Centres	Nos.	2	2
3	Disinfection Squads	Nos.	6	6
4	Modernisation of Farm Building in Hosur Taluk	Nos.	9	9
5	Establishment of Chawkie Silk Farm at Papparapatty	No.	1	1
6	Establishment of a Rural Silk Minifilature Unit @ K.R.P.	No.	1	1

7	Construction of Community Chawkie Centres	--	Nos.	2	2
8	Construction of Rearing Shed at Uddanapally.	--	No.	1	1

Oil Seeds :—

1	Establishment of an Oil Seeds Farm at Agasipally in 12 ha.		No.	1	1
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VII. Animal Husbandry †

1	Supply of sheep units	No.	350	350
2	Supply of Milch Animals	Pairs	300	278
3	Mobile Veterinary Units	...	...	...	...	Nos.	2	2
4	Additional Veterinary Dispensaries	...	...	...	...	Nos.	8	8
5	Construction of diagnostic Lab. Building	No.	1	1

VIII. Dairy Development :

1	Organisation of M.P.C.Ss.	Nos.	185	185
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IX. Agriculture :

1	Farmers Training Centre	No.	1	1
2	Mobile Soil Testing Lab.	No.	1	1
3	Mobile Agriculture Servicing Unit	...	...	...	...	No.	1	1
4	Central Seed Godown	...	...	...	...	No.	1	1
5	Seed Processing Unit	...	...	...	...	No.	1	

X. Forestry :

1	Reafforestation of degraded forests, barren hills and Government Poramboke Lands.		Ha.	7,450	7,642
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XI. Fisheries :

1	Establishment of I.C.S.C. at P.R.P.	No.	1	1
2	Construction of additional fish ponds at Chinnar Reservoir Project.		Nos.	10	10		

ANNEXURE-II.

RAMANATHAPURAM DISTRICT

(Composite District).

Physical Targets and Achievements of Sixth Plan 1980-85 :

<i>Serial number and name of the Scheme.</i>	<i>Unit.</i>	<i>Target.</i>	<i>Achievement.</i>
(1)	(2)	(3)	(4)
<i>Surface Irrigation :</i>			
1 Formation of new tanks	Nos.	9	7
<i>Ground Water Development :</i>			
1 Wells	Nos.	324	321
<i>Soil and Moisture Conservation :</i>			
1 Contour bunding	Ha.	10,329	8,909
2 Check dam	Nos.	53	85
3 Percolation pond	Nos.	11	21
4 Land levelling	Ha.	117	109
5 Pipe laying	Ha.	213	286
6 Water Management	Ha.	1,400	1,838
<i>Agriculture :</i>			
1 Farmers training centre		1	1
2 Intensive tree planting for welfare of destitute women	Nos.	15,000	14,563
3 Intensive coconut development	Ac/plot	10,000	10,000 (540 plots)
4 Distribution of fruit seedlings	Nos.	50,000	50,000
5 Cotton Seed Processing Centre	No.	1	1
6 Paddy Millets and Pulses Seed Processing Unit	No.	1	1
<i>Dry Land Farming :</i>			
1 Land shaping	Ha.	4,100	3,140
2 Gully control measures	Nos.	80	93
3 Percolation ponds	Nos.	14	22
4 Pipe laying	Ha.	104	102
5 Land levelling	Ha.	72	72
<i>Horticulture :</i>			
1 Nemam Orchard (Old)	Acre	45	45
2 Nemam Orchard (New)	Acre	23	23
3 Block Level Nursery	Nos.	15	15

ANNEXURE- II—contd.

<i>Serial number and name of the scheme.</i>	<i>Unit.</i>	<i>Target.</i>	<i>Achievement.</i>
(1)	(2)	(3)	(4)
<i>Sericulture :</i>			
1 Mulberry Expansion Programme	Acres	1,300	1,337
2 Construction of silk worm rearing sheds	Nos.	700	413
3 Establishment of chawkie rearing centre .. .. .	..	5	5
4 Seed Station, Pilavakal	No.	1	1
<i>Oilseeds :</i>			
1 Mobile sun flower seed processing units	No.	1	1
2 Coconut mother garden	No.	1	1
3 Coconut parasite breeding centre	No.	1	1
<i>Animal Husbandry :</i>			
1 Key Village Scheme	Blocks	11	11
2 Milch Animals	Nos.	2,351	2,351
3 Sheep Units	Units	179	179
4 Mobile Veterinary Unit	Unit	3	3
5 Organisation of sheep breeding societies	No.	30	30
6 Clinician Centre at Aruppukkottai	No.	1	1
<i>Dairy Development :</i>			
1 Facilities to Milk Supply Societies for Fodder Farm and Managerial Assistance for Staff.	Acres	..	134 acres and 7 societies
2 Upgrading of Milch Animals	Number of Society.	14	14
3 Laboratory-cum-Godown	Nos.	18	18
4 Small Milk Co-operative Societies Depot.	Nos.	25	25
5 LN 2 Plant	No.	1	1
6 Pasterurisation Plant	No.	1	1
<i>Afforestation</i>	Ha.	14,669	14,664
<i>Fisheries :</i>			
1 Preparation of Tanks	Ha.	600	600
2 Construction of Fish Farm	No.	1	1
3 Glass Jar Hatchery	No.	1	1
<i>Palmgur Development :</i>			
1 Palm plantation	Lakh nuts	75	75
2 Establishment of marketing centre	Nos.	5	5
3 Strengthening of District Palmgur Federation	Number of Societies.	10	10
4 Gur boiling sheds	Nos.	111	111

ANNEXURE-III.

PUDUKKOTTAI DISTRICT.

Physical Targets and Achievements of Sixth Plan 1980-85.

<i>Serial number and name of the scheme.</i>	<i>Units.</i>	<i>Target.</i>	<i>Achievement.</i>
(1)	(2)	(3)	(4)
1. Minor Irrigation :			
1 Irrigation potential created	Ha.	600	540
2 Construction of Anicuts	Nos.	4	3
3 Construction of Bore Wells	Nos.	30	27
2. Soil Conservation :			
1 Area covered under soil conservation	Hect.	1,660	2,129
2 Farm Ponds	Nos.	2	2
3 Mini Water Shed Development	Hect.	1,000	1,233
3. Animal Husbandry :			
1 Opening of Veterinary Dispensaries	Nos.	4	4
2 Establishment of Mobile Veterinary Dispensaries	No.	1	1
4. Agriculture :			
1 Demonstrations	Nos.	620	620
2 Supply of Tarpaulins	Nos.	8	8
5. Sericulture :			
1 Establishment of Rural Chawkie Farms	Nos.	5	5
2 Establishment of Model Mulberry Plantations	Nos.	2	2
6. Oil Seeds :			
1 Bore Wells to Oil Seed Farms	Nos.	2	2
2 Godowns	No.	1	1
7. Forestry :			
1 Establishment of Forests through TAF CORN	Ha.	305	305

CHAPTER 15.

COMMUNITY DEVELOPMENT.

Sixth Plan Performance :

15.0. The objectives of schemes contemplated under Sixth Plan were mainly oriented towards the upliftment of rural society in general with particular emphasis on "removal of poverty" and "reduction of disparities" by specifically assisting persons below poverty line to transform the socio-economic scene in rural areas. Labour intensive projects were given pride of place to tackle effectively the unemployment and under employment prevailing in rural areas, besides creating many durable community assets to make the rural life more livable. Of the schemes Self Sufficiency Scheme implemented for provision of basic necessities in villages and later extended to Town Panchayats deserved special mention for the reason that it resulted in achieving the above objectives to a larger extent.

15.1. As against the Sixth Plan outlay of Rs. 12,000 lakhs for Community Development sector, the expenditure incurred was of the order of Rs. 26,593.00 lakhs.

I. INFRASTRUCTURAL DEVELOPMENT PROGRAMMES.

(i) Self Sufficiency Scheme :

15.2. During Sixth Plan period Self Sufficiency Scheme in rural areas was launched by the Government with the main object to provide basic necessities like water supply, roads, schools, etc., to the villages within a time frame for their speedy socio-economic development, with an outlay of Rs. 5,000 lakhs. It was implemented in three phases covering all the 378 blocks in the State.

15.3. Though the infrastructural needs are many, taking into account the immediate felt needs of the area and the availability of finance, priority has been given to the following amenities and the achievements both physical and financial are furnished below :

SELF SUFFICIENCY SCHEME PANCHAYAT UNIONS

Achievements and expenditure.

<i>Type of work.</i>	<i>Physical achievements.</i>	<i>Amount spent.</i>
(1)	(2)	(3)
		(RUPEES IN LAKHS)
1. Drinking Water Supply.	6,762 habitations.	6,181.21*
2. Link roads ..	24,429.30 Kms.	6,065.32
3. Culverts	29,615 Nos.	4,030.05
4. Pathways to burial grounds from Adi-Dravidar Habitations.	2,960.91 Kms.	234.82**
5. Improvements to Minor Irrigation Sources.	2,446 Nos.	206.92
6. Rural Dispensaries.	460 Nos.	321.96
7. Maternity and Child Welfare Centres.	1,170 Nos.	747.54
8. School Buildings.	5,154 Nos.	3,264.20
Total ..	6,762 habitations. 27,390.21 Kms. 38,845 Nos. (works)	21,052.02

* As on 31st March 1983.

** Works taken up under National Rural Employment programme.

15.4. It may be seen that more than four times the Sixth Plan Outlay has been spent in providing considerable infrastructure facilities in rural areas and has brought great satisfaction to the rural people.

Formation of Tribal Blocks :

15.5. The largest concentration of tribals are found in Kalrayan Hills and Elagiri Hills which are situated in really remote places in Tamil Nadu. In order to intensify the developmental activities in these tribal areas, two separate Community Development Blocks were formed at a cost of Rs.4 lakhs each.

NATIONAL RURAL EMPLOYMENT PROGRAMME.

15.6. National Rural Employment Programme, a centrally sponsored scheme is being implemented in this State from October 1980 onwards. The objectives of the scheme are generation of additional gainful employment for the unemployed and underemployed, persons, both men and women, and creation of durable community assets in the rural areas and improving the nutritional status and living standards of rural poor.

15.7. Against the Sixth Plan outlay of Rs. 4,370.94 lakhs, the total investment is Rs. 16,418.00 lakhs and 1,798.05 lakhs of Mandays of employment was generated.

Works executed:

15.8. The works are executed directly so as to pass on the full benefits of the programme to the rural poor. During the Sixth Five-Year Plan period, 1,73,265 works such as rural roads, community centres, Group Housing for Scheduled Castes, Scheduled Tribes, etc. were completed. Among the works taken up and completed under National Rural Employment Programme during the Sixth Plan Period, specific mention may be made of the following important works.

	<i>Number of works completed.</i>
1. School Buildings	2,000
2. Community Centres	5,429
3. Construction of Group Houses for Scheduled Castes/Scheduled Tribes.	9,358
4. Roads	63,639 Kms.
5. Afforestation	37,460 hectares.
6. Minor Irrigation sources improvement (Works relating to field channels, intermediate and main drains, flood protection and anti-water logging).	4,361

CENTRAL SECTORS SCHEMES.

Rural Landless Employment Guarantee Programme (RLEGP)

15.9 The Rural Landless Employment Guarantee Programme, a 100 per cent Centrally Sponsored Scheme, is being implemented since 1983-84

15.10 The objectives of this programme are :

(i) To improve and expand employment opportunities with a view to providing guarantee of employment to atleast one member of every rural landless labourer family upto 100 days in a year.

(ii) and creation of durable assets for strengthening the rural infrastructure for the rapid growth of rural economy. Government of India approved works to the tune of Rs. 6,982.02 lakhs under this programme. The total expenditure upto 31st March 1985 was Rs 5,724.32 lakhs.

15.11 The total number of works completed are given below :

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Total number of works approved.</i>	<i>Works completed as on 31st March 1985.</i>
(1)	(2)	(3)	(4)
1.	Construction of link roads.	605	237
2.	Surface water minor irrigation.	2,089	535
3.	(i) Percolation Ponds.	1,618	926
	(ii) Check Dams	128	109
4.	Group housing for Scheduled Castes/Scheduled Tribes.	20,000	19,040

15.12 Government of India had set a target of 298.16 lakhs mandays for 1984-85 which was exceeded by the end of March 1985, i.e., 314.43 lakhs.

15.13. This programme has generated great enthusiasm in the rural areas. There is great clamour for more and more works being taken up under this programme.

Non-Conventional Energy Programmes :—

Bio-gas :

15.14. As part of our organised national drive to find and develop alternative renewable energy sources, the National Project on Bio-gas development as a fully supported central sector scheme was launched. Tamil Nadu has done very well under this programme and completed 30,270 plants during the Sixth Plan as against the target of 21,500 plants.

15.15. An outlay of Rs. 60 lakhs, was provided in the Sixth Plan under State Sector. But it was implemented as a centrally-sponsored scheme. An expenditure of Rs. 502.60 lakhs under this programme was incurred during Sixth Plan period on providing subsidy on a liberal basis towards the cost of the plants, turnkey fee to the institutions undertaking the turnkey job and incentive fee to motivators.

Improved Chulhas :

15.16. Under the Project, several models of improved chulhas (both fixed and portable types) giving an energy saving of 25 per cent and above was demonstrated and installed all over Tamil Nadu.

15.17. A target of 20,000 improved chulhas was fixed for the year 1984-85. 79,751 improved chulhas have been installed upto March 1985.

15.18. About 2,000 potters have been trained under this programme. These trained potters will install the Chulhas and will be entitled to a supervision fee of Rs. 5 per chulhas installed. Thus, this programme has also enabled generation of additional employment opportunities in the rural areas.

SEVENTH FIVE-YEAR PLAN.

Objectives :

15.19. The guiding principles of the Seventh Five-Year Plan continues to be growth, equity and social justice, self-reliance, improved efficiency and productivity. Within this frame-work, the movement towards social justice has to be faster and there must be a sharper focus on employment and poverty alleviation. Hence the Seventh Plan has emphasised policies and programmes which will accelerate the growth in foodgrain production, increase employment opportunities and what is equally important, raise productivity.

15.20. Provision of productive employment will help people to stand on their own feet and work with self-confidence and self-respect which is the first essential for ensuring their participation in developmental tasks. It is therefore necessary to treat employment as a direct focal point of policy. Hence the strategy of Seventh Plan will be to generate productive employment through measures for the creation of productive assets through expansion of labour-intensive construction activities for providing housing urban amenities, roads and social infrastructure and through changes in the level and pattern of industrial growth.

15.21. The emphasis on rural employment through N.R.E.P., R.L.E.G.P. and I.R.D.P. will continue with better planning, closer monitoring and tighter organisation for effective implementation.

15.22. Thus the basic priorities for the Seventh Plan should be food, work and productivity. This will require a strategy built around higher agricultural growth and creation of employment, improvement in efficiency and quality of production and technological upgradation in industry and infrastructure, the use of less capital-intensive and more labour intensive techniques and shift in investment priorities towards items of mass consumption and measures to improve the quality of life. Best institutional and administrative competence at all levels will be summoned up for more impressive achievements.

STATE PLAN PROGRAMMES.

NATIONAL RURAL EMPLOYMENT PROGRAMME

15.23. This programme will be continued in the Seventh Plan as a major programme of providing rural landless agricultural labour and marginal farmers with employment in the lean seasons. An outlay of Rs. 10,250 lakhs is provided for the plan period as the State share and 12,18.75 lakhs mandays of employment is expected to be generated.

A. COMMUNITY DEVELOPMENT.

(i) Link Roads :

15.24. During the year 1985-86, i.e. the first year of the Seventh Plan period a sum of Rs. 85 lakhs only has been made for the completion of spill over works.

Improvements to Village Roads :—

The Seventh Plan objectives are as below :

(i) Provision of all weather link roads to habitations with population of 1,500 and more as per 1981 census.

(ii) Provision of proper w. b. m. roads to M.O.T. Standards in respect of all habitations with a population of 1,000 and more but below 1,500. 50 per cent of these roads will be black-topped in the Seventh Plan and the balance subsequently.

(iii) Provision of fair weather w.b.m. roads with double layer to M.O.T. standards to all habitations with a population of less than 1,000.

(iv) Provision of cross drainage works in respect of all roads under (ii) and (iii) above

National Rural Employment Programme/Rural Landless Employment Guarantee Programme funds will be utilised to form metal roads to proper standards. The provision of Rs. 800 lakhs made under this scheme will be utilised to provide black topping and improvement for 1,000 population and above habitations supplementing the labour incentive works done under Rural Landless Employment Guarantee Programme. Likewise this provision will be used to build cross drainage works to rural roads.

(ii) School Buildings :

15.25. During the Sixth Plan period this scheme was implemented throughout the Plan period and funds provided accordingly. During 1985-86 i.e. the first year of the Seventh Five-Year Plan, a sum of Rs. 146.82 lakhs has been provided only to meet the expenditure on spill over works. Like the Link Roads, this scheme is also being discontinued with effect from 1986-87 onwards. The allocation under this programme during the Seventh Plan period has been restricted to Rs. 146.82 lakhs.

(iii) Rural Water Supply :

15.26 Under Rural Water Supply it is proposed to tackle the problem of inadequate water supply in rural areas in conjunction with the efforts of Tamil Nadu Water Supply and Drainage Board. An amount of Rs. 500 lakhs is allotted for this scheme.

15.27 The physical objectives planned are (i) provide water supply to 250 new small habitations, (ii) provide water supply to 250 Scheduled Caste areas, (iii) augment supply to 500 large sized habitations.

(iv) Minor Irrigation :

15.28 Minor Irrigation has to be given pride of place. It is proposed to take up a special scheme to cover the Minor Irrigation tanks maintained by Panchayat Unions. These tanks, each with an ayacut of 200 hectare and less will be covered in a phased manner with particular emphasis on extending field channels upto the 4 hectare level. An amount of Rs. 180.00 lakhs is allotted for this programme.

(v) Fisheries :

15.29 To augment the fishing sources and also to increase the inland fish culture scheme in Panchayats and Panchayat Unions several measures such as management of the small ponds renovation of existing ponds and supply of selected fingerlings are proposed. An amount of Rs. 30 lakhs is allotted for this scheme.

(vi) Animal Husbandry :

15.30 a) Among the various income earning schemes for the poor rural folks launched so far, supply of milch animals, sheep, poultry, piggery, etc., form a major part. Hence, facilities for care of the cattle is absolutely necessary and it is proposed to have a minimum of two pucca veterinary dispensaries in every panchayat union. It is proposed to construct buildings wherever necessary. In addition to this it is proposed to establish a small fodder-cum-breeding station attached to one veterinary dispensary.

Heifer Calf Rearing Project :

b) The scheme envisage the following :

(1) To distribute atleast 30 cross bred dairy animals to the beneficiaries in each Block to enable that these assets would yield enough income to raise them above poverty line.

(2) To augment milk production in each Block through these economically viable dairy stock.

(3) To provide adequate training to ensure that the beneficiaries could operate their new assets profitably.

Genetic base of cattle and Buffaloes in Tamil Nadu for Milk Production is improved through artificial breeding exotic dairy breeds for cows and Murrah breed for Buffaloes. Intensified cattle and Buffalo breeding is in progress in ten Intensive Cattle Development Project and sixty two Key Village blocks through a net work of 2096 sub-centres. The Superior progeny with improved genetic potential born out of these programme are either lost due to neglect, lack of good management, improper feeding and inadequate health cover during the calf stage. The expressivity of milk genes inherited from their selected sires is lost due to neglect from birth to maternity. Due to the economic condition of the farmers such superior calves are poised into poor milk yielders, and such animals

are distributed to the beneficiaries. The project is therefore proposed to distribute economically viable dairy cows to beneficiaries in the block. Inputs like green and dry fodder, concentrates and infrastructural facilities like Housing, Veterinary Health cover and breeding will be provided. Thirty calves will be purchased on completion of 6 months from the farmers in the special Programmes. The calves will be maintained till it reaches the age of 24 months or diagnosed as "in calf" for 3 months.

A fodder farm will be established. Calves will be housed in the fodder farm. All animals will be covered by Insurance.

It is proposed to meet the cost of providing sheds, stores room, feed room, equipments room, two irrigation wells fitted with pumpsets, and machinery and equipment from Integrated Rural Development Programme funds under Infrastructural facilities. It is proposed to open 10-such centres initially starting from the year 1986-87. During the Seventh Plan period it is proposed to open 30 centres. This scheme in effect will assist in providing well bred milch animals to Intergrated Rural Development Programme beneficiaries.

(vii) Block Production-cum-Training Centres :

15.31 The blocks will be responsible for all rural industries. To improve existing training system it is proposed to train rural artisans in improved skill and practices prior to support under IRDP and also to establish marketing infrastructure to market the products made in the rural industries established under IRDP. An amount of Rs. 130 lakhs is allocated for meeting the staff cost and few equipments for existing centres.

(viii) Construction of Noon-Meal Centre Buildings:

15.32 Consequent on the introduction of Noon Meals Scheme, a good number of Noon-Meal Centres are located in rented buildings. It has been proposed to construct buildings to house these noon meals centres. An amount of Rs. 100 lakhs is allotted for this programme.

(ix) Rural Mass Communication System :

15.33. One of the main problems in the rural areas is inability to communicate effectively new ideas test responses and to take followup action.

In the Seventh Plan a determined effort to reach the rural people, particularly the rural poor with message on anti-poverty programmes family welfare, health sanitation, water supply, etc. will be made.

(a) Video systems—

Under a separate scheme each panchayat is to be given a T. V. Set. With a T.V. set in each village using a video cassette player it will be possible to communicate with rural audiences in the most effective manner.

It is proposed to provide each block with 4 video cassette players'. This will be a very worthwhile investment as demonstrated in the rural areas recently. The plan provides for this as well as some recording facilities and programmes production costs at headquarters.

(b) Supply of T. V. Sets—

15.34. In view of the extensive coverage under T. V. through new stations it is proposed to provide one T. V. set per Panchayat excluding sets supplied till the end of the sixth plan. It is proposed to cover 11,000 panchayats in the Seventh Plan. At a cost of Rs. 4,000 per set the total cost is Rs. 1.80 crores. Of this 50 per cent will come from State Plan and the balance 50 per cent from the village panchayats as their contribution. Apart from this, it is proposed to provide 4 colour T. V. Sets to each Block at full cost.

(c) Construction of Panchayat Office-cum-Community Centres :

15.35 It is proposed to construct 10000 Village Office-cum-Panchayat Office and Information Centres with adequate facilities. An amount of Rs. 100 lakhs is proposed for this scheme.

(d) Social Education Centres ;

15.36 It is proposed to accommodate within the Panchayat Office building space for a Social Education Centre where the local youth club can meet, rural folk can read papers, etc., In order to provide such information, a recurring grant is necessary. An amount of Rs. 80.05 lakhs is provided for this scheme.

(x) Creation of SIRD new RETC's and strengthening of existing RETC'S :

15.37 The R.E.T.Cs. cater to the needs of training of the Rural Welfare Officers (VLW's) and Extension Officers involved in various Rura

Development Programme. The Seventh Plan calls for effective delivery systems which in turn depends upon the proper training and orientation of the personnel involved. With a view to meet the increased training needs, it is necessary to establish one RETC in every district. However, during the Seventh Plan it is proposed to establish one additional training centre, in each year. It is also proposed to strengthen the existing five RETCs during the plan period. An amount of Rs. 125 lakhs is proposed for creation of new centres and strengthening the existing training institutions.

(xi) Strengthening of Administrative Systems :

(a) New Managerial Information System ;

15.38 It is proposed to organise a new information system for Rural Development using computers. An amount of Rs. 9 lakhs is provided towards soft-ware cost in the Seventh Plan.

(b) Formation of Tribal Blocks and New Blocks ;

15.39 Two new blocks one in the Kalayan Hills and the other in the Javadhu Hills already approved will actually be established in the Seventh Plan. Five new blocks are also to be formed out of existing unwidely blocks. An outlay of Rs. 90.01 lakhs is provided for this.

(c) Provision of Jeeps to Divisional Development Officers ;

15.40 It is proposed to provide jeeps to the 15 Divisional Development Officers who have not yet been provided with jeeps. An amount of Rs. 16 lakhs is provided for this purpose.

(xii) Construction of Staff quarters and Office Buildings :

(a) Two tribal blocks at Kalrayan Hills and Javadhu Hills have been formed. It has been proposed to provide under State Plan the cost of providing office building and staff quarters, as these blocks are situated really in remote places.

(b) The scheme for construction of quarters in the villages for women Teachers so as to enable them to reside in the villages itself will be continued in the Seventh Plan. About 65 quarters are being constructed every year.

(xiii) At present out of 55 development divisions, 27 are functioning in rented buildings. It is proposed to construct office buildings to house these Divisional Development Offices in a phased programme.

15.41 An amount of Rs. 79.40 lakhs has been provided for the above schemes in Seventh Plan.

(xiv) Community Radio Sets under Integrated Tribal Development Programme :

(a) It has been proposed to supply Community Radio Sets in the villages inhabited by tribal population at a cost of Rs. 5 lakhs during Seventh Plan.

CENTRALLY-SPONSORED SCHEMES.

(xv) Rural Landless Employment Guarantee Programme :

15.42 This is a Labour Oriented Scheme, launched by the Government of India with cent per cent grant to the States, aiming at providing employment to atleast one member of every landless household upto 100 days in a year ; giving higher preference to landless labourers and at the same time to create durable assets in rural areas. An amount of Rs. 97,600 lakhs is provided for the plan period to be entirely financed by Centre and 4636.05 lakh mandays (at the rate of Rs. 10 per labour) of employment is likely to be generated during Seventh Plan.

(xvi) Bio-Gas and Improved Chulahs :

15.43 The National Project on Bio-gas Development programme will be continued to be implemented during the Seventh Plan period as major central sector scheme. It is proposed to fix a target of 1,25,000 Biogas plants for the plan period. Similarly, the National Project on Demonstration of Improved Chulahs will be expanded as a major operational programme in the Seventh Plan. An amount of Rs. 5,107.75 lakhs is provided for this scheme under 100 per cent Central Sector.

B. TOWN PANCHAYATS.

15.44 There are 654 Town Panchayats in Tamil Nadu covering 1,097 revenue villages catering to a population of roughly one crore which is one fifth of the State population. Out of 654 Town Panchayats only 213 are urban areas having pronounced urban characteristics and the remaining 441 Town Panchayats are non-urban and rural areas. With a view to ensure effective administration in the implementation of several welfare measures and anti-poverty programmes and to devote adequate attention to the development of Town Panchayats and Panchayat Townships on sound-lines, a separate Directorate of Town Panchayats was constituted with effect from 7th May 1981.

Sixth Plan Performance :

15.45 Town Panchayats are small towns mostly having rural characteristics. Essential basic amenities like water supply, fair weather roads, drains, lighting, etc., have to be provided to improve the rural life richer. Town Panchayats are poor resource-wise, their income being just sufficient to meet the establishment cost.

Self Sufficiency Scheme in Town Panchayats :

15.46 Considering the backward nature of most of the town panchayats and their poor financial resources, Government extended the Self-Sufficiency Scheme to town panchayats to provide the basic minimum needs on a time-bound programme in three phases beginning from 1982-83. The scheme had (1) Water Supply, (2) Link Roads, (3) Culverts, (4) Drainage, (5) Pathways to Adi-Dravidar Burial Grounds, (6) Dhobiganas and (7) Street Lights as components.

15.47 The details of physical and financial achievements under the self sufficiency scheme in Town Panchayats can be seen (from 1982-83 to 1984-85) in the Table below :—

Serial number.	Scheme.	Physical. (No. of works)	Financial. (Rs.in lakhs.)
(1)	(2)	(3)	(4)
1.	Water Supply ..	1,273	255.36
2.	Link Roads ..	3,770	486.29
3.	Culverts	2,601	218.94
4.	Drains	4,699	808.98
5.	Pathways to Adi-Dravidar Burial Grounds ..	152	14.65
6.	Dhobiganas ..	26	13.53
7.	Street Lights ..	287	3.92
		12,808	1,801.67

SEVENTH PLAN PROGRAMMES. ..**Drainage :**

15.48 For want of drains, the waste water as well as rain water stagnate on roads damaging the road surface. The stagnant water is a health hazard as in that it breeds mosquitoes. A well knit storm water drainage scheme is therefore essential.

15.49 Out of 4,592 KM of streets in Town Panchayats only 492 KM of streets have been provided with drainage. During Seventh Plan an extent of 26 KM will be covered with drainage at a cost of Rs. 26 lakhs.

Development of Growth Centres :

15.50 In order (1) to prevent migration of rural people to urban areas, (2) to remove social and economic imbalances between rural and urban people, (3) to prevent concentration of Urban Centres in certain areas, (4) to have at least one urban centre in each block endowed with requisite infrastructure and (5) to give urban services to the rural poor, growth centres have to be identified and developed to provide necessary infrastructural facilities and services to the rural communities, thus improving their socio-economic conditions. Further, the rural sector depending as it does basically on agriculture, needs a strong network of urban settlements for both service inputs and produce outlets.

15.51 The Tamil Nadu Town and Country Planning Directorate has identified 167 Town Panchayats as growth centres and 26 Town Panchayats as growth poles with potentialities for further development. Much significance is attached to the concept of growth centres as a nucleus to serve a cluster of villages, to siphon off rural migration to urban agglomerations and more importantly for increased ancillarisation and dispersal of industry away from urban concentrations. These centres require urban core services like augmentation of water supply, strengthening network of roads, transport terminals storm water drainage, construction of sheds and workshops to provide self employment opportunities for trainees under TRYSEM, village and cottage industries, shopping complex, service centre, etc. to serve a network of villages. During the Seventh Plan period it is proposed to develop 35 growth centres at an average cost of Rs. 2.5 lakhs per Growth Centre.

Development of peripheral towns :

15.52 Due to unprecedented migration of rural population to major urban centres, like Madras Madurai, Coimbatore, Salem, Tiruchy, etc. there is very rapid expansion of population in the peripheral town panchayats. Numerous housing settlements have sprung up without even the minimum of infrastructure overburdening the services, which are ill-equipped for such large accretion. These town panchayats near major

towns and District Headquarters are rich in population and poor in financial resources. The large influx of rural population to these centres in search of employment and trade stretches the ill-equipped services to breaking points and the local bodies with their slender financial resources find it difficult to provide the basic minimum amenities. It is necessary to provide the basic minimum urban services like water supply, bus shelter, roads, toilets, etc. in these areas to mitigate the hardship of the inhabitants which will cost Rs 2.5 lakhs for each Town Panchayat.

15.53 It is proposed to take up 26 such towns for development during Seventh Plan.

Construction of office buildings for Town Panchayats

15.54 Out of 654 Town Panchayats in Tamil Nadu 453 Town Panchayats have office buildings. 201 Town Panchayats have no Office buildings. These Panchayats have statutory obligations to the public in the provision of basic amenities. They have important civic functions to discharge. Office building is a must for these local bodies. Hence these local bodies have to be assisted to take up the building programme. It is proposed to provide 20 Office buildings during the plan period at cost of Rs. 25 lakhs..

Supply of Television and Video Cassette Players.

15.55. After the successful launching of multi purpose Insat 1 B, and with the commissioning of six power transmitters in Vellore, Kumbakonam, Tiruchi, Yercaud, Coimbatore and Neyveli, T. V. coverage has been extended in Tamil Nadu and telecast area would be around 8,000 square kilometres. The relay is likely to be switched over to colour. The policy of Government of India is to extend T. V. Coverage to 80 percent of rural areas. In order to effectively communicate the new ideas, Government policies and achievements, it is proposed to instal one Video Cassette Player to play recorded audio-visual informations in town panchayats in the plan period. The total cost of Video Cassette Player with Video Cassette tapes will be approximately Rs. 12,000 and colour T. V. Set at Rs. 8,000 totalling Rs. 20,000. A 25 per cent subsidy of the cost may be allowed. It is proposed to supply 600 sets to Town Panchayats during the Seventh Five-Year Plan at a provision of Rs. 30 lakhs.

Low Cost Sanitation.

15.56 One of the major deficiencies of environmental Sanitation in rural areas is the almost total absence of latrines. People resort to defecation in open fields and sheltered places in the vicinity of water courses causing pollution problems. The Master Plan Document of the International Drinking Water Supply and Sanitation Decade has set out a target coverage of 25 per cent population in rural sanitation with simple low cost sanitation facilities. India is committed to the goal of health for all by 2,000 A.D. and adequate sanitation coverage is a pre-requisite. With a view to enable people to convert dry latrines into Sanitary latrines which is an important segment of sanitation programme and construction of new latrines where there is none at present, a form of incentive in the shape of subsidy is quite essential. Town Panchayats are not financially sound to provide subsidy from their funds. Hence the need for Government assistance.

The UNICEF has agreed in principle to encourage Low Cost Sanitation Scheme by providing an assistance of 40 per cent to individual latrines. The unit cost of a latrine will be about Rs. 1,000. An assistance of 40 per cent or Rs. 400 as subsidy to encourage provision of sanitary latrines by individuals may be provided and the balance of 20 per cent to be borne by the beneficiaries. A pilot project to encourage households to go in for sanitary latrines may be launched to cover 50 Towns to provide 12,500 latrines with a provision of Rs. 50 lakhs.

Integrated Development of Backward Urban Areas

15.57. Government have extended National Rural Employment Programme to Rural Town Panchayat's only i.e. 446 Town Panchayats out of 652 Town Panchayats. Urban Town Panchayats numbering 206 will not have the benefit of National Rural Employment Programme. Eventhough these 206 Town Panchayats are classified as urban areas based on the density of population, they are in no way better than the Rural Town Panchayats as their financial resources are as bad as the rural Town Panchayats and they have to contend with larger population and the persistent demand from the public for the provision of basic amenities. The income of the Town Panchayats is inelastic.

Some of the basic amenities required in these areas are improvement of roads, storm water drainage, water supply, etc. A phased programme

for the provision of basic amenities in urban areas at about Rs. 2.5 lakhs per Town may be taken up in 40 urban Towns.

Standardisation and Upgradation of Roads.

15.58 Town Panchayats maintain the following length of Roads :—

Blacktopped	..	..	..	1,299 km.
Metalled	..	..	..	3,254 km.
Gravelled	..	..	..	5,011 km.

No financial assistance is given to the Town Panchayats to upgrade and standardise the roads. Most of the roads in the areas are inter-connecting roads connecting habitations. It is necessary to upgrade and standardise the roads for the benefit of the public and in the interest of smooth flow of traffic. It is necessary to upgrade about 5,011 km. of gravel roads as metalled roads and 3,254 km. of metalled roads as Blacktopped roads. The average cost of metalling one Kilo Metre of gravelled road is about Rs. 50,000 and for blacktopping it is about Rs. 1 lakh. Financial assistance is necessary for upgrading and standardising the roads. It is proposed to upgrade 100 km. of Metalled road as Blacktopped roads and 60 km. of gravelled road as Metalled road with a provision of Rs. 100 lakhs.

Water Supply.

15.59. Out of 652 Town Panchayats in the State streamlined water supply is available in 237 Town Panchayats only. Streamlined Water Supply has to be provided in 415 Town Panchayats. These Town Panchayats are rural areas as per

1981 census. In most of these 415 Town Panchayats which have no protected Water Supply. The public get water from open wells and a few bore wells. These Town Panchayats are financially too weak to avail loan from Life Insurance Corporation for the provision of protected Water Supply Schemes. These weaker Town panchayats have to be helped in providing Small Water Supply Schemes for the benefit of the public. Such Small Schemes like provision of one or two bore wells, overhead tank with some public fountains may cost about Rs. 3 lakhs each. It is proposed to provide 40 such schemes.

NATIONAL RURAL EMPLOYMENT PROGRAMME :

Rural Landless Employment Guarantee Programme

15.60. The Empowered Committee on Rural Landless Employment Guarantee Programme has approved the proposal to earmark 25 per cent of the allocation under National Rural Employment Programme for works in town panchayat areas. Government have ordered to implement National Rural Employment Programme in 137 town panchayats which are classified as Rural. During the Seventh Five-Year Plan, it has been proposed to take up schemes like afforestation, improvement of roads, drainage, buildings for Mahalir Mandrams, Worksheds-cum-Service Centres, buildings for T. V. Centres, etc., at a cost of Rs. 5.85 crores under the National Rural Employment Programme.

15.61. Details of Seventh Plan outlay and physical targets for various schemes implemented by Director of Rural Development and Director of Town Panchayats are given in the Annexure-I.

ANNEXURE I.

COMMUNITY DEVELOPMENT—SEVENTH PLAN PROGRAMMES.

<i>Serial number.</i>	<i>Programme.</i>	<i>Outlay.</i>	<i>Physical Target.</i>
(1):	(2)	(3)	(4)
A. DIRECTOR OF RURAL DEVELOPMENT.			
		(RUPEES IN LAKHS)	
1	Link Roads	885.00	
2	School Buildings	146.82	
3	Rural Water Supply	500.00	{ 250 New Small habitations. 250 Scheduled caste areas. 500 Large sized habitations augmentation,
4	Minor Irrigation Works	1,80.00	3600 sources.
5	Fisheries	30.00	600 ponds.
6	Animal Husbandry (Veterinary Dispensaries/Breeding Centres Heifer Calf Rearing Project)	111.00	109 Nos. 30 centres
7	Block Production-cum-Training Centres	1,30.00	
8	Noon Meal Centres	1,00.00	200 Nos.
9	Rural Mass Communication System		
	(i) Video system'	258.18	1536 VCP
	(ii) Supply of TV sets	334.01	11,000 Nos.
	(iii) Construction of Panchayat Office-cum-Community Centres	1,00.00	..
	(iv) Social Education Centres	80.05	
10	Creation of New R.E.T.Cs. and strengthening of existing R.E.T.Cs.	1,25.00	
11	Strengthening of administration system		
	(i) New Managerial Information System	9.00	
	(ii) Formation of two Tribal Blocks	40.00	
	(iii) Formation of New Blocks	50.01	5 Nos.
	(iv) Provision of jeeps to D.D.Os.	16.00	16 Nos.
12	N.R.E.P.	1,02,50.00	1218.75 lakhs mandays.
13	Staff Quarters and Office Buildings	79.40	
14	Sammelans	0.05	
15	Community Radio sets under I.T.D.P.	5.00	
16	State and District Level Steering Committee for N.R.E.P. ..	0.05	

ANNEXURE I—cont.

COMMUNITY DEVELOPMENT—SEVENTH PLAN PROGRAMMES—cont.

<i>Serial number.</i>	<i>Programme.</i>	<i>Outlay.</i>	<i>Physical Target.</i>
(1)	(2)	(3)	(4)
		(RUPEES IN LAKHS)	
17	New D.D.Os. (Establishment Charges)	16.68	
18	State Institute for Rural Development	0.55	
19	TRYSEM	0.05	
20	Development of women and children in Rural Areas ..	0.05	
	Total ..	1,34,46.90	
B. DIRECTOR OF TOWN PANCHAYATS.			
1	Drainage	26.00	26 km.
2	Development of Growth Centres	87.10	35 Nos.
3	Development of Peripheral Towns	65.00	26 Nos.
4	Construction of Office Building	25.00	20 Nos.
5	Supply of T.V. sets with V.C.P.	30.00	600 sets.
6	Low Cost Sanitation	50.00	50 towns.
7	Integrated Development of Backward Urban Areas ..	100.00	40 towns.
8	Standardisation and Upgradation of roads	100.00	100 Kms. Block Topping 60 Kms. Metalled roads
9	Water Supply	120.00	40 schemes
	Total ..	6,03.10	
	GRAND TOTAL ..	1,40,50.00	

CHAPTER 16.

LAND REFORMS.

16.0. With a view to eliminate concentration of ownership of lands in a few hands, existence of a number of intermediaries and exploitation of tenants and tillers of the soil by big land holders that were prevalent in the agrarian structure at the beginning of the planning era and thereby establish an egalitarian society through agrarian reforms, the Government introduced a number of legislative measures such as (1) Estates (Abolition and Conversion into Ryotwari) Act, 1948 and 1963, (2) The Tamil Nadu Cultivating Tenants Protection Act, 1955, (3) The Tamil Nadu Cultivating Tenants (Payment of Fair Rent) Act, 1956, (4) The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961, and (5) The Tamil Nadu Public Trusts (Regulation of Administration of Agricultural Lands) Act, 1961. By implementing these Acts the agrarian structure was able to achieve the desired result to a large extent and the tillers of the soil were brought into direct relationship with the Government and owning of large individual holdings by the farming community was discouraged.

16.1. The Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 fixed the ceiling of agricultural land for a family consisting of not more than five members at 30 standard acres and for families with more than five members, an additional five standard acres for every member of the family in excess of five was allowed subject to an overall limit of 60 standard acres. The Tamil Nadu Act 17 of 1970 reduced the ceiling limit from 30 standard acres to 15 standard acres for a family of not more than five members without any change in the overall ceiling of 60 standard acres for a family with more than five members. The overall ceiling of 60 standard acres was reduced to 40 standard acres and subsequently to 30 standard acres by Tamil Nadu Act 20 of 1972 and Tamil Nadu Act 39 of 1972 respectively.

16.2. Implementation of the Land Ceiling and distribution of surplus lands is one of the schemes included under the Twenty Point Programme (Point No. 4). The Revised Pattern of assistance under the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 is being implemented from the year 1980-81 onwards. As per the revised pattern of assistance, the entire assistance given by the Government is treated as grant. Subsequently from the year 1984-85

onwards, the quantum of grant has been enhanced from Rs. 1,000 to Rs. 2,500 per hectare and is being given as assistance to the allottees of surplus lands for development and cultivation of surplus lands, since the assignees would mostly be landless poor, agricultural labourers, belonging to Scheduled Castes, Scheduled Tribes and other Community. All the assignees who have got assignment of surplus lands after 1st January 1975 are eligible for assistance provided the assistance availed by them under schemes like S.F.D.A., M.F.D.A., C.A.D.P., etc., and assistance now given under this Central Sector Scheme should not exceed Rs. 2,500 per hectare. The expenditure on account of this scheme is being shared equally between the State and the Central Government. During the year, 1984-85 the entire grant was given in the form of cash. From 1985-86 onwards the old pattern of providing financial assistance to the assignees at 80:20 ratio (in kind and costs) which was adopted up to 1983-84 is being followed.

16.3. Up to the end of March 1985 as a result of the implementation of the ceiling laws, a total extent of 1,62,631 acres was notified (less cancelled) as surplus. So far, Government have taken possession of 1,53,266 acres. 23,199 acres which were notified as surplus could not be taken over by Government due to certain legal hurdles but are being proceeded with for purpose of assignment. The total extent of land assigned is 1,19,079 and the number of beneficiaries is 93,167. Out of the above extent, 45,330 acres were assigned to 40,914 persons belonging to Scheduled Castes.

16.4. A concerted effort is being made to distribute the lands to the landless people in particular to the persons belonging to the weaker sections of the society. To tackle benami transfers of lands effected to escape from the ceiling laws, The Tamil Nadu Land Reforms (Fixation of Land) Second Amendment Bill, 1980 (L.A. Bill 26 of 1980) has been passed by the State Legislature. The President withheld his assent to the Bill. Government are examining the matter in the light of the views expressed by the Government of India and the representations received.

16.5. A sum of Rs. 120.00 lakhs has been provided in the Seventh Five-Year Plan 1985-90 enabling a coverage of 10,000 acres to be assigned to the landless poor in the Seventh Plan period.

CHAPTER 17.

SPECIAL AND BACKWARD AREAS.

WESTERN GHAT DEVELOPMENT PROGRAMME.

Introduction :

17.0 The Western Ghats range is an important determinant in shaping the climate, economy and social milieu of the peninsular India. But the hills of this formidable topographical terrain have been disfigured of their pristine nature and their resources have been exploited rendering their eco-system fragile and delicate. All these have resulted in an area-wide environmental degradation with deleterious effects on the socio-economic life of the human beings. Some of the conspicuous damages to environs disturbing the eco-system and consequently the eco-balance are : denudation of forests, clear felling of natural forests for raising commercial plantation undesirable cultivation practices, soil erosion leading to siltation of reservoirs and reduction in their life span and the adverse effects of floods and land slides, encroachment of forest land and poaching of wild animals, etc. To arrest this trend and also to develop and restore eco-balance, two schemes viz. Hill Area Development Programme and Western Ghats Development Programme are being implemented in the State with special central assistance. Though the Nilgiris district forms an integral part of the Western Ghats it is covered by the Hill Area Development Programme for historical reasons while the rest of the hilly area in the Western Ghats is covered by the Western Ghats Development Programme.

Objectives for Development of Western Ghats Region :

17.1 Judging from the dimensions of the problems the schemes implemented during the Sixth Plan for eco-development have not been able to tackle them adequately and hence there is need to take concerted efforts in the coming years to maintain the ecological balance in the fragile eco-system of the Western Ghats. Against this background, the objectives of the Western Ghats Development Programme and Hill Area Development Programme for the Seventh Five Year Plan would be :

- (1) to maintain the ecological balance which is essential for the life support system ;
- (2) to preserve the genetic diversity ;

(3) to restore the ecological damage caused by human interaction ; and

(4) to create awareness among the people to educate them and to enlist their active participation in the eco-development schemes.

Strategy :

17.2 The experience of implementing the programme during the Sixth Plan, particularly the schemes which were conceived to tackle the ecological problems, has shown that the ecological problem is one to which solution cannot be found through any single sectoral schemes. The answer is to be found in several schemes, administered by different departments or agencies. Such schemes have to be identified and brought together in an 'Appropriate Mix' in well defined unit of the hill area and implemented either simultaneously or in a definite sequence. A beginning has been made in the later part of the Sixth Plan to experiment with integrated development of water sheds on a pilot basis. This experiment is to be pursued more vigorously during the Seventh Plan and for this purpose the State has already initiated action to delineate the water-sheds (major water-sheds, sub-water-sheds, mini or micro water-sheds) in the hill areas by using remote sensing applications.

Central Assistance ;

17.3 The problems of the hill areas of Western Ghats in Tamil Nadu are so varied and large that they require huge investment to tackle them. The magnitude of the investment required is such that a solution cannot be found to the various problems in the Seventh Plan itself. At present the special central assistance is additive in nature. While this additive nature of the central assistance is appreciated, substantial allocations may have to be made by the Centre by way of special central assistance to tackle the eco-problems more effectively and expeditiously.

Priorities ;

17.4 However, taking into account the resources constraint certain priorities have been followed in preparing the Seventh Plan. Top most priority has been given to soil conservation measures,

afforestation schemes, promotion of perennial crops and scientific cultivation of hill slopes. Though a net work of roads is essential for the economic development of the hill areas low priority has been given to roads since cutting of hills for laying of roads is considered as an affront to nature and one of the most important causes of degradation of hills. However, since, the eco-development of the hill areas cannot be considered in isolation of their economic development essential roads have been provided for. Since horticultural development schemes and promotion of perennial crops like tea in the hill slopes implemented during the last 10 years would have started yielding results, priority has been given to infrastructure development such as storing, marketing facilities and manufacture of tea. The other developmental schemes have been planned in such a way as to provide the 'appropriate mix' contemplated.

Outlay for Seventh Plan :

17.5 For the Seventh Plan the Union Planning Commission has indicated an outlay of Rs. 19.9 crores for Western Ghats Development Programme and Rs. 34.1 crores for Hill Area Development Programme.

Western Ghats Development Programme :

Sector-wise allocation :

17.6 The proposed sector-wise allocations are as follows :—

TABLE.

Serial number and Sectors/Schemes. (1)	Outlay. (RS. IN LAKHS.) (2)
1 Soil Conservation	811.71
2 Manjalar Watershed Project	31.24
3 Forestry	471.75
4 Horticulture	117.25
5 Cinchona	9.00
6 Minor Irrigation	170.90
7 Roads	149.37
8 Tribal Development	4.90
9 Animal Husbandry	2.50
10 Fisheries	7.00
11 Khadi and Village Industries	25.00
12 Sericulture	94.21
13 Water Supply	50.00
14 Remote Sensing Applications	25.00
15 Evaluation	10.17
16 Technical Cell in the Secretariat	10.00
Total	1,990.00

Schemewise details :

Soil Conservation :

17.7 Out of the total problem area of 12.81 lakhs Ha. in the Western Ghats area of the State affected by soil erosion and salinity only 1.67 lakh Ha. have been treated upto 1983-84. It is proposed to treat these problem areas with soil conservation measures in a phased manner during the Seventh Plan. Watersheds which are severely affected by soil erosion will be identified and soil conservation measures will be carried out in an integrated manner. The following five integrated watershed management projects are to be taken up during the Seventh Plan.

(i) Integrated Watershed Management Project for Amaravathi catchment area ;

(ii) Integrated Watershed Management project for Vaigai catchment area ;

(iii) Integrated Watershed Management project for Arjuna river catchment area ;

(iv) Integrated Watershed Management project for Chittar river catchment area ; and

(v) Watershed Management in Coimbatore and Periyar districts.

17.8 A total area of 9450 ha. will be covered during the Seventh Plan in the above five watersheds at a total cost of Rs. 811.71 lakhs.

Integrated Manjalar Watershed Project :

17.9 An integrated Manjalar Watershed Project is being implemented in the Kodaikanal taluk from the Sixth Plan. During the Seventh Plan a sum of Rs. 31.24 lakhs has been earmarked for this project for carrying out soil conservation measures in an area of 350 ha. afforestation in 20 ha., raising horticultural crops in 375 ha., construction of checkdams and also construction of four public latrines.

Forestry.

17.10 Under forestry, afforestation programme for eco-development, eco-restoration and eco-preservation, scheme for conservation of natural resources and scheme for monitoring forestry programme under Western Ghats Development Programme will be taken up at a total cost of Rs. 471.75 lakhs. It is proposed to take up afforestation works in an area of 2000 ha. Silvi pasture development will be taken up in an area of 500 ha. Soil conservation works such as contour stonewalls and bench terracing will be taken up in an area of 140 ha. in Karumutty—Kadambarai—Pannaikadu Valley in Coimbatore district. It is also proposed to distribute 15 lakhs of seedlings to public at cost price to encourage them to plant trees in patta lands.

17.11 There are certain degraded shola areas in Anamalais in Coimbatore district, Kodaikanal in Anna district and Veerapuli reserve forest of Kanniyakumari district. The total extent of these degraded areas is about 145 ha. It is proposed to plant these areas with suitable indigenous sholas species and other economically useful trees without destroying the character and composition of these eco-types. Apart from this, it is also proposed to raise 80,000 Nos. Silver oak trees around these sholas. To rehabilitate these forests it is also proposed to provide chain link fencing around these sholas. Besides, it is also proposed to construct 25 Nos. of checkdams wherever necessary.

17.12 Natural reserves are decreasing day by day due to eco-destruction. Therefore it is necessary to prepare a very careful plan for conservation of the biological diversity by identifying the remaining good samples of each of the biological community types of the region. The Nilgiris biosphere programme is already engaging the attention of the Government of India. Areas which could not be brought under the Nilgiris biosphere reserves are also to be protected and preserved. Therefore it is proposed to take steps during the Seventh Plan for protecting and preserving gene-pool establishing flora sanctuary and habitat improvement.

17.13 The developmental programme of the Seventh Plan under forestry sector in the Western Ghats region is proposed to be stepped up considerably to cover the length and breadth of the hilly terrain. In order to implement the forestry programme effectively, it is proposed to create a monitoring cell in the Office of the Chief Conservator of Forests, Madras for monitoring the performance of forestry schemes under Western Ghats Development Programme. The total cost of the cell for the Seventh Plan period will be Rs. 5 lakhs.

Horticulture :

17.14 One of the abuses of these slopes is unscientific cultivation practices which lead to serious soil erosion problems. Therefore farmers are to be encouraged to go in for perennial crops like fruit trees and plantations as soil conservation measures. The Horticulture Department is taking efforts to bring the hill slopes under perennial crops. Besides, it also makes the farmers adopt scientific cultivation practices. A number of schemes are being implemented by the horticulture department for the development of horticulture in the Western Ghats area.

The schemes such as horticulture development in the foot hill areas of Madurai district, horticulture development in the upper Arjuna River Basin in Kamarajar district, development of sub-tropical fruits and spices in Tirunelveli and Kanyakumari districts are already being implemented by Horticulture Department and they are proposed to be continued during the Seventh Plan also. Apart from this it is proposed to strengthen the infrastructural facilities available for Horticulture Development in Western Ghats area. Also a scheme for the development of fruits, vegetables and spices is proposed to be implemented in Coimbatore district. A nursery is also proposed for the Horticultural Research Station at Kodaikanal.

17.15 All these schemes are to be implemented during the Seventh Plan at a total cost of Rs. 117.25 lakhs. Under the scheme for Horticulture Development in the foot hill areas of Madurai district it is proposed to bring 415 ha. under horticultural crops. Under horticultural development in the upper Arjuna river basin an extent of 1,150 Ha. will be brought under horticultural crops. Under sub-tropical fruits a new area of 4,000 Ha will be covered during the Seventh Plan. Under the scheme for development of fruits, spices and vegetables in Coimbatore district 3,000 Ha. will be brought under horticultural crops. The infrastructural facilities available in the State Horticultural Farms at Periakulam, Kodaikanal and Courtallam will be strengthened. 2.1 lakh Nos. of plants and 2,100 Kg. of seeds will be produced in the nursery to be established in the Horticultural Research Station, Kodaikanal and distributed to public.

Cinchona :

17.16 Two schemes viz. Geranium cultivation in the upper Palaneys (Berijam) and geranium cultivation in Perumalmalai region are being implemented by the Cinchona Department during the Sixth Plan. During the Seventh Plan it is proposed to allot Rs. 9 lakhs for spillover works funded under Hill Area Development Programme during the Sixth Plan.

Minor Irrigation :

17.17 Some of the foot hill areas in the Western Ghats region face drought conditions for the greater part of a year. Consequently the employment generation is limited in those areas resulting in increased demand on forest produce in the hills for subsistence. The water table in the wells in these areas has gone down. By increasing the ground water table agriculture can be

stabilised which will reduce indirectly the dependence on forests for livelihood to some extent. In the foot hill areas stream flows are available during the rainy season. This potential is proposed to be tapped by constructing percolation ponds, check dams etc., to increase the ground water table in the wells. During the Seventh Plan it is proposed to take up these works in Palani, Dindigul, Ambasamudram, Thenkasi and Nanguneri taluks at a total cost of Rs. 170.90 lakhs.

Roads:

17.18 The following four road works viz., Dhar, mathupatty to Adalur, Perumalmai to Adukkam, Periakulam to Adukkam and widening of Kodai-kanal road taken up during the Sixth Plan under Western Ghats Development Programme will be completed during the Seventh Plan at a total cost of Rs. 42.37 lakhs. 3 new road works viz. Sasthankoil to Nagaraiyar road, Rajapalayam to Ayyanarkoil and Varshanadu to Valparai will be taken up during the Seventh Plan at a total cost of Rs. 107.00 lakhs.

Tribal development :

17.19 In order to assist the hill tribes engaged in collection of minor forest produces it is proposed to strengthen the dormant Shenbagathope Hill Tribes Labour Contract Co-operative Society by providing a grant of Rs. 4.9 lakhs for construction of workshed, drying yard, godown, etc.

Animal Husbandry :

17.20 In order to encourage the farmers to take up fodder cultivation as a rotational crop, strip crop, mixed crop, perennial crop etc. it is proposed to distribute fodder seeds and slips at subsidised rates to them. It is also proposed to provide the necessary technical know-how for raising these fodder crops. Fodder slips like NB-21, BN 21 HAMIL GUINEA grass, etc., and fodder seeds like maize, cholam, cowpea, sunhemp, etc., and Koobabul seedlings will be distributed to the farmers in the 25 taluks in the Western Ghats region at 50 per cent cost. The total cost of the scheme for the Seventh Plan will be Rs. 5 lakhs of which the subsidy portion will be Rs. 2.50 lakhs.

Fisheries :

17.21 It is proposed to construct 3 fish rearing ponds at Pilavakkal at a cost of Rs. 5 lakhs and 15 additional reservoirs at Manimuthar fish farm at a cost of Rs. 2 lakhs for the development of fisheries.

Khadi and Village Industries :

17.22 The objective of eco-preservation and eco-development can be achieved only with the participation and co-operation of the people in the hill areas. This is possible only if the economic development of these people are also taken care of. Besides, the raw materials available in the hill areas have to be exploited for the development of the people living there. Therefore a number of Khadi and Village Industries schemes have been proposed for the Seventh Plan with a view to providing employment to the local people by utilising the raw materials available in the hill areas. Expansion of bee-keeping, distributing distillation plants, organising and developing industrial co-operative societies using cane, bamboo, palm leaves, etc., are some of the schemes proposed under Western Ghats Development Programme during the Seventh Plan. The outlay for the Khadi and Village Industries will be Rs. 25 lakhs.

Sericulture :

17.23 A comprehensive sericulture development programme with the main objective of expanding and extending the present activities in the Western Ghats region to create more employment to the rural and landless labourers particularly tribals and Adi-draavidars in the hill ranges is proposed to be taken up during the Seventh Plan. The sericulture development will be taken up in Kamarajar district at a total cost of Rs. 28.4 lakhs. Under this scheme a mulberry nursery will be established at Vilupalur to supply 1 lakh sprouted cuttings every year which can bring an area of 50 acres under mulberry cultivation every year. Thus an additional area of 250 acres will be brought under mulberry cultivation in Kamarajar district during the Seventh Plan. It is also proposed to establish silk rearing co-operative societies in Srivilliputhur and Watrap blocks for the benefit of mulberry growers.

17.24 It is also proposed to extend mulberry cultivation to another 100 acres in Tirunelveli and Kanyakumari districts. A model mulberry farm is proposed to be established in Kanyakumari district. Mulberry-cum-Seed Farm sericulture can be introduced to farmers of this region. The total cost for sericulture development in Kanyakumari and Tirunelveli districts during the Seventh Plan will be Rs. 29.98 lakhs.

17.25 In Coimbatore district sericulture industry is well established. However the entire activities are concentrated in the plains and also the entire mulberry plantation is under irrigated bush type.

It is proposed to introduce tree type of mulberry plantation under rainfed conditions in the hill tracks of this district and an area of 400 acres will be covered during the Seventh Plan at a total cost of Rs. 20.59 lakhs.

17.26 Sericulture has gained momentum in the western ghats taluk of Palani, Dindigul, Kodai-kanal, Periakulam and Uthamapalayam. In order to provide for the economic development of the small and marginal farmers in these taluks a massive scheme to bring 1,500 acres under mulberry has been planned for the Seventh Plan. Out of these 1,500 acres, mulberry cultivation in rainfed condition will be taken up in 250 acres in the hilly areas with assistance under WGDP. Besides, the existing facilities available in the egg production centre at Dindigul will be strengthened. The total cost of the scheme will be Rs. 15.24 lakhs.

Water Supply :

17.27 The TWAD Board has an ambitious programme for providing potable water-supply and sanitation measures to the hill areas under the Seventh Plan at a total cost of Rs. 800 lakhs. The TWAD Board's programme includes providing drinking water-supply to the tribal habitations in the Western Ghats area in a phased manner. The first phase will start during the Seventh Plan. It is proposed to provide assistance to the tune of Rs. 50 lakhs to the TWAD Board for providing water-supply to the hill habitations.

Remote Sensing Applications :

17.28 The Union Planning Commission wants to adopt the strategy of integrated watershed development for Western Ghats Development Programme. In this regard the Planning Commission envisages a universal framework for the Western Ghats Development Programme as an operation in two phases. The first phase will consist of dividing the area into small and manageable units from the ecological point of view and providing a basic infrastructure for land development. The second phase will consist of designing appropriate production programme for individual land holdings. For taking up eco-development programme the first task will be identifying the critical watersheds. Usefulness of remote sensing technology both for a quick and more accurate delineation of land farms and for assessing natural resources, extent of erosion, etc., has been well established. Therefore it is proposed

to take up the delineation of watersheds in the Western Ghats area, identifying the watershed characteristics and coding them so that appropriate measures could be taken up for the development of the watersheds. The total cost of the scheme will be Rs. 25 lakhs.

Evaluation :

17.29 The Western Ghats Development Programme has been in operation since Fifth Plan. The objectives and strategies of the WGDP have undergone changes over time. During the Seventh Plan the major thrust will be on eco-preservation and eco-development. It is necessary that the schemes that were implemented during the past have to be evaluated in order to assess their contribution for the development of Western Ghats, so that such schemes can be implemented during the Seventh Plan. Moreover since integrated watershed development has taken a shape which is the strategy to be adopted for the Seventh Plan, evaluation of the programme may be of much use in high-lighting the good and weak points. Therefore it is proposed to take up an evaluation of WGDP during the Seventh Plan at a total cost of Rs. 10.17 lakhs.

Technical Cell in the Secretariat :

17.30 With a view to effectively monitoring the Western Ghats Development Programme and also to co-ordinate the activities of the different development departments involved in this programme a technical cell has been constituted in the Secretariat under the control of the Commissioner and Secretary to Government, Planning and Development Department. The Cell is closely monitoring the performance of the various schemes under WGDP besides providing the necessary inputs to the decision makers for framing the policy issues. With a new strategy of integrated watershed development to be adopted during the Seventh Plan necessary co-ordination of the different departments involved in the task and close monitoring are very essential. The Technical Cell will assist Commissioner and Secretary, Planning and Development Department for the effective implementation of Western Ghats Development Programme. The cost of establishment of the Cell for the Seventh Plan will be Rs. 10 lakhs.

Hill Area Development Programme.

Sectorwise Allocations :

17.31 The proposed sectorwise allocations for the Seventh Plan are as follows :

Serial number and Sectors/Schemes.	Outlay.
	(RS. IN LAKHS.)
1 Horticulture (including soil conservation).	1,245.20
2 Forestry	450.00
3 Minor Irrigation	67.41
4 Fisheries	1.50
5 Animal Husbandry	30.00
6 Dairy Development	123.25
7 Roads	680.00
8 Tourism	50.00
9 Co-operative tea factories ..	351.00
10 Khadi and Village industries ..	30.00
11 Sericulture	52.15
12 Public Health	50.00
13 Water Supply	100.00
14 Social Inputs Programme (UNICEF Assisted).	12.34
15 Pollution control in Ooty Lake ..	100.00
16 Improvements to Lovedale lake ..	25.00
17 Cultural activities open air stadium.	10.00
18 Eco-development camp and tree planting by Homeguards.	5.00
19 Geo-Technical Cell	14.65
20 Planning Cell at Ooty Collectorate	12.50
Total ..	3,410.00

Schemewise details :

Horticulture :

17.32 Soil erosion is a serious problem in the hilly areas of the Nilgiris. Cultivation in steep slopes and faulty agricultural practices are the chief reasons for soil erosion. In order to provide permanent measures for prevention of erosion, horticultural schemes including soil conservation on watershed basis have been formulated and implemented from 1984-85 in the Nilgiris. This scheme will be implemented in 41 selected critical micro watersheds at a total cost of Rs. 1,245.20 lakhs during the Seventh Plan. The major components of the scheme are planting programme (crop diversification), soil conservation, produc-

tion of plants, seeds and seedlings, provision of infrastructural facilities and training farmers in eco-development. It is proposed to treat 6,250 ha. with soil conservation measures, to bring 1,850 ha. under new tea plantations, to maintain optimum tea bushes in 2,000 ha., to bring 2,000 ha. under multi-tier perennial crops like fruits, spices, economic trees etc. and to rejuvenate old tea gardens in an area of 1,500 ha. For the supply of quality planting materials 370 lakhs Nos. of V. P. clones, 37.5 lakhs No. of fruits, spices, coffee and other economic trees, 12.5 MT of foundation grade vegetable seeds and 1,250 MT of quality potato seeds will be produced. In order to increase the productivity levels split application of fertilisers and plant protection measures will be popularised in an area of 2,565 ha. Infrastructure development will be taken up in the input centres and horticultural farms in the district. 360 selected farmers will be given training on eco-development and 360 Nos. of demonstrations will be conducted on fruit preservation methods.

Forestry :

17.33 The forestry programme will lay emphasis on eco-development and eco-preservation during the Seventh Plan. It is proposed to take up afforestation in an area of 2,500 ha. in denuded hills, restoration of semi-evergreen forests in 1,000 ha. raising of minor forest species in 150 ha. and development of pasture and fodder in 200 ha. It is proposed to carry out soil conservation works in the reserved forest area by constructing 100 Nos., of checkdams. Besides 50 lakhs Nos. seedlings will be raised and distributed to public to encourage them to plant trees in their patta lands. It is also proposed to protect the reserve forest from intrusion by constructing 5,000 Nos. of cairns in critical areas. It is also proposed to take steps to protect endangered sholas in 250 ha.

17.34 The spillover works of deer park, road works and staff amenities will be completed during the Seventh Plan. The total outlay for the development of forests will be Rs. 450 lakhs.

Minor Irrigation:

17.35 The hilly nature of the terrain makes it very difficult to have major irrigation sources though there are a large number of sub-streams in the Nilgiris district. Therefore construction of small checkdams and diversion channels have been taken up under HADP without affecting power generation and drinking water supply. These checkdams besides providing irrigation facilities will help in conserving moisture and also arrest

soil erosion in the steep slopes. During the Sixth Plan 28 checkdams and 5 irrigation wells have been completed at a cost of Rs. 60.19 lakhs. During the Seventh Plan spillover works of 17 checkdams sanctioned during 1984-85 will be completed at a total cost of Rs. 6.61 lakhs. Besides another 40 checkdams will also be taken-up during the Seventh Plan at a total cost of Rs. 60.80 lakhs.

Fisheries :

17.36 For the development of trout fishery, facilities were created during the Sixth Plan for rearing fish seeds/fingerlings. The programme was hampered for want of transportation facilities. Therefore, it is proposed to purchase one vehicle at a cost of Rs. 1.50 lakhs for transporting fish seeds/fingerlings.

Animal Husbandry :

17.37 For the development of Animal Husbandry it is proposed to provide infrastructural facilities such as veterinary sub-centres and dispensaries in the Nilgiris district. It is proposed to take up construction of buildings for these veterinary sub-centres. Besides, the fodder farm at Kuruthukuli is also proposed to be strengthened during the Seventh Plan. An outlay of Rs. 30.00 lakhs has been earmarked for animal husbandry schemes.

Dairy Development :

17.38 One of the major constraints for Dairy development in the Nilgiris district is non-availability of fodder during the summer months (February to May). Fodder development has not been given adequate attention in the district although a number of development schemes have been implemented for dairy development. It is proposed to expand the fodder demonstration farm at Vazhathottam into a pucca farm and to establish a demonstration fodder farm at Bokkapuram, during the Seventh Plan at a total cost of Rs. 34.50 lakhs.

17.39 Animal health cover is very essential for dairy development. In the hilly terrain the habitations are scattered and it is necessary to provide animal health cover at the door steps of farmers. Therefore it is proposed to expand and intensify the animal health cover by providing necessary vehicles, equipments, medicines, etc. As a result of the various developmental activities taken under dairy development the milk yield has increased considerably. It is essential to build up necessary infrastructural facilities for collecting and marketing the milk. Therefore it is proposed to strengthen the infrastructural facilities already available and to provide facilities wherever

necessary during the Seventh Plan for collecting and marketing the milk. An outlay of Rs. 88.75 lakhs has been proposed for animal health care and development of infrastructural facilities.

Roads :

17.40 Providing necessary communication facilities and linking the production centres with the marketing centres are very necessary for the economic development of the hill areas. During the Sixth Plan a number of road works were taken-up for improvement. The incompleting spill over works are to be completed during the Seventh Plan at a total cost of Rs. 180.00 lakhs.

17.41 41 micro watersheds are being taken up for integrated development during the Seventh Plan. These watersheds are proposed to be spread over a period of 3 to 4 years. For making the people to participate in the eco-development programme it is necessary to provide the felt needs of the community living in the selected micro-watersheds. These micro-watersheds have to be linked to the nearby marketing centres or urban centres. It is proposed to provide link roads in the selected micro-watersheds at a cost of Rs. 500 lakhs during the Seventh Plan.

Tourism :

17.42 Tourism promotion activities which in any way do not disturb the ecology of the Ghats region and the aesthetic appeal of scenic spots are to be encouraged under HADP. During the Sixth Plan certain schemes for providing amenities at scenic spots were taken up. It is proposed to provide amenities at certain selected view points at a total cost of Rs. 8.00 lakhs during the Seventh Plan.

17.43 Apart from this development of Ralli dam, Uyilatti falls, improvements to Ketti view points, and construction of cottages at Gudalore will be taken up at a total cost of Rs. 42 lakhs during the Seventh Plan.

Co-operative Tea Factories :

17.44 Under horticultural development programme a large area has been brought under tea bushes as an erosion control measure. Therefore it is necessary to develop required infrastructural facilities for manufacturing and marketing tea. There are 13 co-operative tea factories already functioning in the Nilgiris district. Most of these co-operative tea factories have worn out machineries. Besides some of the factories have only single line of production such as CTC tea or

Orthodox tea. It is proposed to strengthen these co-operative tea factories by providing assistance to them for the replacement of worn out machineries and provision of additional machineries wherever necessary so as to have both CTC and Orthodox types of tea production. An outlay of Rs. 351 lakhs has been provided for this purpose.

Khadi and Village Industries :

17.45 The scope for development of bee-keeping industry in the Nilgiris district is vast with immense potentiality of blossom flowers throughout the year such as coffee, eucalyptus, Kuringi, Orange and other forest flowers. Similarly, the locally available raw materials like lemon grass and eucalyptus can be utilised for extracting essential oils. These Khadi and Village Industries will provide employment opportunities to the local people. The economic development of the people living in the hilly areas is essential for soliciting their active participation in the eco-development programme. Therefore, it is proposed to expand and develop the Khadi and Village Industries in the Nilgiris district at a total cost of Rs. 30 lakhs during the Seventh Plan.

Sericulture :

17.46 To develop sericulture in the Nilgiris a scheme was formulated to bring 500 acres under mulberry during the Sixth Plan. 365 acres have been brought under mulberry so far. It is proposed to continue the scheme during the Seventh Plan also. Under this scheme farmers will be provided with planting materials and financial assistance for the purchase of rearing appliances and rearing sheds. For meeting the seed requirements of the farmers in the Nilgiris district a seed multiplication farm was established during the Sixth Plan. It is proposed to continue this scheme during the Seventh Plan also. This farm will supply 10,000 Nos. of DFLs. to the farmers every year.

17.47 Bivoltine silk worms reared under controlled temperature and humidity conditions in Chawkie stage (younger stage) give good yield and better returns to the farmers. Therefore two chawkie rearing centres were established during the Sixth Plan. These two centres will be continued during the Seventh Plan also. These centres will rear and supply 35,000 DFLs. every year to the farmers.

17.48 Since bivoltine silk worms are susceptible to disease it is essential to have periodic disinfection of the farmers' rearing houses. A disinfection squad is already functioning for this purpose. This scheme will be continued during the Seventh Plan also.

17.49 It is also proposed to purchase breeding equipments for the research extension centres for the development of sericulture in the Nilgiris. The total cost of all the above schemes will be Rs. 52.15 lakhs for the Seventh Plan.

Public Health :

17.50 Since the settlements in the hill district are scattered there are problems in providing health care facilities to the people. At present people in these scattered habitations are to walk long distances to get medical and health care facilities. Since integrated micro-watershed approach is to be adopted for the development of this hill district it is felt necessary that adequate medical and health care facilities should also be provided to these selected micro-watersheds. Therefore an outlay of Rs. 50 lakhs has been earmarked for providing medical and health care facilities during the Seventh Plan.

Water Supply :

17.51 In order to provide potable drinking water supply to the rural people a scheme was formulated during the Sixth Plan. Under this scheme water supply will be extended to way-side villages of Ooty water supply system. During the Seventh Plan assistance to the tune of Rs. 100 lakhs will be provided to the Ooty water supply scheme to extend drinking water supply to the villages.

Social Inputs Programme (UNICEF assisted) :

17.52 In order to provide health and nutrition care a social inputs programme has been in operation in the Nilgiris district during the Sixth Plan. For this scheme an assistance of Rs. 88 lakhs has to be given from HADP funds. It is proposed to allot Rs. 12.34 lakhs for this UNICEF assisted Social Inputs Programme during the Seventh Plan.

Pollution Control in Ooty Lake :

17.53 The Ooty Lake has been affected by siltation and pollution. This lake is a landmark in this tourist resort. It is proposed to control the pollution of the Ooty lake at a total cost of Rs. 100.00 lakhs during the Seventh Plan.

Improvements to Lovedale Lake :

17.54 Lovedale lake is another important tourist spot in the Nilgiris. This lake is also affected by siltation and pollution. It is proposed to develop

and beautify this lake during the Seventh Plan at a total cost of Rs. 25.00 lakhs.

Cultural activities—Open Air Stadium :

17.55 A large number of foreign and Indian tourists visit this Queen of hill stations every year. The absence of a open air stadium for conducting sports and cultural activities is being felt very badly. It is proposed to take up the construction of an Open Air Stadium by mobilising the resources from local bodies during the Seventh Plan. Financial assistance has been sought under HADP also. It is proposed to allot Rs. 10 lakhs for this purpose.

Eco-Development Camps and tree planting by Home guards :

17.56 A novel scheme of eco-development camps and tree planting by homeguards was taken up during the last year of the Sixth Plan. This scheme is expected to create awareness among the people on eco-development aspects. During the Seventh Plan it is proposed to continue the scheme since it has a good response. It is also proposed to impart training on eco-development programmes. Therefore for creating necessary infrastructure for the purposes of training and

for tree planting by Homeguards a sum of Rs. 5.00 lakhs is allotted for the Seventh Plan.

Geo-Technical Cell :

17.57 The Nilgiris district is susceptible for land slides and land slips. During the heavy rains of 1978 and 1979 a large number of land slides and land slips occurred in the Nilgiris. In order to assess the causes and to suggest remedial measures the State Geology and Mining Department in collaboration with the Geological Survey of India took up the study of those land slides. This study covered nearly 50 per cent of the area in the Nilgiris district. The findings of this study are very useful in taking measures for containing land slides in the Nilgiris. During the Seventh Plan it is proposed to study the remaining portions of the Nilgiris district and suggest suitable measures for controlling land slides in those areas. An allocation of Rs. 14.65 lakhs has been made for this purpose.

Planning Cell at Ooty Collectorate :

17.58 A Planning Cell has been set up in the Ooty Collectorate for plan formulation and monitoring of Hill Area Development Programme. This Cell will be continued during the Seventh Plan also. An outlay of Rs. 12.50 lakhs has been earmarked for this Cell.

Part B

SECTORAL PLANS

II Co-operation

CHAPTER 18.

CO-OPERATION.

Background :

18.0. Democratic decentralisation is achieved through Panchayat raj. But economic decentralisation can be secured only through promotion of Co-operative Movement. As is wellknown, the significant milestones in the growth of the Co-operative Movement has been the Co-operative Credit Societies Act, 1904, for providing debt relief to the farmers and for supply of credit to them for agricultural production. It was followed by an Act in 1912, providing for the formation of the societies for the purpose other than Agricultural Credit. In the year 1919, Co-operation became a State subject and the Madras Co-operative Societies Act was introduced in 1932, followed by the Madras Co-operative Land Mortgage Banks Act, 1934. The Act which is now in force in Tamil Nadu is the Co-operative Societies Act of 1961.

18.1. The Co-operative Movement has made its entry into almost all the sectors of development in Tamil Nadu be it in the field of agriculture or in the field of dairying, fisheries, animal husbandry, etc., or be it in the industrial field, like running of spinning mills, sugar factories, or be it in providing services to the public through a net work of both urban and rural consumer stores or through providing basic amenities like housing, the Co-operatives have played their role.

18.2. The Co-operatives in Tamil Nadu continue to enjoy State assistance in different forms under various developmental schemes under the Five-Year

Plans to enable them to render efficient service to the community as a whole. Among the various forms of assistance provided by the State Government to Co-operatives the following are worth mentioning :

- (i) Participation in the share capital of Co-operative Societies.
- (ii) Financial assistance by way of loan and subsidy for various specific purposes.
- (iii) Provision of guarantee for repayment of deposits held as well as borrowings made by the Co-operative Societies.
- (iv) Rendering managerial assistance to Co-operative Institutions.
- (v) Contribution towards the debentures floated by the Tamil Nadu Co-operative State Land Development Bank, etc., and
- (vi) Other concessions.

Financial Performance under the Sixth Plan :

18.3. A total financial outlay of Rs. 2533 lakhs was fixed under the Sixth Plan for the Head of Development, 'Co-operation'. This figure includes an amount of Rs. 12 lakhs for the scheme "New Well Subsidy" classified under the Head of development "Minor Irrigation" and a sum of Rs. 100 lakhs for the scheme "Scheduled Caste Agriculturists coming into Co-operative fold" classified under the Head of development "Welfare of Scheduled Castes and Scheduled Tribes". Excluding these, the details of performance under the Sixth Plan were as given below :

Serial number.	Group Head.	Outlay for Sixth Plan (1980-85).	Total expenditure for Sixth Plan (1980-85).
(1)	(2)	(3)	(4)
(RS. IN LAKHS)			
I.	Direction and Administration .. .. .	..	..
II.	Credit Co-operatives	1,872.40	19,14.07
III.	Marketing Co-operatives	1,90.11	1,69.68
IV.	Consumer Co-operatives	1,33.68	2,07.17
V.	Education, Research and Training	2.52	4.86
VI.	Tribal Areas Sub-Plan	1,75.00	1,45.17
VII.	Other Co-operatives	46.85	47.78
Total—CO-OPERATION ..		24,20.56	2,488.73

Sixth Plan Physical Performance.—

18.4. The details of targets fixed for the Sixth Plan and the achievements were as follows :—

<i>Serial number.</i>	<i>Objective.</i>	<i>Unit.</i>	<i>Sixth Plan Target 1980-85.</i>	<i>Achievement during Sixth Plan 1980-85</i>
(1)	(2)	(3)	(4)	(5)
1.	Short term loans (Issue during the terminal year)	Rs. in crores.	200	1,10.80
2.	Medium term loans (Issue during the five year period).	„	60	60.58
3.	Long term loans (Issue during the five year period)	„	80	60.42
4.	Retail sales of fertilisers (Sales during the terminal year)	„	100	61.72
5.	Agricultural produce marketed (Marketing during the terminal year)	„	90	1,17.16
6.	Retail sale of consumer goods by consumer co-operatives (Sale during the terminal year)	„	240	285.00
7.	Co-operative storage (cumulative)	Lakh tonnes.	6.30	6.11

18.5. The shortfall in the provision of short term loans and long term loans are due to the unprecedented heavy overdues at the level of the members of the Agricultural Service Co-operative Societies and the Land Development Banks as a result of successive natural calamities and organised resistance to the repayment of co-operative loans by the farmers associations. Reduced supply of short term cultivation loans has also resulted in short fall in achieving the target for retail sale of fertilisers.

Position during the base year (1984-85).

18.6. The credit co-operatives are providing to the farmers short term loans for cultivation purposes, medium term loans for agriculture and subsidiary occupations and long term loans for agricultural purposes. The size of the short term, medium term and long term loans provided during the base year 1984-85 was Rs. 110.80

crores, Rs. 17.35 crores and Rs. 20.37 crores respectively. Besides, loans on the pledge of jewels are being provided in rural and urban areas and the issue of such loans during 1984-85 was of the order of Rs. 218.82 crores. Fertilisers are being retailed by co-operatives throughout the State through over 4,800 retail units and the sales during 1984-85 were Rs. 61.72 cores. Agricultural produce are being marketed by the co-operatives to the advantage of the producers and the value of the produce marketed during 1984-85 was Rs. 117.16 crores. Retail sales of consumer goods were effected to the value of Rs. 195 crore in urban areas during 1984-85. Over 12,500 fair price shops run by the co-operatives in villages in the State effect sales of essential commodities and other consumer goods and the value of such sales during 1984-85 was Rs. 90 crores. The storage capacity of the godowns owned by the Co-operatives in villages and marketing centres was 6.11 lakh tonnes at the end of the year.

Major aims of the Seventh Five-Year Plan :—

18.7. The objectives of the Seventh Five-Year Plan are to accelerate the growth in food production, increase employment opportunities and raise productivity. In tune with these objectives the co-operatives will play a vital supporting role in their spheres of activity. The targets to be achieved at the end of the Plan period in certain important fields are as follows :—

(1) The credit co-operatives will increase twice their supply of short term agricultural credit to Rs. 250 crores during the terminal year of the Plan period from Rs. 110.80 crores achieved during the Sixth Plan period;

(2) The supply of medium term agricultural credit will be increased to Rs. 120 crores during the Seventh Plan period from Rs. 60.58 crores achieved during the Sixth Plan period ;

(3) The long term loans advanced during the Seventh Plan period will be raised to Rs. 120 crores from Rs. 60.42 crores achieved during the Sixth Plan period ;

(4) The share of weaker sections in the short term loans provided by the co-operatives which was 53 per cent at the end of 1984-85 will be raised to 75% at the end of the plan period;

(5) The level of supply of chemical fertilisers distributed by co-operatives which was at 1.79 lakhs tonnes (NPK) valued at Rs. 61.72 crores at the end of 1984-85 representing 26 per cent of the total consumption in the State will be increased to 4.00 lakh tonnes (NPK) valued at Rs. 190 crores during the terminal year of the Plan period to represent 52 per cent of the total consumption ;

(6) The value of agricultural produce marketed by the co-operatives will go up to Rs. 210 crores during the terminal year of the Plan period, as against Rs. 117.16 crores at the end of 1984-85.

(7) The crucial role played by the consumer co-operatives in the distribution of consumer goods including essential commodities will be accelerated by increasing the value of retail sales by them to Rs. 550 crores during the terminal year of the Plan period, as against Rs. 285 crores at the end of 1984-85 and

(8) The co-operative storage capacity will be further increased to 6.85 lakh tonnes at the end of the Plan period from the present 6.11 lakh tonnes.

18.8. An abstract of financial outlay under "Co-operation" together with the scheme-wise financial allocation for the Seventh Five-Year Plan and the physical target for the Seventh Five-Year Plan are given in the tables.

TABLE 19. 1.

ABSTRACT

SEVENTH FIVE-YEAR PLAN 1985-90

CO-OPERATION—FINANCIAL OUTLAY.

<i>Serial number and Group Head.</i>	<i>Outlay for</i> 1985-90. (RS. IN LAKHS)
1. Direction and Administration ..	1,17.85
2. Credit Co-operatives (including Tribal areas sub-plan) ..	29,04.44
3. Labour Co-operatives	19.85
4. Marketing Co-operatives	1,45.45
5. Consumer Co-operatives	1,88.91
6. Education, Research and Training.	7.40
7. Other Co-operatives	41.10
TOTAL—CO-OPERATION ..	35,00.00*

* The total will not add up to Rs. 3500 lakhs as a sum of Rs. 75.00 lakhs for the scheme, viz., "Assistance to Scheduled Castes Agriculturists coming into Co-operative fold" is exhibited under the Sector "Welfare of SC/ST and Other Backward Classes".

TABLE 18-2.
CO-OPERATION.
PHYSICAL ACHIEVEMENTS, 1984-85.

Serial number and Scheme.	Unit.	Base level 1984-85
(1)	(2)	(3)
I. Co-operative Credit—		
1. Coverage of Agricultural holdings by credit Co-operatives ..		
(a) Total Operational holdings	Percentage	86
(b) Operational holdings belonging to weaker sections ..	Do.	83
2. Effective coverage of member ship—		
(a) All members	Do.	49
(b) Members belonging to weaker sections	Do.	48
3. Issue of short term and medium term loans during the year	Rs. in crores	1,28.15
4. Coverage of weaker sections in the issue of loans :—		(110.80+17.35)
(a) Short term	Percentage	53
(b) Medium term	Do.	93
5. Increasing the inputs proportion to the total Agricultural loans	Do.	36
6. Issue of jewel loans by Credit Co-operatives	Rs. in crores.	218.82
7. Financing of cottage and small scale industries by Urban Co-operative Banks—loans issued in the last year.	Do.	3.20
8. Involvement of Co-operatives in industrial financing :—		
(a) Urban Banks	Number.	93
(b) Agricultural service co-operative societies formed by reorganisation of societies	Do.	..
(c) Farmers Service Societies	Do.	..
9. Number of viable agricultural service co-operative societies formed by reorganisation of societies	Do.	4,295
10. Strengthening the internal resources of credit co-operatives :—		
(a) Share capital at the end of the year		
(i) Central Co-operative Banks	Rs. in crores.	25.86
(ii) Agricultural service co-operative societies	Do.	40.84
(b) Deposits held at the end of the year.		
(i) Central Co-operative Banks	Do.	382.56
(ii) Agricultural Service Co-operatives	Do.	30.62
(c) Mobilisation of Deposits at Central Co-operative Banks level from private individuals and organisations ..	Percentage.	65
II. Issue of longterm loans during the year	Rs. in crores.	20.37
II. Co-operative Marketing Processing and Storage.		
12. Value of agricultural produce handled during the year ..	Do.	117.16

TABLE 19-2—cont.

CO-OPERATION.

PHYSICAL ACHIVEMENTS, 1984-85.

Serial number and Scheme.	Unit.	Base level. 1984-85.
(1)	(2)	(3)
13. Collection of production loans	Rs. in lakhs.	5,82.24
14. Issue of produce pledge loans	Do.	211.00
15. Distribution of Chemical fertilisers by Co-operatives during the year.		
Quantity	Lakh Tonnes.	1.79
Value	Rs. in crores.	61.72
16. Distribution of pesticides by Co-operatives during the year	Rs. in lakhs.	1,96.22
17. Distribution of agricultural implements by Co-operatives During the year	Do.	18.05
18. Setting up processing units	Numbers.	
(1) Rice Hullers	Do.	38
(2) Groundnut Decorticators	Do.	17
(3) Oil Expellers	Do.	8
(4) Cotton Ginning Units	Do.	16
(5) Coffee curing plant	Do.	1
(6) Solvent Extraction plant	Do.	1
(7) Fruit Processing Units	Do.	2
(8) Tapioca Processing Unit	Do.	1
(9) Cold Storage Plant	Do.	1
(10) Sunflowers/Groundnut seed oil plants	Do.	3
	Total ..	88
19. Construction of godowns —		
(a) Assisted	Numbers.	4,529
(b) Construction completed	Do.	4,355
(c) Capacity of completed godowns	Lakh Tonnes.	6.11
III. Consumer's Co-operatives.—		
20. Value of retail sales by consumer co-operatives ..	Rs. in crores.	285
IV. Co-operatives for weaker sections.—		
21. Number of cycle-rickshaw drivers co-operative societies at the end of the year	Number.	3

TABLE—19-3.
SEVENTH-FIVE YEAR PLAN 1985—90
CO-OPERATION.

DETAILS OF SCHEMES WITH PHYSICAL UNITS AND BREAK UP OF FINANCIAL OUTLAY.

Serial number and name of the Scheme.	Seventh Plan (1985-90) Outlay.	Number of Units to be assisted.	Annual outlay for (RUPEES IN LAKHS.)				
			1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ongoing Schemes—							
<i>Credit Co-operatives :</i>							
1 Assistance to Agricultural Service Co-operative Societies towards incentive for popularising Modern Agricultural implements	50.00	500 societies.	5.00	15.00	10.00	10.00	10.00
2 Transfers to the Tamil Nadu Crop Insurance Fund ..	26.00	1	1.00	5.50	6.00	6.50	7.00
3 Premium subsidy to small and marginal farmers enrolled under Crop Insurance scheme (state share only) ..	18.00	Small and marginal farmers.	0.50	3.50	4.00	5.00	5.00
4 Contribution to the Agricultural Credit Stabilisation Fund of the Tamil Nadu Co-operative State Land Development Bank.	175.02	1 (SLDB)	0.02	40.00	45.00	45.00	45.00
5 Contribution to the State Agricultural Credit Relief Fund	555.61	1	0.01	120.00	140.00	140.00	155.60
6 Assistance to the Agricultural Service Co-operative Societies towards State Government's share (15 per cent) of the financial burden in converting loans on account of natural calamities.	1025.94	..	130.82	400.00	..	495.12	..
7 Contribution to the Central Co-operative Banks, Agricultural Service Co-operative Societies, primary land Development Banks for strengthening share capital structure (by borrowing from the Long Term Operation Fund of NABARD).	80.03	..	0.03	20.00	20.00	20.00	20.00
8 Assistance for construction of rural godowns (State share-only).	302.05	450 godowns.	13.15	84.30	61.80	68.00	74.80
9 Assistance to Agricultural Service Co-operative Societies for purchase of iron safes with trays.	75.00	500 societies.	6.00	17.25	17.25	17.25	17.25

TABLE—19-3.—*contd.*

Serial number and name of the Scheme.	Seventh Plan (1985-90) Outlay.	Number of Units to be assisted.	Annual Outlay for				
			1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
10 Interest rebate to small farmers for prompt repayment of short term loans and medium term loans instalments.	67.00	Small farmers.	5.00	10.00	13.00	17.00	22.00
11 Assistance to Co-operative Institutions in Tribal Areas under Tribal Areas Sub-Plan.	275.11	12 societies.	40.00	81.84	57.44	45.59	50.24
12 Assistance to Hill Tribes LAMP Co-operative Societies in other than Tribal Sub Plan.	14.50	1 society.	0.01	5.10	2.09	4.73	2.57
13 Assistance to Co-operative Credit Societies in Urban Areas for adoption of differential rate of interest for industrial finance to weaker sections.	15.00	..	3.00	3.00	3.00	3.00	3.00
<i>Labour Co-operatives :</i>							
14 Assistance to Labour Contract Co-operative Societies and organisation of State Federation of Labour Contract Co-operative Societies.	19.85	26 (25 societies and one federation)	2.75	4.65	4.15	4.15	4.15
<i>Marketing Co-operatives :</i>							
15 Assistance to Co-operative Marketing Societies for establishment of market yards, for purchase of lorries and for purchase of grading equipments for improving the marketing activities.	81.40	22 societies.	7.40	18.50	18.50	18.50	18.50
16 Assistance to Vegetable Growers Co-operative marketing societies.	25.00	250 societies.	..	10.00	5.00	5.00	5.00
17 Assistance for installation of processing plants (State Government' share only).	19.14	10 cotton ginning units.	1.47	4.84	4.55	4.28	4.00
18 Assistance to Co-operative Marketing Federation towards reimbursement of expenses incurred in the distribution of pool fertilisers.	3.20	1 federation.	..	0.80	0.80	0.80	0.80
19 Assistance to Tamil Nadu Co-operative Marketing Federation for investment in the shares of Krishak Bharathi Limited.	5.00	Do.	5.00	..	..	..	..

TABLE—19-3.—*contd.*

Serial number and name of the scheme.	Seventh Plan (1985-90) outlay.	Number of units to be assisted.	Annual Outlay for				
			1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20 Scheme for multiplication of quality seed including potato.	11.71	11 societies.	0.07	11.64	..	..	..
<i>Consumer Co-operatives.</i>							
21 Assistance towards setting up of modern retail units ..	29.60	37 units.	4.00	6.40	6.40	6.40	6.40
22 Assistance to consumer co-operatives for setting up quality testing Laboratories.	14.00	14 laboratories.	3.00	3.00	3.00	3.00	2.00
23 Assistance to Co-operative wholesale stores for distribution of vegetables.	28.50	19 societies.	6.00	6.00	6.00	6.00	4.50
24 Assistance for construction of godowns by consumer societies selected under the scheme for distribution of consumer articles in rural areas.	11.67	5 godowns.	2.89	1.89	2.08	2.29	2.52
25 Assistance to primary Co-operative stores for rehabilitation.	12.50	50 societies.	2.50	2.50	2.50	2.50	2.50
26 Assistance for rehabilitation of weak consumers co-operative wholesale stores.	25.01	5 societies.	0.01	10.00	5.00	5.00	5.00
27 Assistance to High School Students Co-operative Stores ..	12.60	600 societies.	..	3.15	3.15	3.15	3.15
28 Assistance to Consumer Co-operatives for establishment of consumer industries (State Government's share only).	6.01	5 industries.	0.01	1.50	1.50	1.50	1.50
<i>Education, Research and Training.</i>							
29 Scheme for conducting short term courses for departmental staff.	7.40	60 courses.	1.80	1.40	1.40	1.40	1.40
<i>Other Co-operatives.</i>							
30 Assistance to construction Co-operative Societies for unemployed engineering graduates and diploma holders.	16.21	5 societies.	0.21	4.00	4.00	4.00	4.00

TABLE—19-3.—*contd.*

<i>Serial number and name of the scheme.</i>	<i>Seventh Plan (1985-90) outlay.</i>	<i>Number of units to be assisted.</i>	<i>Annual Outlay for</i>				
			<i>1985-86</i>	<i>1986-87</i>	<i>1987-88</i>	<i>1988-89</i>	<i>1989-90</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
31 Assistance to cycle rickshaw drivers co-operative societies for energising cycle rickshaws.]	5.08	5 societies.	1.08	1.00	1.00	1.00	1.00
32 Assistance to salt workers co-operative societies	5.00	5 societies.	1.00	1.00	1.00	1.00	1.00
33 Assistance to co-operative printing societies	9.01	10 societies.	1.01	2.00	2.00	2.00	2.00
34 Assistance to physically handicapped welfare co-operative societies.	5.80	10 societies.	1.00	1.20	1.20	1.20	1.20
TOTAL—ONGOING SCHEMES	3,032.95		245.74	900.96	452.81	950.36	483.33

TABLE 19-3—contd.

Serial number and name of the scheme.	Seventh Plan (1985-90) outlay.	Number of units to be assisted.	Annual outlay for				
			1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>New Schemes—</i>							
<i>Direction and Administration :</i>							
1 Strengthening of supervision by re-organisation of Deputy Registrar's circles and sanction of additional staff for implementation of the recommendation of the O and M. Team.	114.48	Employment of staff.	..	26.56	27.89	29.28	30.75
2 Scheme for computerisation of data pertaining to co-operatives.	1.25	Head quarters office.	..	1.25	..	..	..
3 Scheme for revival/liquidation of dormant societies of various types.	2.12	Do.	..	0.46	0.50	0.55	0.61
<i>Credit Co-operatives :</i>							
4 Contribution to the Failed wells Compensation Fund ..	32.01	1 (SIDB)	0.01	8.00	8.00	8.00	8.00
5 Scheme for financing dry land farming by Agricultural Service Co-operative Societies at differential rate of interest viz. 4 per cent.	186.01	Small and marginal farmers raising rainfed crops.	0.01	46.50	46.50	46.50	46.50
6 Scheme for adoption of families below poverty line by Agricultural Service Co-operative Societies for implementation of various economic development schemes by providing all loans at differential rate of interest viz. 4 per cent per annum.	40.00	80,000 families.	..	8.50	9.50	10.50	11.50
7 Assistance to Agricultural Service Co-operative Societies for opening of Agricultural service depots for supply of all inputs required by the farmers under one roof.	25.00	250 Societies.	5.00	5.00	5.00	5.00	5.00
8 Assistance to educated unemployed youth Co-operative societies.	4.00	4 Societies.	..	1.00	1.00	1.00	1.00

(RUPEES IN LAKHS.)

TABLE 19-3—contd.

Serial number and name of the Scheme.	Seventh Plan (1985-90) outlay.	Number of units to be assisted.	Annual outlay for				
			1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
9 Assistance to State Federation of Co-operatives urban banks.	2.01	1 federation	0.01	0.50	0.50	0.50	0.50
10 Rehabilitation of weak co-operative urban banks.. ..	7.13	11 Banks.	1.92	1.95	1.98	1.28	..
11 Organisation of co-operative urban credit societies for women belonging to weaker sections including widows for provision of credit at 4 per cent with subsidy for undertaking cottage industries.	4.02	5 societies.	0.02	1.00	1.00	1.00	1.00
<i>Consumer Co-operatives:</i>							
12 Assistance to primary co-operative stores for construction of business premises.	45.00	60 societies.	5.00	13.00	9.00	9.00	9.00
13 Organisation of women consumer co-operatives in each district for distribution of consumer articles including bread-jam, appalam, pickles, etc. prepared by the member.	4.02	5 societies.	0.02	1.00	1.00	1.00	1.00
TOTAL—NEW SCHEMES ..	467.05		11.99	114.72	111.87	113.61	114.86
GRAND TOTAL— ONGOING AND NEW SCHEMES ..	3,500.00*		257.73	1,015.68	564.68	1,063.97	597.94

*A sum of Rs. 75.00 lakhs is excluded here and it is shown for the scheme "Assistance to Scheduled Castes Agriculturists coming into Co-operative fold" under the head of development "Welfare of SC/ST and other backward classes".

TABLE 19-4.
CO-OPERATION.
SEVENTH FIVE-YEAR PLAN, 1985-90.

Physical Targets.

<i>Serial number and physical objective.</i>	<i>Seventh Five Year Plan Target (1985-90).</i>	<i>Annual physical target.</i>				
		1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Short term loans (Rupees in crores) (issue during the terminal year) ..	250.00	135	160	185	215	250
2 Medium term loans (Rupees in crores) (cumulative)	120.00	20	20	20	30	30
3 Long term loans (Rupees in crores) (cumulative)	120.00	20	20	23	27	30
4 Retail sale of fertilisers (Rupees in crores) (Sales during the terminal year.)	190.00	70	82	98	117	190
5 Agricultural produce marketed (Rupees in crores) (Marketed during the terminal year)	210.00	125	135	155	180	210
6 Retail sales of consumer goods by urban consumer co-operatives (Rupees in crores) (Sales during the terminal year)	320.00	210	300	310	315	320
7 Retail sale of consumer goods through co-operatives in Rural Areas (Rupees in crores) (Sales during the terminal year)	130.00	90	200	210	220	230
8 Co-operative storage (in lakhs of tonnes) (cumulative)	6.85	6.33	6.43	6.54	6.65	6.81

Part B

SECTORAL PLANS

**III Irrigation, Flood Control
and Power**

CHAPTER 19.

WATER DEVELOPMENT-IRRIGATION AND FLOOD CONTROL.

Preamble :

19.0. The Tamil Nadu with an area of 1,30,000 Sq. kms. and present population of 49 million has almost utilised the entire available surface water resources. There is no scope for any new major river valley project in the State except diversion of west flowing rivers of Kerala to dry areas in Tirunelveli, Ramanathapuram, Madurai, Coimbatore and Periyar districts. The meagre flows available in tributaries of rivers and the flash flows in the jungle streams are the only resources which can be tapped for formulating Medium and Minor Irrigation Schemes. Even such sources which can be dependant upon, are very few. In view of the limitation, modernisation of old Irrigation systems and diversion of west flowing rivers will be the main works and activities in the Irrigation sector during the Seventh Five-Year Plan period.

Details of work done during the Sixth Five-Year Plan :

19.1. The approved outlay for irrigation (Major, Medium, etc.) and Flood Control during Sixth Five-Year Plan period was Rs. 177.79 crores. The total actual expenditure during the Sixth Plan was Rs. 161.33 crores.

19.2. Out of the eight Major, Medium and Modernisation Schemes, namely :—

1. Parambikulam Aliyar Project.
2. Modernisation of Thanjavur Channel.
3. Periyar Vaigai Project I Stage.
4. Kodaganar Reservoir Scheme.
5. Kelavarapalli Reservoir Scheme.
6. Sathanur Right Bank Canal.
7. Gundar Reservoir Project.
8. Improvements to Veeranam Tank Supply Channel.

sanctioned in Pre Sixth Five-Year Plan period the following Schemes namely:—1. Parambikulam Aliyar Project, 2. Sathanur Right Bank Canal, 3. Gundar Reservoir Project, 4. Improvements to Veeranam Tank Supply Channel, 5. Periyar Vaigai Project-I Stage have been completed by the end of the Sixth Plan.

The balance of three works namely Kodaganar, Kelavarapalli and Modernisation of Thanjavur Channels will be continued during the Seventh Five-Year Plan. The Kodaganar Project, while damaged by unprecedented floods has been reformulated and sanctioned in 1984-85. The Kelavarapalli Project had been stalled because of legal dispute which is continuing. The Modernisation of Thanjavur channels being a large project costing more than Rs. 400 crores is being phased to be completed by the year 2000.

19.3 During the Sixth Five-Year Plan two Major Works Scheme, namely Periyar Vaigai Project Stage II and Parambikulam Aliyar Project Ayacut Extension Scheme and 22 Medium and Modernisation schemes had been sanctioned and taken up for execution. Out of the schemes the following Schemes namely,—1. Thumbalahalli, 2. Uppar, 3. Vembakottai, 4. Kullursanda, 5. Eachambadi, and 6. Sulagirichinnar are Medium Schemes and have been completed by the end of Sixth Plan. Modernisation Schemes will be continued during the Seventh Five-Year Plan period also. All the continuing schemes in the Seventh Five-Year Plan are proposed to be completed by the end of the Seventh Five-Year Plan itself.

19.4. Details of these new schemes proposed to be taken up in the Seventh Five-Year Plan is narrated below :—

Modernisation of Periyar Vaigai Irrigation System II Stage.—

19.5. The first phase of Modernisation of Periyar Vaigai system with World Bank aid of 23 million Dollars is completed. Encouraged by the water savings accrued due to Modernisation works carried out, the II Phase of the Project was also planned by the Government of Tamil Nadu and was cleared by the World Bank for an aid of 35 million Dollars which has since been taken up for execution under direct supervision of the Special Chief Engineer, Periyar Vaigai Project at Madurai. The Budget Provision of Rs. 52 crores has been earmarked by the Government of Tamil Nadu for Modernisation of Periyar Vaigai System during the Seventh Five-Year Plan period.

19.6 The main nature of work proposed to be carried out under Periyar Vaigai Improvement Scheme is lining of Main Canal, Branches, Distributaries and also field channels up to 10 hectares limit. Provision has also been made for on-farm development works in the basin.

Modernisation of Thanjavur Channel :

19.7 The Irrigation Department of Tamil Nadu is presently formulating Modernisation proposals for the Modernisation of Cauvery Delta Phase I to be posed for World Bank aid. During the Seventh Plan period the Phase I of Cauvery Modernisation Project contemplates of 10 river systems both in Cauvery and Vennar basins to offer equitable distribution of water and drainage relief to an extent of about 70,000 hectares.

The approximate cost of Phase I of the Project is expected to be in the order of Rs. 124 crores with escalation. The work is proposed to be taken up during the Seventh Five-Year Plan period and a sum of Rs. 86 crores has been provided in the Seventh Five-Year Plan. The I phase of Modernisation of Thanjavur Channels will be taken up in the Eighth Five-Year Plan

19.8 The following new schemes are proposed to be taken in the Seventh Five-Year Plan.

1. Nallar Scheme—Rs. 80.00 crores (ultimate cost)
2. Anaimalaiyar Scheme—Rs. 25 crores (ultimate cost).

Diversion of West flowing rivers — (token provision only).

Flood Control :

19.9 It is proposed to form flood banks on either side of Vaigai river below Parthibanur Regulator upto Ramnad big tank and also completion of flood protective works in and around Madras City, Ponnai basin in South Arcot District and Vennar basin in Thanjavur Delta.

Conclusion :

19.10 By implementation of these Schemes an additional irrigation potential of 33,000 hectares can be created in Tamil Nadu both under Major and Medium Schemes and also 5,800 hectares of land can be saved from submersion.

19.11 The Irrigation Management training Institute has been established with the aid of U. S. Agency for International Development with Headquarters at Tiruchirappalli to impart training in Irrigation water Management to Officers of Public Works, Agriculture and other

allied departments and for conducting research on water management. The Government have also constituted a State Technical Council and Technical Working Group to administer this Institute.

19.12 The Institute has started functioning at Madras in the first instance and proposed to be shifted to Trichirappalli in due course after the construction of its buildings. Rs. 5 crores have been provided in the Seventh Five-Year Plan period to meet the expenditure for the construction of buildings and staff expenditure. In addition, a provision has also been made for Project Investigation and research in the Seventh Five-Year Plan (Rs. 5 crores).

19.13 The total amount provided in the Seventh Five-Year Plan for Major, Medium and Flood sector is furnished below:—

	(RS. IN CRORES)
1. Major, Medium Sector	202.00
2. Water Development Service ..	10.00
3. Flood Control and Anti-Sea-Erosion	13.00
Total	2,25.00

Anti-Sea-Erosion Works :

19.14 Tamil Nadu has got 920 Kms. of Sea Coast. At present Anti-sea Erosion works are undertaken in Kanyakumari district and in Madras City.

19.15 Out of the total length of 920 Kms. 850 Kms. lie along the Bay of Bengal and 70 Kms along Arabian Sea.

19.16 In places where the waves are severe buildings, huts, valuable garden and lands etc. along the coast are affected due to erosion. To prevent erosion, Rubble Mound Sea Walls are constructed with dumped stones of weights varying from 30 kg. to 500 kg. to the required sections. The construction involves items like earthwork, filter layer, core and armour layers.

19.17 In Kanyakumari district 26 schemes costing Rs. 417.885 lakhs have been taken for execution so far, out of which 19 are old schemes (prior to 1982-83) and 7 are new ones. Besides these schemes, 9 schemes could not be taken up or stopped due to objections, by the fishermen the coast. Three scheme out (of the 19 old schemes) were sanctioned and taken up prior to the Sixth Five-Year Plan. So far 15 works have been completed in Kanyakumari district.

19.18 In Madras City five schemes have been sanctioned out of which two were completed in 1980-81 and three are in progress.

19.19 The year-wise financial outlay and the length of the coast protected are as follows :—

SIXTH PLAN EXPENDITURE AND POTENTIAL ON ANTI-SEA-EROSION WORKS.

Year.	Expenditure in lakhs			Potential (coastline protected in Kms).
	Plan projects.	Projects pending approval.	Total.	
(1)	(2)	(3)	(4)	(5)
Pre Sixth Plan	26.72	..	26.72	0.67
Sixth Plan—				
1980-81	49.62	..	49.62	1.28
1981-82	87.39	..	87.39	1.83
1982-83	41.31	..	41.31	1.92
1983-84	83.03	24.43	107.46	1.47
1984-85	78.30	217.25	295.55	2.63

Sixth Five-Year Plan Period (1980-85):

19.20 During Sixth Five-Year Plan Period an outlay of Rs. 6.00 crores with a physical target of 9.5 kms. was made. Due to objections of fishermen in the coastal areas in Kanyakumari district, several works could not be taken up and outlay has been reduced to Rs. 4.00 crores. In the first four years, an expenditure of Rs. 2.61 crores benefiting 6.52 km. was incurred. For the year 1984-85 an outlay of 90.51 lakhs benefiting 2.98 kms. was targetted, but only Rs. 78.30 lakhs could be utilised covering 2.60 kms.

Seventh Plan Period :

19.21 Taking into consideration, the performance of anti-sea-erosion works in the Sixth Plan, availability of Schemes, foreseeing the objections that may arise during execution the outlay proposed for the Seventh Plan will be Rs. 4.00 crores. This will give protection to an additional length of 10 kms. The phasing of the target is indicated below :

SEVENTH PLAN 1985-90.

1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)
(FINANCIAL TARGET RS. IN LAKHS.)				
73.00	60.00	110.00	107.00	50.00
(PHYSICAL TARGET IN kms.)				
2.00	2.00	2.00	2.00	2.00

19.22 A Major Project viz., 'construction of off-shore break waters at Royapuram in North Madras' at a cost of about Rs. 3.50 crores has been proposed. This Project is now under re-examination.

19.23 Fourteen schemes (Seven in Kanyakumari District, Four in Tirunelveli District, one in Pudukottai District and two in Madras City) costing Rs. 241.50 lakhs benefitting 7.35 kms* of Sea Coast are under consideration of Government. After approval by Government these schemes will be taken up for execution.

IRRIGATION AND FLOOD CONTROL.

<i>Serial number and name of the Scheme.</i>	<i>Approved estimated cost.</i>	<i>Latest estimated cost.</i>	<i>Proposed outlay for Seventh Five Year Plan.</i>	<i>1985-86 (Revised Estimate).</i>	<i>1986-87</i>	<i>1987-88</i>	<i>1988-89</i>	<i>1989-90</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN LAKHS.)								
A. Pre Sixth Plan Schemes—(Liabilities for Completed Schemes)—								
I. Multi Valley Project—								
1. Parambikulam Aliyar Project .. .. .	..	..	37.00	31.76	4.82	..	..	..
TOTAL I .. .. .	..	..	37.00	31.76	4.82	..	..	..
II. Major and Medium Irrigation :—								
(a) Major Irrigation :								
(i) Modernisation of Thanjavur Channels Phase-I.	..	11,705.00	8,600.00	409.80	375.00	*	*	*
(ii) Drainage schemes in Cauvery water .. .. .	..	..	..	75.35	*	*	*	*
(iii) Improvements to Periyar System Phase-II	3,858.00	5,655.00	5,200.00	1,439.00	1,566.00	..	..	..
Orathupalayam Reservoir—								
Scheme	965.00	965.00	910.00	125.00	280.00	..	..	..
Others .. .. .	..	..	..	31.32	24.95	..	..	..
TOTAL—a.	4,833.00	6,620.00	14,710.00	2,080.47	2,245.95	..	..	..

* Necessary outlay will be provided on receipt of the World Bank Aid.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(b) Medium Project—									
(i) Vattamalaikarai Odai Reservoir Scheme ..	..	..	..	14.00	6.75	5.00	..	..	..
(ii) Reconstruction of Kodaganar Scheme ..	1,010.00	1,010.00	..	970.00	75.90	108.37	..	..	..
(iii) Kelavarapalli Reservoir	607.00	610.00	..	264.00**	1.85	2.00	..	..	..
(iv) Other Schemes .. .. .	..	..	..	..	3.64	10.90	..	..	..
TOTAL—b.	1,617.00	1,620.00	..	1,248.00	87.24	126.27	..	..	..
TOTAL—I—&—II ..	6,450.00	19,945.00	..	15,995.00	2,190.47	2,377.04	..	..	..

B. New Schemes of VII Five-Year Plan :

I. Major Project :—

(a) Parambikulam-Aliyar Project .. .. .	..	..	..	400.00	302.61	316.55	..	..	..
TOTAL .. .. .	..	..	..	400.00	302.61	316.55	..	..	..

II. Medium Schemes—

1. Vaiaru Reservoir .. .. .	..	..	..	130.00	56.00	(—) 17.46	..	..	..
2. Vembakottai Reservoir .. .. .	..	..	..	10.00	22.50	1.00	..	..	..
3. Kullursandai Reservoir .. .. .	..	..	..	(—) 0.20	12.65	0.40	..	..	..
4. Strengthening of Periyar Dam .. .. .	..	..	..	800.00	200.00	210.00	..	..	..
5. Formation of an Anicut across Ponnaiar near Ichambadi. .. .. .	..	..	..	95.00	52.00	11.60	..	..	..
6. Formation of a reservoir across Thoopiar .. .. .	..	..	..	200.00	82.65	37.25	..	..	..
7. Siddamalli Reservoir .. .. .	..	..	..	140.00	76.00	87.00	..	..	..

** Work held up due to stay order of the High Court in Land Acquisition dispute.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN LAKHS)								
8. Remodelling Anandanar Channel	200.00	100.00	100.00	..	..	..
9. Noyyal Reservoir	550.00	291.00	199.00	..	..	..
10. Anaimaduvu Reservoir	530.00	150.00	175.00	..	..	..
11. Kudhiraiyar Reservoir	450.00	161.00	200.00	..	..	..
12. Lumpsum provision for New Schemes and Modernisation Schemes.	700.00	..	30.00	..	..	..
13. Other Schemes	186.49	179.54	..	..	..
TOTAL—II	3,804.80	1,390.29	1,213.33	..	..	..
New Schemes—TOTAL	4,204.80	1,692.90	1,529.88	..	..	..
 III. Other Expenditures—								
(i) Machinery and Equipment	500.00	50.00	30.00	..	..	..
(ii) Setting up of Irrigation Management Training Institute under US Aid.	500.00	98.15	60.00	..	..	..
TOTAL—III	1,000.00	148.15	90.00	..	..	..

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
C. Flood Control—									
(i) Diversion of flood flows from Vaigai Basin to Dirdamal Basin and Gundar Basin.	105.00	190.00	25.00	24.17	20.92	..	..	..	..
(ii) Improvements to Otteri Nullah— Providing Flood Banks to Adyar river from Kotturpuram to Adyar South Lock. }	..	..	1.00	1.20	..	..	..	..	..
(iii) Improvements to right side Flood Bank to Coovam.	9.00	10.00	5.00	3.60	1.00	..	..	..	..
(iv) Flood protective measures to the right bank of Coleroon River in Alankudi village.	6.00	7.00	10.00	5.00	1.00	..	..	..	..
(v) Formation of Flood Banks to Gadilam river on both sides above Panruti-Neyveli cause-way.	8.00	10.00	5.00	1.50	..	..	..	..	..
(vi) Improvements to Adyar river from Jaffarkhanpet Causeway to Adyar Bridge.	84.00	85.00	67.00	12.00	58.40	..	..	..	..
(vii) Protective measures to the puckle odai at Tuticorin Taluk.	90.00	90.00	60.00	2.65	..	..	..	..	..
(viii) Formation of Flood Bank at Malatar river in Pillur village.	22.00	25.00	20.00	15.00	7.00	..	..	..	..
(ix) Formation of Flood Bank to right side of Pambaiyar Vailamoor village, Villupuram taluk, South Arcot District.	3.00	3.00	1.00	0.05	..	..	..	..	..
(x) Providing Flood Banks to Vaigai river and restoration of Flood damaged channels below Parthibanur regulator in Ramanathapuram District.	685.00	726.00	706.00	181.00	240.00	..	..	..	..
TOTAL—C. Flood Control ..	..	..	900.00	246.17	328.32	..	..	..	..

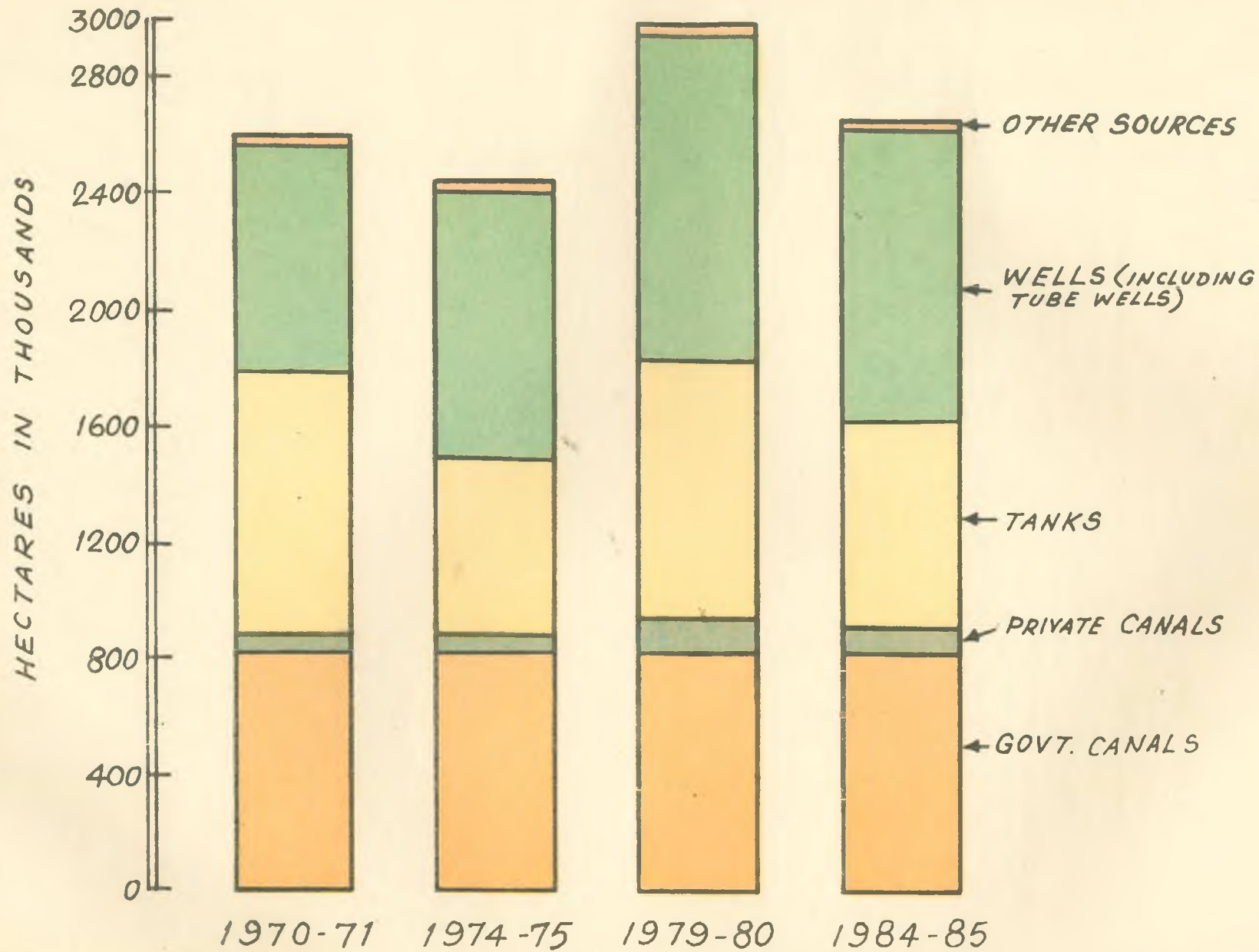
ANTI SEA EROSION WORKS.

Serial number and name of Scheme.	Approved Estimated Cost.	Latest Estimated Cost.	Proposed Outlay for Seventh Five- Year Plan.					
			1985-86	1986-87	1987-88	1988-89	1989-90	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN CRORES.)								
VI. PLAN ON GOING WORKS :								
MADRAS—								
1. (a) Construction of rubble mound sea wall for the length of 1020 m. from L.S. 4/500—6/520/Km. of S. N. Chetty Road, Royapuram, North Madras ..	0.18	0.19	0.03	0.03	..	..	..	..
(b) Nourishment works for 1,320 m. at Royapuram L.S. 4/2 to 5/520 ..	0.08	0.08	0.08	0.03	0.05	..	..	..
2. Construction of R. M. S. Wall from L.S. 5/520 KM. to 6/120 Km. of S. N. Chetty Road, Royapuram	0.15	0.17	0.15	0.10	..	0.05	..	..
3. Construction of R.M.S. wall at Santhome and formation of a portion of bypass road of Foreshore Estate, South Madras ..	0.22	0.24	0.06	0.06	..	..	..	..
4. Construction of R.M.S. Wall from 17/000 K.M.—17/800 KM. of Ennore High Road, Ennore. ..	0.31	0.31	0.24	0.05	0.10	0.09	..	..
KANNIYAKUMARI DISTRICT— ON GOING SCHEMES.								
5. Construction of R.M.S. wall at Kodiapattinam ..	0.094	0.098	0.043	0.043	..	..	..	..
6. Construction of R.M.S. wall at Kurumpanai ..	0.14	0.15	0.12	0.12	..	..	..	..
7. Construction of R.M.S. wall at Eramanthurai ..	0.50	0.55	0.20	0.20	..	..	..	..
8. Construction of R.M.S. wall at Vaniyakudi ..	0.26	0.29	0.190	0.19	..	..	..	..
9. Forming across Lager to old jetty for a length of 150 at Vivekananda Rock Memorial ..	0.031	0.031	0.021	0.021	..	..	..	..
10. Providing Mooring concrete to jetty at Vivekananda Rock Memorial ..	0.016	0.016	0.016	0.016	..	..	..	..
11. Providing black topping to the Road at Vivekananda Rock Memorial ..	0.31	0.908	0.003	0.003	..	..	..	..

Serial number and Name of the scheme.	Approved Estimated cost.	Latest Estimated cost.	Proposed outlay for Seventh Five-Year Plan.	1985-86	1986-87	1987-88	1988-89	1989-90
				(5)	(6)	(7)	(8)	(9)
(1)	(2)	(3)	(4)	(RUPEES IN CRORES.)				
New Works, Madras:—								
12. Construction of R.M.S. wall from 6/120 KM.—6/720 KM. of S.N. Chetty Road.	0.18	0.18	0.18	0.05	0.10	0.03	..	..
13. Construction of R.M.S. wall to protect the road at Adyar	0.023	0.023	0.023	0.023	..	..	..	..
Kanniyakumari district—								
14. Construction of R.M.S. wall on East of Enayam village. ..	0.11	0.11	0.11	0.05	0.06	..	..	..
15. Construction of R.M.S. wall on West of Neerodi ..	0.072	0.072	0.072	0.05	0.012	..	..	..
16. Construction of R.M.S. wall on East of Naduthuru at Keezhmanakkudi ..	0.16	0.16	0.16	0.05	0.10	0.01	..	..
17. Construction of R.M.S. wall at Pecthurai	0.25	0.25	0.25	0.05	0.10	0.10	..	..
18. Construction of R.M.S. wall on West of Keezhmidalam	0.21	0.21	0.21	0.05	0.10	0.06	..	..
19. Construction of R.M.S. wall at west of Melmidalam ..	0.32	0.32	0.32	0.05	0.10	0.10	0.07	..
20. Construction of R.M.S. wall at Pallamthurai	0.13	0.13	0.13	0.05	0.08	..	..	..
New works, Tirunelveli district.								
21. Construction of R.M.S. wall at Jeevapuram	0.20	0.20	0.20	0.05	0.10	0.05	..	..
22. Construction of R.M.S. wall at Alanthalai	0.06	0.06	0.06	0.06	..	..	..	..
23. Construction of R.M.S. wall at Periyathalai	0.13	0.13	0.13	0.05	0.08	..	..	..
24. Construction of R.M.S. wall at Manappadu	0.36	0.36	0.36	0.05	0.10	0.10	0	..

<i>Serial number and name of the scheme.</i>	<i>Approved Esti- mated cost.</i>	<i>Latest Esti- mated cost.</i>	<i>Proposed outlay for Seventh Five Year Plan.</i>	1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN CRORES.)								
<i>Pudukkottai District.</i>								
25. Construction of R.M.S. wall at Ammapattinam ..	0.22	0.22	0.22	0.05	0.10	0.07	..	..
<i>Madras.</i>								
26. Construction of offshore breakwaters at Royapuram, North Madras	3.50	3.50	0.422	..	..	..	0.25	0.172
							(Balance will go over to VII Plan.)	
	8.216	8.958	0.400	1.546	1.242	0.61	0.43	0.172

NET AREA IRRIGATED - SOURCE-WISE



CHAPTER 20.

MINOR IRRIGATION.

Preamble :

20.0. Irrigation programmes with an ultimate ayacut not exceeding 2,000 hectares in each case are classified under this head of development. The development and maintenance/management of irrigation sources commanding less than 200 hectares, though they should be strictly under this head of development, viz., "Minor Irrigation", are however being catered to under the head of development "Rural Development" for the sake of convenience. A separate head of development for "Minor Irrigation" becomes necessary in view of the vital role that these small schemes play in the sphere of Water Development and Flood Control.

20.1. Minor Irrigation schemes consist primarily of works relating to construction and maintenance of tanks, open wells and tube wells, besides small irrigation works under Nullahs and streams. SMIO and DCR works are also undertaken regularly. In Tamil Nadu 66.7 per cent of net irrigated area (1810 thousand hectares) comes under Minor Irrigation schemes. During the past Five-Year Plans, Minor Irrigation schemes have been receiving progressively increasing importance starting from the need to support the "Grow More Food Campaign" launched at the dawn of Independence. The investment and benefits under Minor Irrigation in the past Five-Year Plans are given below:

Plan period.	Minor Irrigation.	
	Investment (Rs. in crores).	Benefits (in '000 ha.)
(1)	(2)	(3)
First Plan 1951—56	3.83	12.95
Second Plan 1956—61	5.30	27.33
Third Plan 1961—66	12.54	35.62
Annual Plan 1966—69	9.22	26.16
Fourth Plan 1969—74	16.33	55.53
Fifth Plan 1974—78 ...	15.97	35.91
Annual Plan 1978—80	3.15	8.72

20.2. There are two aspects of Minor Irrigation schemes in Tamil Nadu which need to be held in view at all times. The first thing is the proud fact that the importance of these small schemes in the economy of irrigated agriculture of this State has been recognised even over 1,000 years ago and this recognition was even translated into several systems of tanks inter-connected with each other, achieving a high level of water conservation which stand today as striking witnesses to exceptional engineering skills. The second aspect relates to the fact that 77.30% of the estimated minor irrigation potential has already been brought under beneficial use under one scheme or other. The above background permits, under this head of development, works only of maintenance nature, in a majority of cases and development of new ayacut through just a limited number of schemes.

20.3. The investments under this developmental head are administered by the following three main departments, namely:—

- (1) The Chief Engineer (Minor Irrigation),
- (2) The Chief Engineer (Ground Water),
- (3) The Chief Engineer (Agricultural Engineering).

20.4 While the Chief Engineer (Ground Water) is primarily concerned with the assessment of Ground Water potential and the regulation of its exploitation, the Department of Agricultural Engineering assists the farmers in establishing the open and tube wells. The Chief Engineer (Minor Irrigation) helps construction and maintenance of tanks.

Review of Sixth Plan :

20.5. The Sixth Plan provided for an amount of Rs. 39.40 crores under this developmental head. The actual investment was Rs. 49.81 crores. The departmentwise financial achievement during the Sixth Five-Year Plan period are given below:

<i>Serial number and Scheme.</i>	<i>Sixth Plan financial outlay.</i>	<i>Sixth Plan financial achievement.</i>
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
A. Chief Engineer (Agricultural Engineering)—		
1. Scheme for strengthening ground water organisation	18.53	78.45
2. Deepening of wells in rocky areas with departmental equipments	541.54	53.70
3. Sinking of private tubewells	177.41	327.99
4. Sinking of tubewells in Thanjavur District	162.52	50.42
5. Installation of windmill under National Windmill Demonstration Project.	...	1.44
Total—A ..	900.00	512.00
B. Tamil Nadu Tubewell Corporation—		
7. Formation of Tamil Nadu Tubewell Corporation	100.00	41.50
C. Chief Engineer (Groundwater)—		
8. Groundwater survey in Tamil Nadu	} 340.00	338.39
9. Water Institute		
10. Pollution studies		
11. Artificial recharge		
12. Consultancy services		
D. Registrar of Co-operative Societies—		
13. New well subsidy .. .. .	..	5.00
E. Director of Horticulture and plantation Crops—		
14. Agricultural schemes and sinking of irrigation wells in tribal areas .. ..	..	85.27
F. Chief Engineer (Minor Irrigation)—		
15. Special Minor Irrigation Programmes	} 1,200.00	3,277.50
16. Desilting-cum-Reclamation		
17. International Development		
18. Project for modernisation of tank ayacuts	1,400.00	147.31
Total—F ..	2,600.00	3,424.81
G. Chief Engineer (Irrigation)—		
19. Irrigation projects having ayacut less than 2,000 hectares .. ..	..	555.26
20. Prorata expenditure .. .. .	..	19.04
GRAND TOTAL—MINOR IRRIGATION (A)+(B)+(C)+(D)+(E)+(F)+(G).	3,940.00	4,981.27

PHYSICAL ACHIEVEMENT DURING SIXTH PLAN.

20.5. Chief Engineer—Agricultural Engineering—

Serial number.	Scheme.	Target.	Achievement.	Estimated area irrigated per unit.
(1)	(2)	(3)	(4)	(5)
1	Private Tubewells Scheme	23,600	25,831	8 hectares.
2	Boring in wells Scheme	11,850	14,800	4 hectares.
3	Deepening of wells	14,300	15,850	0.8 hectare.
4	Filter Point Tubewells	14,200	13,750	0.8 hectare.

20.6. It was targetted that 2.56 lakh hectares would be the additional irrigated area developed by the above operations leading to 3.09 lakh Metric tonnes of additional food production. The achievements are 2.89 lakh hectares of irrigation potential and an estimated additional production of 2.95 lakh Metric Tonnes. A Tubewell Corporation was also set up during the Sixth Five-Year Plan Period.

Year.	Physical Achievement in hectares.
1980-81	1,500
1981-82	2,190
1982-83	2,506
1983-84	2,566
1984-85	2,000
	<hr/> 10,762 <hr/>

20.7. Chief Engineer (Groundwater):

The Chief Engineer (Groundwater) conducted the following works :—

1. Watershed study.
2. Photogeological study in Sq. Km.
3. Geological mapping.
4. Geological survey.
5. Collection of village-wise data.
6. Groundwater extraction.
7. Drilling of bore holes.
8. Pumpsets in bore holes.
9. Water level observation.
10. Water quality study.

The department of Ground water also started on a modest scale works relating to Pollution studies, Artificial Recharge studies, etc.

Chief Engineer (Minor Irrigation):

20.8. Through the implementation of Special Minor Irrigation Programmes and Desilting-cum-Reclamation Schemes it was targetted to create an additional irrigation potential of 17,000 hectares under Minor Irrigation. The actual achievement yearwise are given below:—

Registrar of Co-operative Societies:

20.9. Under the “New well subsidy” scheme the subsidies have been distributed to 1,003 persons.

SEVENTH FIVE-YEAR PLAN.

CHIEF ENGINEER (IRRIGATION):

20.10. The Government had classified the irrigation schemes benefitting less than 2,000 hectares as Minor Irrigation schemes.

During the Sixth Five-Year Plan 12 Minor Irrigation schemes were approved by the Government and taken up for execution. Out of this, 12 schemes namely Uppar Reservoir, Kullursandai and Sulagirichinnar will be completed by the end of Sixth Five-Year Plan. The balance 9 schemes will spill-over during the Seventh Five-Year Plan.

In addition, Kodumudiar scheme is proposed to be taken up during the Seventh Five-Year Plan period at a cost of Rs. 469.00 lakhs. The total amount provided for completing the ongoing

schemes and also new schemes during the Seventh Five-Year Plan is Rs. 24.22 crores.

Minor Irrigation :

20.11. Taking into consideration the performance of Sixth Plan and other factors, the outlay proposed for Seventh Plan period is Rs. 7.43 crores under Special Minor Irrigation Programme and Desilting-cum-Reclamation. This will create an additional potential of 2,500 ha. The yearwise Financial and Physical target are indicated below :-

Year.	Financial (RS. IN LAKHS).	Physical (HA.).
1985-86	238.20	800
1986-87	125.00	400
1987-88	125.00	400
1988-89	125.00	400
1989-90	129.80	500
Total ..	743.00	2,500

The total amount provided towards completion of spillover works, also the new works proposed to be taken up in the Seventh Five-Year Plan is Rs. 7.43 crores.

Modernisation of Tank Irrigation Systems in Tamil Nadu assisted by European Economic Committee :

20.12. There are about 39,000 Irrigation tanks which account for one-third of the total irrigation in Tamil Nadu. So far, about 92 per cent of surface water resources and 60 per cent of Ground Water Resources have been utilised. As such no large scale surface water resources are available for development. It becomes increasingly costly to develop even available undeveloped Minor Irrigation Resources. The storage in the irrigation tanks serves only for a limited period of about 3 to 4 months. Due to inadequate maintenance of tanks, outmoded types of irrigation structures, encroachment in the waterways, siltation of supply channels, seepage loss in the deliver system, poor water management all round and unscientific water regulation and agronomical practices, the overall efficiency is low and it becomes imperative to modernise the system and improve the overall efficiency, and utilise the available irrigation potential to the maximum extent possible. The main-aim of modernisation programme is to achieve high production per unit of water supply and to provide equitable water distribution.

To make a beginning in this respect, it is proposed to modernise about 150 non-system tanks having ayacut of less than 200 ha. each. The European Economic Committee has agreed to give an aid of 25 million ECU and entered into an agreement with the Government of India. The District-wise distribution of tanks proposed to be modernised is as follows :-

Name of district.	Numbers.
Chengalpattu district	30
South Arcot district	25
North Arcot district	25
Pudukkottai district	20
Ramanathapuram district	50
Total ..	150

The estimated cost of the scheme is Rs. 27 crores. Under the scheme it is proposed to standardise the tank bund, sluices and surplus arrangements and to line all the irrigation channels and distributory upto 10 ha., block to have a better improved water management and control. Based on pilot studies conducted in Pillaipakkam tank in Chengalpattu district it is expected to save about 20 per cent of water which will be utilised to stabilise the existing ayacut and bridge the gap in cultivation and also to extend the ayacut wherever possible. On farm development works will also be taken up below 10 ha. limit for which it is proposed to spend Rs. 2,000 per ha.

During 1984-85 an outlay of Rs. 294.61 lakhs has been provided in the Revised Estimate. The year-wise financial and physical targets during the Seventh Plan Period are furnished below :-

Year.	Target.	
	Financial.	Physical.
	(RS. IN LAKHS.)	
1985-86	647.36	1,300
1986-87	600.00	1,300
1987-88	600.00	1,300
1988-89	618.03	1,400
	2,465.39	5,300

The above amount includes the provision on farm development works also.

The total amount provided during the Seventh Plan for completion of ongoing schemes and also schemes of new works is Rs. 24.65 crores.

GROUND WATER SURVEY DURING THE SEVENTH FIVE-YEAR PLAN:

20.13. The micro level ground water survey is being carried out in Tamil Nadu by the Ground Water Branch of Public Works Department on a sub-basinwise basis leading to villagewise ground-water evaluation. Already about 13,000 villages in Tamil Nadu have been surveyed and further surveys are under progress. The micro-level survey is part and parcel of the long range plan of studying of all the river basins. The items of work includes in the long range plan which would be completed stage are as follows :—

- (1) Completion of hydrological survey and hydrogeological reports on a sub-basin basis.
- (2) River basin reports for studying the water balance and the water resources.
- (3) Computer processing and modelling of the river basin data.
- (4) Updating the data and the report.
- (5) Preparation of district water atlas and updating the atlas.

Even in the over-exploited blocks, certain pockets of favourable areas for further ground water development in the villages have been identified and schemes have been formulated and implemented. The massive assistance programme for small and marginal farmers of the Government of India includes such minor irrigation schemes implemented based on the groundwater clearance issued. During the Seventh Five-Year Plan an outlay of Rs. 20 crores has been proposed by the Co-operative Department, for Minor Irrigation through groundwater.

The expertise and vast infrastructures built up in Tamil Nadu for Groundwater development will be utilised in assessing the available potential and potential that can be developed in future during the next 15 years upto 2000 AD. By the conjunctive use of surface and groundwater, the present irrigated area can be expected to be increased by 20 to 25 per cent. For such conjunctive use pilot projects have been taken up and will be contained in the Seventh Plan period. In areas where the water level is declining because of over extraction, it is quite essential recharge projects in order to prevent the steady decline of water level. For this purpose artificial recharge studies are being conducted. The available groundwater potential has to be conserved and preserved without being polluted. For the prevention of such pollution, pilot studies on pollution have been taken up and will be continued in all the river basins during the Seventh

Five-Year Plan period. Besides, there is a danger of the sea-water intruding in the fresh water zones in the coastal area. Detailed studies are to be conducted during the Seventh Five-Year Plan.

In order to locate suitable sites for sinking wells, the consultancy services are being rendered by Groundwater branch to the farmers as well as to other agencies. The results obtained by the consultancy services are very encouraging and many farmers are benefitted by such services. There is a great demand for such services and the service will be rendered during the Seventh Five-Year Plan over a wider area.

For the Seventh Five-Year Plan an outlay of Rs. 510 lakhs has been proposed for the Ground Water Branch.

The total amount provided under Minor irrigation sector in the Seventh Five-Year Plan period for execution of Minor Irrigation schemes less than 2,000 hectares, SMIP schemes, modernisation of tanks less than 200 hectares under EEC aid and also conjunctive use and other usual schemes in Groundwater is 61.40 crores.

4. AGRICULTURAL ENGINEERING DEPARTMENT.

20.14. The State of Tamil Nadu is broadly divisible into two natural regions. First, the coastal plain 50-100 km. wide which runs from Madras in the North to Cape Comorin at the extreme southern tip of India and from the Bay of Bengal to the Eastern Ghats and second, the central plateau lying between the Eastern and Western ghats. The topography is generally undulating, except for the steep but not very extended Eastern Ghats which rise to about 1,800 m. above sea level. The Western Ghats, which in part, form the Western boundary of the State, are the Watershed for the main rivers which flow east into the Bay of Bengal and of which the Cauvery is the most important.

Annual rainfall averages from 1,200 mm. in the coastal plain and about 800 mm. in the central plateau. For most of the State about two-thirds of the rainfall occurs during the North-East Monsoon which lasts from September to December with the balance mainly falling during the June-September South-West Monsoon period : January to May are generally dry months. Temperatures range from 25°C in January to 31.5° in June. The uneven rainfall distribution when combined with a high evapotranspiration (ETP) rate is not favourable for ground water recharge which occurs only in October and November when ETP is lower than rainfall.

Geological conditions follow the two main natural regions. In the coastal plain, sedimentary formations belong to successive eras of upper gondwana, cretaceous, tertiary and recent alluvium structures while in the crystalline areas, which constitute three-quarters of the State's total area, granite, gneiss, charnockite, amphibolite and quartzite rock formations predominate. The crystalline area constitutes about 74 per cent of the total area.

20.15. Risk element in agriculture is greatly reduced by assured irrigation. Irrigation is one of the key inputs which ensures productivity and profitability. Rainfall is the chief source for irrigation water. This is impounded in reservoirs, tanks and other surface storages. The excess that percolates down the earth is again harnessed by sinking tubewells or constructing open wells. The surface water and the ground water are the two different resources for irrigation. The Minor Irrigation that is referred here is the one relating to the Development of Ground Water for irrigation purposes. The types of Ground Water Development broadly follow the main geological areas with filter points and tubewells being concentrated in the sedimentary soils of the coastal plain and dug wells (or open wells) being the main features of the crystalline rock areas of the interior plateau.

Out of the total area of 13 M. Ha. of Tamil Nadu an area of 5.74 M. Ha. is the net area cultivated, the gross area being 6.90 M. Ha. An area of 2.71 M. Ha. is irrigated. The area irrigated more than once is 0.72 M. Ha. Canals, tanks, wells and tubewells are the other sources providing irrigation to 0.93 M. Ha., 0.74 M. Ha.; and 1.04 M. Ha., respectively (source: statistical Hand Book of Tamil Nadu—1983).

Wells and Tubewells alone provide irrigation to 1.40 M. ha. which is more than one-third of the net irrigated area i.e. 2.71 M. ha. Wells are usually the only source irrigation, but in the sedimentary area (especially in the Cauvery Delta) they often supplement canal irrigation.

The development of Ground water by construction of wells and tubewells is left mainly to the farmers and there is also some community efforts. Community tubewells have been sunk in Gridamnal Paraliyar basin under the Drought Prone Area Programme and earlier in Thanjavur District. There is a Tube wells Corporation also in the State for sinking State Tubewells.

In the process of Ground Water Development the farmer has to be assisted in locating potential

areas, sinking tubewells and constructing suitable structures for extraction of the ground water, selecting suitable pumping equipment and in using the water judiciously and optimally for maximising the production. This is taken care of by the Agricultural Engineering Department.

ROLE OF AGRICULTURAL ENGINEERING DEPARTMENT.

Agricultural Engineering :

20.16. Agricultural Engineering is a new but fast developing field engineering which applies the knowledge techniques and disciplines of various fields of engineering to find a solution for the problems arising in the field of agriculture.

Agricultural Engineering Department :

The Agricultural Engineering Department which was a wing under the Department of Agriculture is functioning as a separate Department since January 1981.

The Agricultural Engineering Department is in charge of the Minor Irrigation activities ever since they were transferred from Department of Industries in 1958.

The Minor Irrigation Programmes of Agricultural Engineering Department aim to harness the ground water resources for irrigation purposes. The groundwater is harnessed by sinking new tubewells, borewells, filter point tubewells, community wells including open wells revitalising the existing dried up and defunct wells by boring in wells or deepening of wells. The required machinery are hired out to farmers and the work is carried out by the Department.

Geo-Physical Surveys :

20.17. Geo-physical surveys are conducted by using resistivity meters to locate potential water bearing strata before sinking a well. The quality of water and quantum of water that would be available and their locations are assessed using departmentally owned and operated electrical logging equipment.

Ground Water Development :

20.18. Farmers are guided to choose a suitable wells structure, depending upon the results obtained through Geo-physical surveys. In hard rock areas borewells are sunk. In alluvial areas tubewells are constructed. In sandy shallow aquifer regions Filter Point Tubewells are constructed. In case of already existing open wells which have become dry and

defunct, revitalisation is done either deepening bores inside the wells. The departmentally owned power drills, Hand Boring sets, Air Compressors are hired to the farmers. The works are executed by the department. The department has a fleet of

- 19 Nos. Resistivity Meters.
- 2 Nos. Electrical Logging Units.
- 68 Nos. Rotary drills.
- 55 Nos. Percussion drills.
- 12 Nos. Hammer drills.
- 28 Nos. Wagon/Inwell Drills.
- 103 Nos. Rock Blasting Units.
- 57 Nos. Long Hole Equipment.
- 13 Nos. Galyx drills.
- 410 Nos. Hand Boring sets.
- 75 Nos. Debris removers and
- 22 Nos. Air Compressors.

Relief Programme During Drought :

20.19. Whenever there is a drought, the departmental men and machinery are pressed into service for sinking new Tube/Borewells or deepening the drinking water wells. The department also takes up massive programmes like sinking of 5,000 Filter Point Tubewells in Thanjavur District to save the standing crops. This paves for the conjunctive use of Surface and Ground Water.

Water Management :

20.20. Management of the created potential is taken due care. Improving the transmission efficiency by carrying the water through underground pipe lines, increasing the applications efficiency by proper land development and adoption of Drip Irrigation and Sprinkler Irrigation Systems are the areas the department has been concentrating. Already the department has been doing some of the above works in a modest scale utilising the funds under Soil and Water Conservation and much attention will be bestowed in future.

Water Harvesting and Ground Water Recharge :

20.21. The department takes up effective steps for collection of the excess run off by constructing Percolation Ponds, Checkdams and Farm ponds. They provide ample scope for Ground Water recharge thus raising of water table in wells located downstream, arresting of flash floods besides serving as silt detention tanks. They provide employment to the rural people. These are carried out under the soil conservation Drought Relief Programmes and now on a large scale under the Rural Landless Employment Guarantee Programme.

Energy Conservation :

20.22. It has been found that the head loss in conventional pumpsets is an important factor governing power consumption. Studies on the evaluation of available foot valves conducted at different places have shown that the available foot valves offer excessive head loss and hence excess consumption of power.

The department has distributed improvised foot valves which have more opening time offer less resistance and thus lesser consumption of power. Farmers are also guided for proper selection of pumping equipments.

UTILISATION OF NON CONVENTIONAL ENERGY SOURCES.

20.23. Utilisation of non conventional energy sources like wind and solar energy are advocated as a measure to meet the heavy demand for power. The department has installed 30 wind mills for pumping water and the cost economics impact among the farmers are studied. More efforts will be taken up, based on the experience gained.

SIXTH FIVE YEAR PLAN ACHIEVEMENT :

Physical :

20.24. The achievements made during the Sixth Plan period are given below:

	<i>Target.</i>	<i>Achievement (Number of wells)</i>
1. Private Tube Wells	23,600	24,793
2. Boring in Wells	11,850	15,216
3. Filter Point Tube Wells	14,200	15,886
4. Deepening of Wells	14,300	14,465

Besides the above, during the drought of 1981-82 and 1983-84, 1,119 tube wells, 509 Bore wells were sunk and 11,164 drinking water wells were deepened. In 1982-83 due to poor storage in the Mettur reservoir the crops in Cauvery delta suffered and a crash programme for sinking Filter Point Tube Wells was taken up. Agricultural Engineering Department has sunk more than 3,000 Filter Point Tube Wells under this programme. All assistance was rendered to farmers for getting the power supply and credit facilities and the wells were handed over to them for immediate use. Under the Drought Prone Area Programme the department has sunk more than 300 community wells in Ramanathapuram district.

Financial ;

20.25. An outlay of Rs. 10.00 crores was allocated for the Minor Irrigation activities of Agricultural Engineering Department. Out of this Rs. 1.00 crore was earmarked for the State Tube Wells Corporation. Of the remaining Rs. 9.00 crores an amount of Rs. 5.12 crores was utilised during the Sixth Plan Schemes Period. Sinking of State tube wells in allurial regions, for the supply of inputs to drills and R.B. Units, Pilot Project for recharging of ground water in hardrock areas could not be taken up.

SEVENTH FIVE YEAR PLAN.

20.26 A net outlay of Rs. 3.60 crores is proposed for the Seventh Five-Year Plan period for the following Minor Irrigation Programmes.

A. ON GOING SCHEMES :

	(RUPEES IN LAKHS)
1. Deepening of well in Rocky Areas with Departmental Equipment.	35.00
2. Bore well scheme	50.00
3. Sinking of Private Tube wells	175.00
4. Scheme for Strengthening of Ground Water organisation.	40.00
Total	300.00

B. NEW SCHEMES:

	(RUPEES IN LAKHS)
1. Purchase of 5 Rotary drills	120.00
2. Purchase of Additional Equipment.	60.00
3. Scheme for the popularisation of sprinkler and Drip Irrigation systems.	90.00
4. Scheme for improving under use efficiency in well irrigated area.	0.01
5. Establishment of a statistical cell.	5.00
6. Training Programme	5.00
Total	280.01

Note: The outlays indicated against individual schemes are only the maximum in each case. The actual amounts sanctioned in total will however be restricted to Rs. 360 lakhs.

The details of the schemes are briefed below.

EXISTING SCHEMES :

Deepening of Wells in Rocky Areas with Department Equipments.

20.27. There are about 10,00,000 open wells in Tamil Nadu. Open wells got dried up during summer and whenever there is a failure of monsoon. The area commanded by these dried up wells go out of cultivation. The department provides Rock Blasting units for deepening of this open wells by blasting. During blasting water bearing joints fissures are exposed and this results in increasing the yield of the well to certain extent, atleast to stabilise the area under irrigated agriculture.

Boring in wells Scheme :

20.28. In case of certain open wells vertical or side bores are put-up using Inwell drills and long Hole Equipment and the wells get revitalised. This stabilises the area under already under irrigation.

Sinking of Private Tubewells.

20.29. New tubewells, Borewells, Filter Point Tubewells and revitalisation of dried up wells by putting side bores are carried out under this scheme. The new Borewells and Tubewells sunk in dry lands where adequate Ground Water potential is available, bring additional areas under irrigation. The Filter Point tubewells sunk in areas like Thanjavur district provide scope for conjunctive use of surface water and Ground Water. The wells revitalised by putting side or vertical bores, stabilise the area under irrigated agriculture.

Scheme for strengthening of Ground Water Organisation.

20.30. The Government of India, considering the necessity for strengthening the Organisation responsible for Ground Water Development activities approved a centrally sponsored scheme shared equally between State and Centre to pave way for the scientific ground water development. This scheme is in execution from 1978. After the discontinuance of Central Assistance from 1982-83 the scheme is continued under State Plan.

The scheme has the following objectives :—

1. To review the existing pattern, practices and procedures followed in the design of Ground Water structures and to identify the present deficiencies.

2. To make contact with the research organisations on the work currently in hand on the various aspects pertaining to design of ground water structure with a view to keep abreast with latest developments.

3. To prepare guidelines and standards for design of wells and tubewells in different types of hydrogeological conditions encountered, and

4. To undertake case studies relating to different ground water structures in typical formations with a view to understand the relationship of hydraulic and engineering factors.

The following works have been taken up for trials and observations and are being continued for final evaluation and recommendations.

1. Selections of suitable non-metallic corrosion resistant pipes for lining the tubewell in corrosive aquifers.

2. Selection and identification of cheap and economical materials for filter point tubewells.

3. Selection of suitable well screens for various types of aquifers.

4. Design of suitable slot openings with reference to increase in the areas of opening without affecting the structural stability of the materials.

5. Study of drilling practices and codification of economical and efficient procedures.

6. Study and development of cement grouting, clay packings and other methods for arresting contamination of water from upper zones.

NEW SCHEMES.

Purchase of Rotary Drills for replacement of old Units.

20.31. At present the Agricultural Engineering Department is having 68 Rotary drills. Some of the drills have crossed their life time and they need be replaced. During the Seventh Plan period Rotary drills which have been old are proposed to be replaced in a phased manner. The Government of India, Ministry of Irrigation provide 50 per cent assistance on cost of machinery and towards this an amount of Rs. 120 lakhs is proposed under State Sector.

Purchase of Additional Equipments.

20.32. In order to accelerate the ground water development programme additional Rotary drills, Electrical logging units, Air Compressors,

Resistivity Meters are required. The Ministry of Irrigation, Government of India provides 50 per cent of the cost of machinery as grant for purchase of minor irrigation machinery. An amount of Rs. 60 lakhs is proposed under the state sector for purchase of additional equipments. The number and type of machinery will be decided as per the existing needs when proposals will be sent to Government of India.

Scheme for Popularisation of Drip and Sprinkler Irrigation System.

20.33. The water loss in well irrigated areas is due to the improper irrigation systems adopted by farmers. Water is a precious resource especially in well irrigated areas. Hence it is essential that the available water is used efficiently for optional production. Drip and Sprinkler systems or irrigation are new irrigation systems having definite advantages over the conventional irrigation systems. These improvised irrigation systems are proposed to be popularised. An amount of Rs. 90.00 lakhs is proposed for this scheme.

Scheme for improving water use efficiency in well Irrigated Areas.

20.34. It is a well known fact that water is a scarce resource especially in well irrigated areas. The amount of help and loan facilities extended to farmers in command areas need be extended to farmers in well irrigated areas also. Water Management works are proposed in this scheme. Land levelling and conveyance of water through underground pipelines are the water management works proposed in this scheme. This will improve the water use efficiency in well irrigated areas and result in production increase. An outlay of Rs. 5.00 crores is proposed for this scheme for the Seventh Plan period. Pending finalisation of scheme proposals a token provision of Rs. 0.01 lakh is made in the outlay proposed for the Seventh Plan.

Establishment of a Statistical Cell.

20.35. In order to collect, process and maintain irrigation statistics a cell is proposed to be created in the Office of the Chief Engineer (Agricultural Engineering). An amount of Rs. 5.00 lakhs is proposed towards establishment of the Statistical Cell.

Training Programme.

20.36. To train the departmental engineers in Geophysical surveys, well drilling methods well development in the use of Non-conventional

Energy sources like Solar and Wind Energy an amount of Rs. 5.00 lakhs is proposed for the Seventh Plan period.

Physical Targets.

20.37. During the Seventh Five-Year Plan it is proposed to take up the following works.—

1. Sinking of Private Tubewells in Nos.	..	25,000
2. Boring in wells in Nos.	.. ..	12,500
3. Filter Point tubewells in Nos.	.. ..	15,000
4. Deepening of wells in Nos.	.. ..	15,000

It is estimated that this will create an additional irrigation potential for 71,000 ha. and an area of 69,000 ha. will be stabilised as per the norms in vogue.

Phasing of the Programmes.

20.38. The year-wise cost of schemes included in the Seventh Five-Year Plan is enclosed in Table 20.7. The Physical target and estimated irrigation potential created are enclosed in Table 20.8.

TABLE 20.1.
PHYSICAL TARGETS FOR THE SEVENTH FIVE-YEAR PLAN.
MINOR IRRIGATION.

<i>Serial number and Physical items and Units.</i>	1985-86	1986-87	1987-88	1988-89	1989-90	1985-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Sinking of private tube wells in Nos.	4,850	4,900	4,960	5,010	5,060	24,780
2 Filter point tube wells in Nos. ..	2,920	2,950	2,970	3,020	3,050	14,910
3 Boring in wells in Nos.	2,435	2,460	2,490	2,520	2,540	12,445
4 Deepening of wells in Nos. ..	3,010	3,020	3,020	3,030	3,040	15,120
(i) Additional area brought under irrigation in hectares.	13,800	14,800	14,200	14,400	14,600	71,000
(ii) Area stabilised in hectares ..	13,618	13,692	13,784	13,900	13,972	68,966

TABLE 20.2.
SEVENTH FIVE-YEAR PLAN (1985-90) PROPOSED OUTLAY.
Minor Irrigation Schemes having CCA less than 2,000 Hectares.

<i>Serial number and name of Scheme.</i>	<i>Approved Estimated cost.</i>	<i>Latest Estimated cost.</i>	<i>Anticipated Expenditure to end of March 1985.</i>	<i>Proposed outlay for VII Five-Year Plan.</i>	<i>Phasing of outlay.</i>				
					1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN CRORES.)									
A. Pre-Sixth Plan Schemes—NIL.									
B. Sixth Five-Year Plan Schemes :—									
1 Kullursandai Reservoir.	2.12	2.55	2.75	(—) 0.20	(—) 0.20	..	..	..	..
2 Nagavathy Reservoir	1.96	3.60	2.30	1.30	0.41	0.89	..	..	..
3 Sulagiri Chinnar Reservoir.	1.05	1.90	1.65	0.25	0.01	0.24	..	..	..
4 Kesarigulihalla Reservoir.	3.07	4.00	2.45	1.55	0.58	0.97	..	..	..

TABLE 20.2.—cont.

Seventh Five-Year Plan (1985-90) Proposed Outlay—contd.

Minor Irrigation Schemes Having CCA less than 2,000 Ha.

Serial number and name of Schemes.	Approved Estimated cost.	Latest Estimated cost.	Anticipated Expenditure to end of March 85.	Proposed outlay for Seventh Five-Year Plan.	Phasing of outlay.				
					1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN CRORES.)									
B. Sixth Five-year Plan Schemes—cont.									
5 Golwarpatti Reservoir	6.57	7.05	2.35	4.70	1.41	1.29	1.00	1.00	..
6 Anaikuttam Reservoir	3.04	3.05	1.75	1.30	1.25	0.05	..	..	..
7 Kariakoil Reservoir	6.30	8.65	3.15	5.50	1.80	1.50	1.50	0.70	..
8 Sothuparai Reservoir	8.70	8.70	1.25	7.45	* 0.90	*	..	..	..
9 Perumpallam Reservoir	4.19	4.20	0.45	3.75	0.60	1.15	1.00	1.00	..
Sub-Total S. T.	..	37.00	43.70	25.00	6.76	6.09	3.50	2.70	..

* Work will be resumed on receipt of Forest department concurrence.

B. III. Modernisation Projects:—

1 Extension of right bank canal of Tirupparappu anicut and modernisation of its entire stretch.	0.61	0.85	0.55	0.30	0.30	..	..	..	..
Sub-Total B	..	0.61	0.85	0.55	0.30	0.30	..	..	..
IV. Diversion of flood flows from Vaigai basin to Gundar and Grichammal basins.	1.05	1.90	1.65	0.25	0.25	..	..	..	..
GRAND TOTAL	..	38.66	46.45	20.30	26.15*	7.31	6.09	3.50	2.70

* Restricted to Rs. 18.20 crores for ongoing schemes.

(RUPEES IN CRORES.)										
New Schemes of VII Plan—										
1. Kodumudiar Reservoir Scheme.	4.69	}	..	..	6.02	1.02	1.50	1.50	1.00	1.00
2. Mantarai anicut scheme.	2.62		..	..	6.02	1.02	1.50	1.50	1.00	1.00
Total	..	7.31	..	..	6.02	1.02	1.50	1.50	1.00	1.00

TABLE 20.3—cont.

SEVENTH FIVE-YEAR PLAN (1985-90) PROPOSED OUTLAY.

Serial number and name of scheme.	Approved estimated cost.	Latest Estimated cost.	Anticipated Expenditure to end of March 1985.	Proposed outlay for VII Five Year Plan.	Phasing of outlay.				
					1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN CRORES)									
<i>Tank modernisation Project with E. E. C. Aid—cont.</i>									
10 South Arcot District Ethenamalli tank.	0.246	..	..	..	..	..	..	..	..
11 Chingleput District Panappakkam tank.	0.297	..	..	..	..	..	..	..	..
12 Chingleput District Ryavoor tank.	0.245	..	..	..	..	..	..	..	..
13 Chingleput District Olaiyur tank.	0.254	—	..	..	..	..	..	..	..
14 Chingleput District Puthagaran tank.	0.248	..	..	..	..	..	..	..	..
15 North Arcot District Vadapu tank.	0.144	..	..	..	..	..	..	..	..
16 North Arcot District Medapalli tank.	0.240	..	..	..	..	..	..	..	..
17 North Arcot District Kasthambadi tank.	0.161	..	..	..	..	..	..	..	..
18 North Arcot District Norkundram tank.	0.326	..	2.946	1.051	1.051	..	..	..	..
On-going schemes	3.997	..	..	23.602	5.422	6.000	6.000	6.180	..
New Schemes (to be approved).									
Total ..				24.653	6.473	6.000	6.000	6.180	..

TABLE 20.4

SEVENTH FIVE-YEAR PLAN (1985-90) PROPOSED OUTLAY.

Ground Water Schemes.

Serial number and name of scheme.	Approved estimated cost.	Latest Estimated cost.	Anticipated Expenditure to end of March 1985.	Proposed outlay for VII Five Year Plan.	Phasing of outlay.				
					1985-86	1986-87	1987-88	1988-89	1989-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN CRORES)									
Conjunctive use schemes and other usual schemes.	5.10	1.10	1.00	1.00	1.00	1.00

TABLE 20.5

**MINOR IRRIGATION SIXTH PLAN OUTLAY AND EXPENDITURE
AGRICULTURAL ENGINEERING DEPARTMENT**

<i>Serial number and name of the Scheme</i>	<i>Sixth plan outlay.</i>	<i>Actuals 1980-81</i>	<i>Actuals 1981-82</i>	<i>Actuals 1982-83</i>	<i>Actuals 1983-84</i>	<i>Anticipated 1984-85</i>	<i>Total 1980-85</i>	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
			(in lakhs Rupees)					
1 Deepening of Wells in Rocky Areas with Departmental equipment.	39.45	5.95	10.50	14.34	13.28	9.82	53.84	
2 Sinking of Private Tubewells scheme.	409.42	80.93	44.65	94.45	62.11	33.16	312.30	
3 Schemes for strengthening of Ground Water Organisation.	18.53	8.64	6.70	5.72	85.31	28.32	134.69	
4 Installation of wind-mills.	..	..	..	..	..	1.25	1.25
5 Pilot project for recharging of Ground Water in Hard Rock areas.	18.60	..	..	..	..	..	..
6 Supply of inputs to drills and R.B. units.	251.48	..	..	..	..	..	..
7 Sinking of State tubewells in Alluvial regions.	162.52	..	..	..	..	..	..
8 State Tubewells Corporation.	100.00	..	..	..	..	..	..
Total ..	1,000.00	95.52	61.85	114.51	160.65	72.55	502.08	

TABLE 20.6.

MINOR IRRIGATION SIXTH PLAN PHYSICAL ACHIEVEMENT

<i>Serial number and Name of the Scheme.</i>	<i>Sixth Plan Target.</i>	<i>Achieve- ment 1980-81</i>	<i>Achieve- ment 1981-82</i>	<i>Achieve- ment 1982-83</i>	<i>Achieve- ment 1983-84</i>	<i>Antici- pated 1984-85</i>	<i>Total 1980-85</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			(In Number)				
1 Private tubewells in Nos.	23,600	5,250	5,019	5,184	4,460	4,880	24,793
2 Boring in wells in Nos.	11,850	3,080	2,557	3,289	2,863	3,427	15,216
3 Filter point tubewells in Nos.	14,200	2,908	3,073	3,331	3,525	3,049	15,886
4 Deepening of wells in Nos.	14,300	3,690	2,115	3,204	2,986	2,470	14,465

TABLE 20.7.

SEVENTH PLAN—YEARWISE BREAKUP OF OUTLAY.

Serial number and name of the Scheme.	1985-86 as per Annual Plan.					Total Seventh Plan 1985-90	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
A. On Going Schemes :							
1 Deepening of wells in Rocky Areas with department equipment.	7.00	7.00	7.00	7.00	7.00	7.00	35.00
2 Boring in wells scheme	17.00	10.00	8.00	8.00	8.00	7.00	50.00
3 Sinking of Private Tubewells ..	25.00	40.00	40.00	40.00	40.00	30.00	175.00
4 Scheme for Strengthening of Ground Water Organisation.	9.00	8.00	8.00	8.00	8.00	7.00	40.00
Total ..	58.00	65.00	63.00	63.00	63.00	51.00	300.00
B. New Schemes :							
1 Purchase of 5 Rotary drills .. ..	..	48.00	24.00	24.00	24.00	24.00	120.00
2 Purchase of Additional Equipment ..	..	15.00	15.00	15.00	15.00	15.00	60.00
3 Scheme for improving water use efficiency in well irrigated areas.	..	0.01	..	..	..	..	0.01
4 Scheme for popularisation of Drip and Sprinkler Irrigation Systems.	10.50	16.50	17.00	23.00	23.00	23.00	90.00
5 Establishment of a statistical Cell ..	..	1.25	1.25	1.25	1.25	1.25	5.00
6 Training .. .. ..	..	1.25	1.25	1.25	1.25	1.25	5.00
Total ..	10.50	82.01	58.50	64.50	64.50	64.50	280.01

NOTE.—The total outlay would be restricted to Rs. 360 lakhs by reducing the sanctions under individual schemes or dropping a few of them altogether.

TABLE 20.8

PHYSICAL TARGETS FOR THE SEVENTH FIVE-YEAR PLAN.

Serial number and Physical items and Units.	1985-86					Total Seventh Plan 1985-90	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Sinking of private tubewells in Nos.	5,000	5,000	5,000	5,000	5,000	5,000	25,000
2 Filter point tubewells in Nos. ..	3,000	3,000	3,000	3,000	3,000	3,000	15,000
3 Boring in wells in Nos.	2,500	2,500	2,500	2,500	2,500	2,500	12,500
4 Deepening of wells in Nos.—	3,000	3,000	3,000	3,000	3,000	3,000	15,000
(i) Additional area brought under irrigation in hectares.	13,800	14,000	14,200	14,400	14,600	14,600	71,000
(ii) Area stabilised in hectares ..	13,600	13,700	13,800	13,900	14,000	14,000	69,000

CHAPTER 21.

COMMAND AREA DEVELOPMENT.

21.0. In Tamil Nadu, an area of 2.71 Mha. is irrigated. Area irrigated more than once is 0.72 Mha. Canals, tanks, wells and Tube-wells are the main sources providing irrigation to 0.93 Mha., 0.74 Mha. and 1.04 Mha. respectively. There is a gap between the potentials created and actual utilisation in the irrigation potential created at an enormous cost. Mainly field to field system of irrigation practised is the reason for poor water use efficiency. Lack of proper water management at farm level has affected considerably the yield from irrigated agriculture.

Objectives :

21.1. Water management not only includes intake conveying, regulation, measurement and application of water for crop use in appropriate quantities at right time to increase production but also timely and effective drainage from crop fields.

Sixth Five-Year Plan :

21.2 During Sixth Plan, the strategy adopted for Command Area Development has been to ensure equitable and timely supply of water to all farmers within each outlet command through construction of field channels and introduction of warabandi. Achievement of better water utilisation and higher productivity in the command areas continue to be the twin objectives.

21.3 On Farm Development Works in Command areas have been intensified in the State under the Centrally-Sponsored Command Area Development Programme in Cauvery, Periyar, Vaigai and Lower Bhavani (1980) and Sathanur and Parambikulam Aliyar Commands (1984).

21.4 Pattern of financial assistance is as below :

Sl. No.	Details,	G.O.L		GOTN	
		Grant	Loan	Grant	Loan
1.	Establishment of CADA	50	..	50	..
2.	Survey, Design Planning and Supervision	50	..	50	..
3.	Construction of field channels	25	25	25	25
4.	Introduction of Rotational Water Supply/ Warabandi	50	..	50	..

21.5 Under the Command Area Development Programme the following On Farm Development works are executed by the Agricultural Engineering Department:—

(i) Elimination of two many off takes from the field bothies for establishing one controlled outlet point for a specific block of area which will depend on Soil, Crop, land slope and size of land holdings etc.

(2) Elimination of field to field irrigation by constructing individual field channels ;

(3) Construction of control structures ;

(4) Land levelling, land shaping, realignment of field channels land consolidation, etc. at farmers cost ;

(5) Introduction of Warabandi, a rotational water supply system which ensures equitable distribution of available water per unit area of land among beneficiaries.

21.6 The cumulative achievement to the end of 1979-80 is 23,060 Ha. (Cauvery Command).

Achievements of Sixth Plan period are furnished below:

		Physical.		Expendi- ture.	
		IN HA.	IN LAKHS.	RS.	
1. Cauvery Command	(1980-81)	54,952	525.00		
2. Periyar-Vaigai Command	(1982-83)	43,721	438.00		
3. Lower Bhavani Command	(November 1983)	10,528	221.23		
4. Sathanur Command	(1984)	1,306	21.00		
	Total	1,10,507	1,205.23		
5. Introduction of Warabandi	.. ..	5,699	10.61		

21.7 It may be seen that the approved Sixth Plan Outlay of Rs. 8.00 lakhs has been over-reached. On the physical side, the area covered by the construction of field channel is 1,10,507 Ha., against the target of 1,31,000 Ha. Under Warabandhi an area of 3,699 Ha. has been covered during Sixth Plan period at a cost of Rs. 10.61 lakhs.

SEVENTH FIVE-YEAR PLAN.

Strategy :

21.8 The strategy in the Seventh Plan is to ensure effective water utilisation and equitable distribution of irrigation water through integrated water management for optimising agricultural production in command areas. Construction of field channels to prevent wasteful use of water will be stepped in all the commands besides accelerating the programmes under land levelling/shaping and field drains.

21.9 To keep pace with the construction of field channels and to clear some of the backlog of Sixth Plan more areas will be covered under Warabandhi.

ON GOING SCHEMES.

Cauvery Command :

21.10 The total area of Cauvery Command is 3.78 lakhs ha. An area of 78,012 ha. has been covered upto the end of Sixth Plan period with On Farm Development works. During the Seventh Plan period an area of 1.20 lakhs ha. is proposed to be covered at a total cost of Rs. 18,08.00 lakhs. It is the biggest command and hence works will have to be continued even beyond Seventh Plan period.

Lower Bhavani Command :

21.11 The total area of Lower Bhavani Command is 80,800 ha. An area of 10,528 ha. has been covered during Sixth Plan period. An area of 73,000 ha. is proposed to be covered during the Seventh Plan period at a cost of Rs. 14,54.00 lakhs. It has been programmed to saturate and complete this project during Seventh Plan period.

Sathanur Command :

21.12 The total area of Sathanur Command is 18,200 ha. An area of 8,435 ha. has been covered during Sixth Plan period. An area of 13,000 ha. is proposed to be covered during

the Seventh Plan period at a cost of Rs. 2,82.00 lakhs. It has been programmed to saturate and complete this project during Seventh Plan period.

Introduction of Warabandhi—Rotational Water Supply :

21.13 Introduction of Rotational Water Supply is proposed to be intensified during the Seventh Plan period in the Command Areas where On Farm Development works have been taken up. The programme for the Seventh Plan period is furnished below :

	<i>Physical.</i>	<i>Total</i>
	IN HA.	(RS. IN LAKHS.)
Introduction of Rotational Water Supply in—		
(i) Cauvery Command ..	75,000	3,40.00
(ii) Lower Bhavani Command	75,000	3,40.00
(iii) Parambikulam Aliyar Command	25,000	1,20.00
Total ..	1,75,000	8,00.00

21.14 Thus Rotational Water Supply will be introduced in an area of 1,75,000 ha. at a total cost of Rs. 8,00 lakhs. Necessary infrastructure will be created for implementing the programme in all the three commands.

21.15 The provisions made under Warabandhi is based upon the Government of India's norms and recommendations. As on date only a Pilot Project with skeleton staff has been sanctioned in Cauvery and Lower Bhavani Commands to cover a small area of 1,000 ha. by each set up per year. (Similar set up also exists in World Bank assisted Periyar Vaigai Project). The performance of the set up is under study for taking a decision for implementing the programme on a proper scale over the entire area covered under On Farm works. Pending acceptance of the Government of India's norms and recommendations on the Rotational Water Supply and after examining the performance of the pilot units full provisions have been made from the year 1987-88 onwards.

Monitoring Cell at Headquarters :

21.16 The Agricultural Engineering department is the Agency responsible for Water Management in the State. To monitor the Command Area Development Programme a small cell was created at the Headquarters during 1981-82. At the end of the Sixth Plan period i.e., during 1985-86 the number of schemes and the outlay for the Command Area Development Programme have increased manifold (to the tune of Rs. 6 crores). With more new schemes under the Seventh Plan, it becomes necessary to have the strength of the monitoring cell for effective planning, monitoring and co-ordination of the different programmes and agencies involved. An amount of Rs. 20 lakhs is proposed for 1985-90.

Parambikulam-Aliyar Command :

21.17 The Parambikulam-Aliyar Command has a total area of 1.58 lakhs ha. This command was approved by Government of India during 1984 for taking up the Command Area Development Programme. The project has been sanctioned. It is proposed to take up On Farm Development works in an area of 10,000 ha./year. The programme has commenced from 1985-86 and will be put to full implementation from 1986-87 onwards. An area of 41,000 ha. is proposed to be covered during the Seventh Plan period at a total cost of Rs. 14,34.00 lakhs. The project will have to be continued during Eight Plan period also.

NEW SCHEMES.

Provisions indicated for the following two new schemes are subject to approval of Govt. of India under Seventh Plan provisions.

Chittar Pattanamkkal and Tamirabarani Commands :

21.18 The Chittar Pattanamkkal and Tamirabarani Commands have a total ayacut of 19,000 ha. and 52,600 ha. respectively. Command Area Development Programme are proposed to be implemented from 1987-88 in these commands. It is expected to cover 5,000 ha. annually and 15,000 ha. during the rest of the Seventh Plan period at a total cost of Rs. 4,51.00 lakhs.

Kothayar and Amaravathi Commands :

21.19 The Kothayar and Amaravathi Commands have a total ayacut of 25,900 ha. and 21,800 ha. respectively. The Command Area Development Programme is proposed to be

implemented from 1987-88. An area of 15,000 ha. is proposed to be covered every year and an area of 15,000 ha. during the Seventh Plan period at a total cost of Rs. 4,51.00 lakhs.

Purchase of Machinery for Land Development and Ground Water Development.**(i) Land Development :**

21.20 Agricultural Engineering Department^t is the agency responsible for Land Development, and Ground Water Development in the State. Under Land Development the department caters to the farm power requirements of farmers for land levelling, land shaping, timely ploughing, puddling, harrowing, sowing of seeds, etc., by providing Bulldozers and tractors attached with required implements. By taking up land levelling the irrigation practices are made efficient and easier.

(ii) Ground Water Development and Conjunctive use :

21.21 Under Ground Water Development^t the department takes up geophysical surveys, helps the farmers in sinking a tube well or a filter point tube well or revitalising a dried up well by putting sidebores or deepening by blasting. Agricultural Engineering department is the only Government agency incharge of Ground Water Development for irrigation purposes. In Thanjavur District alone (Cauvery Command) the department is sinking more than 2,000 Filter Point Tube wells every year paving way for conjunctive use of Ground Water with surface water. In times of scarcity, crash programmes for sinking Filter Point Tube wells and Tube wells are taken up.

21.22. The required equipment and machinery are proposed to be purchased^t availing the 50 per cent loan assistance given by Government of India. An outlay of Rs. 500 lakhs is proposed for this, under State sector subject to Government of India's acceptance for this loan assistance.

Training, Strengthening of Administration and Adaptive Trials:**(i) Training :**

21.23. Training is necessary tool for improving individual capability and achieving organisational improvement. The Water management is a multi-disciplinary science involving subjects like Civil Engineering, Hydraulics, Agronomy, Plant Physiology, etc.

21.24. It also involves gharivoral sciences such as Sociology, Psychology, etc. Hence provision has been made for "training".

(ii) *Strengthening of Administration :*

21.25. In order to effectively plan, monitor and evaluate the programme, the administration needs to be strengthened both at department level as well as at Government level. Government of India provides 50 per cent grant for the Establishment expenditures and availing this, the Administration could be suitably strengthened.

(iii) *Adaptive Trials :*

21.26. In order to assess the benefits of the Water Management programmes at various locations adaptive trials are proposed to be taken up. Adaptive trials will be taken up in the Command Areas where On Farm Development works have been taken up for assessing the impact, benefits and to suitably re-cast the programmes wherever necessary.

21.27. For Training, Strengthening of Administration and Adaptive trials an outlay of Rs. 200 lakhs is proposed.

Subsidy for Land Levelling and Land Shaping :

21.28. Land Levelling and Land Shaping are important On Farm Development works which contribute to increase the water use efficiency. But, as per the present guidelines, Government of India provides only 50 percent of grant assistance towards the subsidy to be adjusted against loans to Small and Marginal farmers. The other 50 per cent of the subsidy is to be met by the State. Farmers are now depending upon loans from Institutional financing agencies. The working group on Command Area Development, however, has recommended assistance for this item of work on par with the construction of field channels. The Commands like Lower Bhavani, Parambikulam-Aliyar and Sathanur require land levelling very essentially. Hence

an outlay of Rs. 100 lakhs is proposed as subsidy to farmers who would take up land levelling and land shaping utilising institutional finance. As Government of India would be providing 50 per cent of the cost subsidy as grant the State sector outlay will be Rs. 50 lakhs.

Physical Targets :

21.29. During the Seventh Five-Year Plan an area of 2,77,000 ha. is proposed to be covered with On Farm Development works. Rotational water-supply would be introduced in 1,75,000 ha.

Externally Aided Projects :

World Bank Scheme :

21.30. Under the World Bank assisted Periyar-Vaigai Stage II Modernisation Programme. On Farm Development works will be taken up in 39,000 ha. An area of 2,000 ha. will be levelled and 600 Numbers. of Thrashing floors will be constructed. It is expected that this project will be completed before the end of the Seventh Plan and the connected staff redeployed for saturating the Lower Bhavani and Sathanur Commands.

E.E.C. Scheme :

21.31. Under the E.E.C. assisted Tank Modernisation Programme On Farm Development works will be taken up in 22,500 ha.

21.32. The Physical targets of these two externally aided programmes have not been included in the physical targets projected above.

Total Cost :

21.33. An outlay of Rs 8,000.00 lakhs is proposed for the Seventh Plan for Command Area Development Programmes excluding the externally aided projects and the State Government share will be Rs 4,000.00 lakhs. The year-wise outlay and targets are given in Annexures I and II,

ANNEXURE I.

Seventh Five-Year Plan Outlays—Command Area Development.

<i>Serial number and name of the Scheme.</i>	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	1985-90.	<i>State Sector Outlay 1985-90. (State Share).</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ongoing Schemes :							
	(RUPEES IN LAKHS.)						
1 Command Area Development in Cauvery Command	2,78.00	3,14.00	3,60.00	4,17.00	4,39.00	18,08.00	9,04.00
2 Command Area Development in Lower Bhavani Command	1,40.00	1,40.00	2,80.00	4,00.00	4,94.00	14,54.00	7,27.00
3 Command Area Development in Sathanur Command	40.00	60.00	64.00	70.00	48.00	2,82.00	1,41.00
4 Introduction of Rotational Water-Supply	44.00	50.00	1,94.00	2,52.00	2,60.00	8,00.00	4,00.00
5 Monitoring Cell at Headquarters.	4.00	4.00	4.00	4.00	4.00	20.00	10.00
5 Command Area Development in Parambikulam-Aliyar Command	60.00	3,23.00	3,36.00	3,50.00	3,65.00	14,34.00	7,17.00
New Schemes :							
1 CADP in Chittar Pattanamkkal and Tamirabarani Commands.	..	..	1,43.00	1,50.00	1,58.00	4,51.00	2,25.50
2 CADP in Kothayar and Antara-vathi Command .. .. .	..	..	1,43.00	1,50.00	1,58.00	4,51.00	2,25.50
3 Purchase of Machinery for Land Development and Ground Water Development .. .. .	..	2,50.00	2,50.00	2,50.00	2,50.00	10,00.00	5,00.00
4 Training, Strengthening of Administration and Adaptive Trials .. .. .	..	50.00	50.00	50.00	50.00	2,00.00	1,00.00
5 Subsidy for Land Levelling and land shaping .. .. .	..	25.00	25.00	25.00	25.00	1,00.00	50.00
Total ..	5,66.00	12,16.00	18,49.00	21,18.00	22,51.00	80,00.00	40,00.00*

*It does not include any provision for World Bank assisted Periyar-Vaigai Project and E.E.C. assisted Tank Modernisation Programme.

ANNEXURE II.

Seventh Five-Year Plan—Command Area Development Physical Target.

<i>Serial number and name of the scheme.</i>	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	<i>Total</i> 1985-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(AREA IN HECTARE.)					
1 Cauvery Command	24,000	24,000	24,000	24,000	24,000	1,20,000
2 Lower Bhavani Command	5,000	5,000	10,000	23,000	30,000	73,000
3 Sathanur Command	2,000	3,000	3,000	3,000	2,000	13,000
4 Parambikulam-Aliyar Command	1,000	10,000	10,000	10,000	10,000	41,000
5 Introduction of Rotational Water-Supply—						
(i) Cauvery Command	1,000	..	25,000	24,000	25,000	75,000
(ii) Lower Bhavani Command	1,000	..	25,000	24,000	25,000	75,000
(iii) Parambikulam-Aliyar Command .. .. .	..	..	..	25,000	..	25,000
6 Chittar Pattanamakkal and Tamirabarani Commands .. .. .	..	..	5,000	5,000	5,000	15,000
7 Kothayar and Amaravathi Commands .. .. .	..	..	5,000	5,000	5,000	15,000
Total—OFD—Works	32,000	42,000	57,000	70,000	76,000	2,77,000
8 Introduction of Rotational Water-Supply	2,000	..	50,000	73,000	50,000	1,75,000

CHAPTER 22.

POWER DEVELOPMENT.

Review of the VI Plan :

22.0. Faced with continued Power shortage the Sixth Five-Year Plan was drawn up with a thrust on power development. The outlay on power was stepped up from the level of Rs. 375 Crores during the period 1974-79 to Rs. 1,022 Crores in the Sixth Plan period. The actual expenditure incurred during the Sixth Plan was Rs. 968.60 Crores constituting 94.70 per cent of the total Sixth Plan outlay.

22.1. The Sixth Five-Year Plan (1980-85) envisaged an addition of 630 MW, comprising 20 MW from Servalar Hydro Electric Scheme, 400 MW from Kadamparai and 210 MW from 3rd unit of Tuticorin Thermal Plant. As against this, the actual achievement was 420 MW comprising two units of 210

MW in Tuticorin Thermal Plant, one unit of 210 MW being the slippage from the Fifth Five-Year Plan. Both Kadamparai Pumped Storage Plant and Servalar H.E.S. have slipped to Seventh Plan period.

22.2. The programme for the Sixth Plan 1980-85 envisaged electrification of the balance number of villages and hamlets newly created besides energisation of 1.50 lakhs pumpsets. Against a target of 185 villages to be electrified during Sixth Plan, 150 villages were electrified (81.1 per cent).

22.3. In respect of pumpsets, 1.46 lakhs (97.6 per cent) have been energised. In respect of the huts to be electrified, against a target of 5.00 lakhs huts 4.68 lakhs have been provided with electricity recording an achievement rate of 93.7 per cent.

THE YEARWISE ACHIEVEMENTS ARE AS FOLLOWS :

Sl. No.	Scheme.	Target for 6th Plan.	Achievements					Total achievement.	Percentage.
			1980-81	1981-82	1982-83	1983-84	1984-85		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1.	Villages Electrified Nos.	185	36	25	25	37	27	150	81.1
2.	Pumpsets Energised Nos.	1,50,000	31,935	26,358	19,497	17,589	50,950	1,46,329	97.6
3.	Huts Electrified Nos.	5,00,000	1,28,153	1,54,662	69,871	42,294	73,494	4,68,474	93.7

Present Status of the Sector :

22.4. The installed generating capacity in the State is 3344 MW comprising 1369 MW from 18 hydel stations, 1740 MW from four thermal stations including 600 MW thermal station at Neyveli under Central Sector and 235 MW from the Nuclear plant at Kalpakkam. In addition, the State is entitled for an allotment of 132 MW from Ramagundam Super Thermal Station Stage-I (600 MW) in Andhra Pradesh. The present unrestricted requirement is 2500 MW

and 14,600 MU. The demand for power in the State has always been outstripping the availability and the State was forced to impose power cuts from time to time to contain the demand. The growth rate for electricity in the State was around 16.5 per cent in the fifties and 11.2 per cent in the Sixties. However the growth rate declined to 4.2 per cent in the Seventies mainly due to the inadequacy of the generating capacity. Had adequate generating capacity been available, the growth rate would have been around

10 per cent. The works on Servalar HES (20 MW), Kadamparai PSS (400 MW) Lower-Mettur HES (120 MW) and Mettur thermal Stg-I (420 MW) are in advanced stage of execution. This apart, work on Kundah V additional unit (20 MW), Pykara Micro Hydel (2 MW) Lower Bhavani micro hydel (8MW), Vaigai micro hydel (6 MW) and Mettur thermal Stg-II (420 MW) have also been taken up for execution during 1984-85. In respect of Parsons Valley H.E.P. though the scheme has been sanctioned in 6/82, work has not been taken up since the clearance from the forest department for the land required has not been obtained. Besides the above schemes, work on second unit at Kalpakkam Nuclear Plant (235 MW) and second thermal station with a second main cut at Neyveli, both under the Central Sector, are in progress. From the second unit of Kalpakkam (235 MW) the State will get 50 per cent share. The State is entitled to 176 MW out of the total capacity of 630 MW at the second thermal station at Neyveli.

Forecast of demand and energy in VII Plan :

22.5 The unrestricted requirement at the end of 1989-90 is 4142 MW/22496M.U. The availability from the existing stations including the supply from the Central Sector projects will be 2055 MW/13690MU. The availability from the ongoing State and Central Schemes will be 1110MW/5436MU. The total availability will be 3165 MW/19126MU leaving a deficit of 977MW / 3370 MU. This deficit has to be met only by taking up new schemes for execution.

VII Plan Structure :

22.6 Tamil Nadu does not have large hydel potential which can be exploited for power generation. The hydel potential is estimated as 3546 MW out of which 1369 MW has already been harnessed and 190 MW is under construction. The balance potential is either tied with inter-State disputes or lie in forest areas. Out of a balance potential of 1987 MW, 483MW only can be harnessed in the immediate future. Micro hydel potential of 212 MW is available and this can be harnessed in stages. There is no coal reserve. Hence coal based thermal stations have to depend on coal from Andhra Pradesh, Bengal, Bihar and Orissa for coal supply. Lignite is the only fossil fuel available in the State and the Government of India is fully exploiting this potential under the Central Sector. The augmentation

of generating capacity under the Seventh Five Year Plan therefore centres on :

(a) Improving the capacity utilisation of the existing thermal stations by carrying out betterment programmes.

(b) Completing all on-going schemes within the time frame already fixed.

(c) Installing Gas turbines to meet the short-term needs and

(d) Establishing coal based thermal stations and hydro stations to meet the long term needs.

Programme for VII Plan :

22.7. Generation: During the 7th Five-Year Plan the following new Schemes will be taken up for execution;

Schemes,	Capacity (MW)
North Madras Thermal Station Stage 1.	630
Tuticorin Thermal Station Extension	420
Gas Turbine	60
Maravakkandi	0.75
Athikkadavu	5
Bhavani Kattalai Stage-I	90
Sathanur	20
Pykara Ultimate Stage-I	100
Paralayar HES	25
Gomuganadhi HES	20
Bhavani Kattalai Stage II	60
Vaigai Peranai HES	50
Nirar Nallar HES	155
Micro Hydels (Siruvani, Poosaripatti and Thuklapatti).	3.65
Pandiyar Punnaampuzha HES	150
Sholathipula HES	60
Hoganekkal HES	420
Upper Amaravathi	30
Shanmuganadhi HES	30
Nellithorai HES	50

22.8. Out of these schemes a potential of 544.65 MW alone is expected to come to fruition within the VII Plan period and the rest will spill over to VIII Five-Year Plan. The anticipated addition to installed capacity during VII Five-Year Plan will be 1976 MW in the State Sector and 1075 MW under the Central Sector. The total installed capacity in the State at the end of the 7th Plan period is expected to be 6395 MW including 1075 MW under Central Projects at Kalpakkam and

Transmission and Distribution :

22.9. The transmission and Distribution system has to be expended to evacuate and distribute the power from new generating stations and the allocation from Central Projects. Tamil Nadu will have to go in for 400 KV transmission system in VII Plan period. This apart, additional capacitors and system improvements have to be installed/carried out to bring down the line losses from 18.8 per cent level existing now.

Rural Electrification;

Under Rural Electrification, during 7th Five-Year Plan period all the remaining villages will be electrified and 2,00,000 new agricultural pump connections will be given.

Outlay for VII Plan :

22.10: As against an approved outlay of Rs. 1022 Crores for VI Plan period, the VII Plan will be taken up with an investment of Rs. 2,000 Crores. The Sector-wise allocation will be as follows :

	(Rupees in Crs.)
Generation	.. 1218.76
T & D	.. 650.00
R.E.	.. 81.18
Renovation to Power Stations	.. 40.06
Survey & Investigation	.. 10.00
Total	.. <u>2,000.00</u>

22.11. Apart from the above, a sum of Rs. 24.06 Crs. under Centrally sponsored schemes for renovation of thermal stations and Rs. 135 Crs. for pumpset energisation outside the Plan funds has been allotted.

Status of Schemes :

I. GENERATION :

1. (a) Completed Schemes :

Hydro Electric Schemes :

22.12. No provision is made since there is no balance expenditure pending for the completed Hydro Electric Schemes.

2. Thermal Electric Schemes

Turcorm Stages I and II :

22.13. Three units of 210 MW each were established under this scheme. All the three units have been commissioned into service.

sum of Rs. 50 lakhs is provided in the Seventh Plan outlay for balance payments.

1. (b) On-going Schemes :

1. Servalar H.E.S. (1 X 20 MW/75 MU) Tirunelveli District :

22.14. The project was sanctioned in July, 1974 at an estimated cost of Rs. 835 lakhs. The latest estimated cost is Rs. 3,843 lakhs. Out of which an expenditure of Rs. 3,568 lakhs was incurred by the end of VI Plan. An outlay of 275 lakhs is provided for the Seventh Plan period.

22.15. The project envisages the construction of a 66 metre high masonry dam across the river Servalar, tributary of the river Tambaraparani, 3.24 Km. long tunnel between the existing Papanasam reservoir and the proposed Servalar reservoir and a power house at the toe of the Servalar dam for installation of 1 No. Kaplan turbine driven generating unit of 20 MW rating. The erection of the generating units is in progress and the unit will be commissioned in early 1986.

Kadamparai Pumped Storage Scheme (4 X 100 MW /79 MU) Coimbatore District :

22.16. The project was sanctioned in February 1973 at an estimated cost of Rs. 3,512 lakhs. The work on the project was however taken up only in 1977. The latest estimated cost is Rs. 15,444 lakhs, out of which an expenditure of Rs. 11,867.24 lakhs was incurred up to VI Plan period. The entire spillover cost of Rs. 3,576.76 lakhs will be spent in the VII Plan.

22.17. This project is for the absorption of surplus off peak energy, from thermal stations and supply of peak power. For this purpose the project envisages the construction of a dam across the river Kadamparai in Anamalai Hills and an underground power house with an installed capacity of 400 MW. This project involved the construction of a series of tunnels for the water conductor system. Kadamparai reservoir will act as the upper reservoir and the existing Upper Aliyar reservoir will act as the tail race pool.

22.18. The work on the Kadamparai dam has been completed. The work on the mining on the various tunnels and the power house cavern have also been completed. Lining of the tunnel has been taken up. The erection of the steel structure in the power house is in progress. The first unit is scheduled for commissioning in January, 1987, and the other units at an interval of 6 months thereafter.

22.19. The provision in the VII Plan is for balance payment to BHEL for the supply and erection of machinery and for Civil Works in the water conductor systems, power house cavern and diversion works for diverting water from Vandal Dam.

*Lower Mettur H.E.S. (4×2×15 MW/350 MU)
Salem Periyar District :*

22.20. The project was sanctioned in September 1980 at an estimated cost of Rs. 8,360 lakhs. The latest cost is Rs. 14,700 lakhs, out of which an expenditure of Rs. 10,377.43 lakhs was incurred during the VI Plan period. The entire spill over cost of Rs. 4,322.57 lakhs is proposed for VII Plan.

This is a low head project to utilise the irrigation discharge from Mettur reservoir for power generation beyond the existing power house by building four barrages at suitable locations across the river Cauvery between Mettur Dam and Bhavani Town. Each power house will have two units of 15 MW each. The barrages will be of piers cum-gates.

The excavation work in all the four barrages have been completed. Erection of piers is in progress.

The excavation for foundation has been completed in all the four power houses. Constructing of sub-structure is in progress. The generating equipments have been ordered on Sumitomo Japan and supplies have been received. Erection of machinery is in progress along with sub-structure erection. The first unit in barrage-3 is expected to be commissioned in September, 1986. The other units will be commissioned one after the other before the end of March, 1988.

The provision in the VII Plan is mainly for the Civil Works on barrages and power houses and for erection of machinery.

Kundah Power House V Additional Unit (1×10 MW/36.5 M.U.), Nilgiris district:—

22.21. The project was sanctioned in May, 1980 at an estimated cost of Rs. 593 lakhs. The latest estimated cost is Rs. 837 lakhs, out of which an expenditure of Rs. 243.32 lakhs was incurred during VI Plan. The entire spill over cost of Rs. 593.60 lakhs is provided in VII Plan.

In the existing Kundah Power House V there is one 20 MW unit. There is a space provision for second 20 MW Unit. This power house utilises the water of Upper Bhavani Dam.

Because of the limited capacity of the generating unit, during the years of good rain-fall water use to spill from Upper Bhavani dam. To avoid this and to increase the peaking capacity of the grid a second 20 MW unit is proposed to be installed under this scheme.

The order for generating machines has been placed on Messrs. BHEL. For the erection of penstock Steel Authority of India Limited has been requested to procure steel. The unit will be commissioned in September 1987.

The provision in the VII Plan is for payment to BHEL for machinery, for procurement of steel, erection charges and Civil Works.

Parsons valley (1×30MW/53 MU), Nilgiris district

22.22. This scheme was sanctioned in June 1982 at an estimated cost of Rs. 1,373 lakhs. An expenditure of Rs. 10.03 lakhs was incurred during the VI Plan. An amount of Rs. 1,362.97 lakhs is proposed to be spent in VII Plan.

At present waters from Parsons valley reservoir constructed under the Kundah project is let into Emerald reservoir for power generation in Kundah Power House-I. The available head of 224 metres between FRL of Parsons valley reservoir and Emerald reservoir is proposed to be utilised under this project by construction of a power house on the foreshore of Emerald reservoir with a generating unit of 30 MW rating.

No work on this project has been done since the clearance from Forest Department for the land has not been received. The entire provision in the VII Plan is for all works envisaged in the project.

*Pykara Micro Hyael Project (1×2 MW/10 MU)
Nilgiris district :*

22.23. The project was sanctioned in August 1981 at an estimated cost of Rs. 149 lakhs. The latest cost is Rs. 220 lakhs. An expenditure of Rs. 15.06 lakhs was incurred during VI Plan. An amount of Rs. 204.94 lakhs is provided for VII Plan.

The scheme envisages erection of a 2 MW unit at the toe of the existing Pykara Dam and will utilise the waters of Pykara and Mukurthi reservoir for power generation before it is utilised in the Pykara power house.

The order for the machinery has been placed on TOYA MONKA KAISHA Japan utilising Yen Credit. The unit will be commissioned in 1987-88.

Lower Bhavani Micro Hydel Project (4X2 MW/39 MU), Periyar district :

22.24. The project was sanctioned in August 1981 at an estimated cost of Rs. 626 lakhs. The latest cost is Rs. 814 lakhs. An expenditure of Rs. 40.25 lakhs was incurred during the VI Plan. An amount of Rs. 773.75 lakhs is provided for the VII Plan.

The schemes envisages the installation of four units of 2 MW capacity at the existing Lower Bhavani Dam. The penstock pipe lines have already been installed in the dam.

The order for the machinery has been placed on Toya Monka Kaisha, Japan utilising Yen Credit. The unit will be commissioned in 1987-88.

Vaigai Micro Hydel Project (2X3 MW/25 MU), Madurai district :

22.25. The project was sanctioned in August 1981 at an estimated cost of Rs. 397 lakhs. The latest estimated cost is Rs. 532 lakhs. An expenditure of Rs. 45 lakhs was incurred during VI Plan. An amount of Rs. 487 lakhs is provided for the VII Plan.

The scheme envisages the installation of 2 units of 3 MW each, at the foot of the existing Vaigai dam. The penstock pipe lines have already been laid in the Dam.

The order for machinery has been placed on Messrs. Toya Monka Kaisha, Japan, utilising the Yen credit. The unit will be commissioned in 1987-88.

I (b) THERMAL ;

I. Mettur Thermal Project-Stage-I (2X210 MW/2247 MU) Salem district :

22.26. This project was sanctioned in September 1980 at an estimated cost of Rs. 18,970 lakhs. The latest cost is estimated at Rs. 38,432.50 lakhs. An expenditure of Rs. 16,997.43 lakhs was incurred during the VI Plan. Balance cost of Rs. 21,435.07 lakhs is proposed for VII Plan.

The project envisages the installation of two units of 210 MW each at Mettur utilising coal from Singarani collieries in Andhra Pradesh transported by rail.

The land required for the project has been acquired. Site grading has been completed to a great extent. Orders have been placed for the supply of generating machinery on Messrs. BHEL, for coal handling system, power transformers, switchgears, etc. Contractors for Cooling water system, cooling tower, railway siding etc., have also been finalised. Award of contracts for ash handling system, fire fighting system service transformers, Hydrogen Plant, power and control cables, construction of a bridge across the river Cauvery etc., have also been finalised. Boiler and T.C. erection are in progress. The first unit is expected to be commissioned in December, 1986 and the unit II in July, 1987.

The provision in the VII Plan is for the balance supply of BHEL equipments and for the entire civil, mechanical and electrical works.

Mettur Thermal Project-Stage-II (2X210 MW/2247 MU), Salem district :

22.27. The project was sanctioned in May 1983 at an estimated cost of Rs. 23,828 lakhs. The revised cost is Rs. 26,902.70 lakhs. An expenditure of Rs. 1,008.93 lakhs was incurred during VI Plan and out of the balance cost of Rs. 25,893.77 lakhs, a provision of Rs. 24,000 lakhs is proposed for the VII Plan period.

Orders for the Units have been placed on Messrs. BHEL and advance payments have been made. Site grading and excavation works are in progress. The first unit of second stage will be commissioned in December 1988 and the second unit in December 1988.

The fund provision in the VII Plan is for payment on BHEL for the boilers and T.G. sets and for civil, electrical and mechanical works. There will be a spillover of Rs. 1,893.77 lakhs to the VIII Plan period.

I. C. NEW SCHEMES:

HYDEL :

1. Poonachi Micro Hydel Scheme (1, MW/3.9 MU) Colmbatore district :

22.28. The scheme was sanctioned by the Government of Tamil Nadu in August 1982 at an estimated cost of Rs. 85 lakhs. The entire cost of Rs. 85 lakhs is proposed in the VII Plan.

The scheme envisages the erection of a Micro Hydel Power House with 1 MW capacity at the foreshore of Upper Aliyar reservoir and will utilise the waters of Poonachi diversion weir utilising a head of 90 metres. The Power House will be commissioned in 1988-89.

Vilampatti Micro Hydel Scheme (500 KW/1.82 MU), Madurai district :

22.29. The scheme was sanctioned by the State Government of Tamil Nadu in January 1983 at an estimated cost of Rs. 48 lakhs. The entire cost is proposed for the Seventh Plan.

The scheme envisages the erection of a 0.5 MW generating unit at Vilampatti village in the Nilakottai taluk of Madurai district, utilising the irrigation discharge of Periyar main canal from Perani regulator constructed across the river Vaigai, located at about 44 MW downstream of Vaigai dam. The head that will be utilised is 1.25 metres. The power house will be commissioned in 1988-89.

Maravakandi Micro Hydel Project (750 KW/2.66 MU | Nilgiris district.)

22.30. The scheme was sanctioned in January 1984 by the Government of Tamil Nadu at an estimated cost of Rs. 77 lakhs. The entire cost is proposed to be spent in Seventh Plan.

The project envisages the installation of one unit of 750 KW rating at the toe of Maravakandi Dam and will utilise the discharge from this dam before power generation at Moyar Power house. The head that will be utilised is 7 metres. The power house will be commissioned in 1988-89.

Athikkadavu Micro Hydel Scheme (2×2.5 MW/21 MU)—Coimbatore district.

22.31. TWAD Board is envisaging the construction of a dam upstream of Pillur dam for water supply. This would result in loss of generation at Kundah Power House-IV. It is proposed to utilise the water that will be diverted by TWAD Board for power generation by installing two units of 2.5 MW at an estimated cost of Rs. 250 lakhs. The project report has been submitted to Government of Tamil Nadu for approval. TWAD Board is posing this project for World Bank assistance. The entire project cost is proposed to be spent in VII Plan period. The power house is expected to be commissioned in 1986-87.

OTHER NEW SCHEMES.

1. *Bhavani Kattalai Stage-I (90 MW/341 MU) Periyar—Salem district.*

22.32. This project envisages construction of three barrages of 9 metres height each across the river Cauvery below Bhavanitown and three power houses at each of the barrages with 2

generating units of 15 MW rating. The detailed project report was sent to CEA, Government of India in March 1984 and the approval is awaited. The project is estimated to cost of Rs. 7,867 lakhs. The work is expected to commence in 1987-88. The benefit will accrue in the 8th Plan.

2. *Sathanur Hydro Electric Project (2×10 MW/33 MU)—North Arcot district.*

22.33. The project envisages the construction of a power house of the toe of the existing Sathanur Dam in North Arcot District and utilise the irrigation discharge for power generation over a head of 38 metres. Two penstock pipe have already been embedded in the dam. Detailed project report has been sent to CEA, Government of India in September 1984 and approval is awaited. The estimated cost of the project is Rs. 901 lakhs. The work on this project is expected to commence in 1988-89. The benefits will accrue in the 8th Plan.

3. *Bhavani Kattalai Stage—II/60 MW/310 MU, Tiruchirappalli district.*

22.34.—The scheme is similar to Bhavani Kattalai Stage-I and envisages utilisation of drop in Cauvery River in Tiruchirappalli district, after Bhavani Kattalai Stage-II.

The detailed investigations are in progress. The cost is estimated at Rs. 8,000 lakhs. The work on this project is proposed to be taken up only in 1989-90. The benefits will accrue in the 8th Plan.

4. *Vaigai-Peranai HES (50MW/110 MU), Madurai district.*

22.35. The project envisages the construction of barrages between Vaigai Dam and Peranai anicut and construction of power houses at the barrages. The project is estimated to cost Rs. 2260 lakhs. The preliminary report has been sent to Government of Tamil Nadu for approval. The work on this project is expected to be taken up in 1989-90. The benefits will accrue in 8th Plan period.

5. *Nirar-Nallar HES (155 MW/346 MU), Coimbatore district.*

22.36. Under Parambikulam-Aliyar project the entire yield from upper Nallar River will be diverted to Sholaiyar River. As per the inter State agreement, Tamil Nadu has to get an

additional diversion of 2.5 TMC from Lower Nirar dam and another 2.5 TMC from Anamalayar. When this materialises, Sholaiyar river may not be sufficient to impound this water. To make use of this surplus water for additional power generation and to have a direct diversion route to Thirumurthi reservoir Public Works Department has proposed a diversion of the yield of Upper Nirar river to Nallar basin and then to Thirumurthi reservoir. Utilising this arrangement under the scheme, it is proposed to construct two power houses, one on the foreshore of the proposed Nallar reservoir with an installed capacity of 35 MW and another at the foreshore of the Con-
tour canal with an installed capacity of 120 MW. The scheme is estimated to cost Rs. 3,787 lakhs. The survey and investigations are being carried out in consultation with Forest Department. It is proposed to take up execution of the scheme in 1987-88. The benefits accrue in 8th Plan period.

6. *Pykara Ultimate Stage (100 MW/211 MU).*

22.37 : This proposal envisages the power generation utilising the flows from Pykara, Naduvattam, Melkodmund Lonevalley and Sandynallah rivers in Nilgiris district. These waters are now used in the Pykara power house with an installed capacity of 70 MW. The present plant load factor of the power house is about 60%. Consequently this power house has to be continuously run during summer months for depleting the reservoirs. With the increase in thermal component, it is necessary to use the hydel stations for peaking purposes.

It is proposed to construct a power house with 2 units of 50 MW each at an estimated cost of Rs. 3,814 lakhs. The project report has been sent to CEA in August 1982, and the approval is awaited. The benefits are expected in the VIII Plan period.

7. *Paralayar Hydro Electric Schemes (25MW/74 MU)—Kanyakumari district.*

22.38. The project envisages the utilisation of the flows in the tributaries in Paralayar in Kanyakumari district, by constructing a forebay at Chittar. The water from Chittar forebay will be let through the power tunnel and penstock and utilised for power generation at a power-house to be installed with one unit of 25 MW rating.

The detailed project report has been sent to Central Electricity Authority in April 1984 and the approval is awaited. The work on this

project is proposed to be taken up from 1987-88 at an estimated cost of Rs. 1,770. The benefits are expected in the 8th Plan period.

8. *Gomuganzdhi (20 MW/70 MU) Salem-South Arcot district.*

22.39 : The project envisages the exploitation of the flows in the river Gomuganadhi in Kalrayan Hills of Salem/South Arcot Districts. It is proposed to have a diversion dam and one forebay dam across the two area of the river. A power house with a generating capacity of 20 MW capacity will be installed. The project is estimated to cost Rs. 1335 lakhs. It is proposed to take up the execution of the project in 1988-90. The benefits are expected in the VIII Plan period.

MICRO HYDEL SCHEME.

(a) *Siruvani Hydro Electric Project (3 MW/25.5 MU), Coimbatore district.*

22.40. The scheme envisages the utilisation of waters of Siruvani river in Coimbatore district. The scheme is estimated to cost Rs. 240 lakhs. The concurrence of Kerala Government is required by C.E.A. The approval of the scheme is awaited. The work on this project will be taken up in 1987-88 and completed before the end of the VII Plan period.

(b) *Poosaripatti Hydro Electric Scheme (300KW/11. MU) Coimbatore District:*

22.41 : This microhydel project is to utilise the irrigation discharge let down to the Parambikulam main canal with a drop of 2.2 metres available near Poosaripatti village. It is proposed to construct a power house with a single unit of 300 KW rating. The total cost of the project will be Rs. 33 lakhs. The work on this project is proposed to be taken up in 1988-89 and the project benefits are expected in the VII Plan period itself. The project has been sanctioned by the State Government.

(c) *Thukalapatti (350 KW/1.27 MU)*

22.42 : The project envisages the utilisation of the irrigation discharge in the Periyar 9th branch canal. It is proposed to install a 350 KW unit. The project has been estimated to cost Rs. 35 lakhs. The project has been cleared by the State Government. The work on this project is proposed to be taken up in 1987-88 and completed in VII Plan period.

10. Inter-State Schemes :

22.43 : In addition to the above hydro schemes, Tamil Nadu Electricity Board have sent proposals for Pandiar—Punnampuzha HES, Cholathipuzha HES, Hogenekkal HES, Upper Amaravathi HES, Shanmugandhi HES and Nellithorai HES. The final clearance has not been received for any of these projects, since these projects are one way or other linked with the interstate settlements. Negotiations are being conducted to arrive at a settlement on the projects. A consolidated provision of Rs. 1100 lakhs has been made in the VII Plan so that work on any project for which settlement is reached can be taken up for execution. The salient points of the projects are given below:—

(a) *Pandiar—Punnampuzha HES (150MW/391MU)*.

22.44 The project envisages the utilisation of about 403 mcm. of water per year from Pandiar-Punnampuzha basin for power generation using a gross head of 502.9 m. Estimated cost of the project is Rs. 1100 lakhs.

(b) *Cholathipuzha HES (60MW/225MU)* :

22.45 : This is an inter-State project with components laying both in Tamil Nadu and Kerala, This project will utilise the average flow of 160 mcm from the Cholathipuzha with a head of 740m. Kerala's concurrence is awaited as it is an inter State scheme. The estimated cost of the project is Rs. 2346 lakhs.

(c) *Hogenekkal HES (420MW/1214 MU)* :

22.46 : This scheme envisages the utilisation of the waters of Cauvery river in the Tamil Nadu and Karnataka border. The original proposal for installation of 800 MW installed capacity in 2 hydro power houses was sent to Government of India in 1964. The scheme has not materialised for want of concurrence from Karnataka on the issue of settlement of sharing of Cauvery waters.

22.47 : Subsequently, a revised proposal is install a 1650 MW in 5 power houses called Upper Cauvery Project was proposed. This scheme was again revised to install 420 MW in 2 Power Houses at an estimated cost of Rs. 153.88 Crores. This scheme has not materialised due to the linking of the development in this regions with the Cauvery water issue.

(d) *Upper Amaravathi HES (30MW/104 MU)*:

22.48 : The project is to utilise the flows from Koniar, Pulavachiar and Kumbhar, the tributaries

of Amaravathi river in Madurai district. The head available for power generation is 899m. The estimated cost of the project is Rs. 1933 lakhs.

(e) *Shanmugandhi HES : 30MW/125 MU* :

22.49 The project envisages the utilisation of flows of Palar and Perundalar rivers of Palani Hills in Madurai district. The estimated cost of the project is Rs. 2051 lakhs.

(f) *Nellithorai HES (50MW/109 MU)* :

22.50 : The scheme is for the generation of power in a Dam Power House with an installed capacity of 50 in Coimbatore district utilising a head of 41m. in the river Bhavani below Kundah P.H. IV. The estimated cost of the project is Rs. 2370 lakhs.

Kerala Government contends that interstate aspect should be considered and received before the work is commenced.

I.C. NEW SCHEMES :

Thermal

1. *North Madras (3 x 210 MW/3300 MU Chingleput District.*

22.51 : The scheme envisages the establishment of a Thermal Station at North Madras adjacent to Ennore Thermal Power Station with 3 units of 210 MW at an estimated cost of Rs. 54779 lakhs. Coal for this station is linked to Kalinga mines in Orissa State and is to be transported by all rail route. The project has been sanctioned by the Government of India. An outlay of Rs. 30507 lakhs is sanctioned for the VII Plan. The balance cost will spill on to the 8th Plan period. The first unit is expected to be commissioned in 1989-90 and the rest in the VIII Plan period.

2. *Tuticorin Extension Scheme (2x210 MW/2247 MU) Tirunelveli District.*

22.52 : The scheme envisages the installation of two more units of 210 MW in the existing Tuticorin Thermal Power Station. Coal for this station is linked to Kalinga mines in Orissa State and will be transported by rail-cum-sea route. The scheme is estimated to cost Rs. 35638 lakhs. The project has been sanctioned by the Government of India. An outlay of Rs. 28825 lakhs is sanctioned for the VII Plan period. The balance cost will spill over to 8th Plan period. The first unit is expected to be commissioned in 1989-90 and the second unit in 1990-91.

3. Gas Turbines (100 MW/144MU)—Basin Bridge.

22.53. The scheme envisages the installation of 2 Nos. 50 MW gas turbines at Basin Bridge, at a cost of Rs. 4,710 lakhs in replacement of the existing units at Basin Bridge which have served their useful life. Tamil Nadu grid is deficit of peaking capacity and the gas turbine is proposed to be operated as a peaking station. It is proposed to use LSHS as fuel.

The scheme report has been sent to C.E.A. and clearance is awaited. The project is proposed for the VII Plan period.

II. TRANSMISSION AND DISTRIBUTION :

22.54 ; The transmission network should be developed such that the power from the generating station is evacuated to load centres with optimum line losses and voltage regulation. Tamil Nadu is to get power from central Stations like Ramagundam, Neyveli etc., and for this purpose a 400 KV transmission system has been planned. While the 400 KV lines will be owned and operated by Central agencies, the 400/230 KV Auto Stations and the connected 230 KV lines are to be constructed by the State. TNEB proposes to establish 400/230 KV Stations at Sriperumpudur Salem and Udumalpet. TNEB has also undertaken construction of 230 KV lines from Neyveli to Trichy via Perambalur and Trichy to Salem via Pugalur with 230 KV Auto Station at Perambalur and Pugalur. In addition the transmission system for Mettur Thermal Station is also to be constructed.

III. RURAL ELECTRIFICATION :

22.55. During Seventh Plan period two lakhs pump sets and the balance 42 villages are proposed to be energised. An outlay of Rs. 81.18 crores is provided in the Seventh Plan and Rs. 135.00 crores is met outside the Plan.

IV. RENOVATION OF THERMAL POWER STATIONS.

1. Improvements at Ennore TPS-Stage-I.

22.56. To counteract the problem faced by Ennore Thermal Station detailed betterment programmes were drawn out such as carrying out improvements to Boiler, Milling System, Turbine, Instrumentation and Cooling water system under the first Stage. A provision of Rs. 13.21 crores is made in the Seventh Plan and Rs. 6.77 crores is provided by the Centre.

2. Improvements at Ennore TPS-Stage-II :

22.57. Betterment proposal under stage II is for the areas not covered under Stage-I. The Stage II proposals also were to be taken up simultaneously along with Stage-I works. Under this scheme installation of new ESPs and De-Superstructure for boilers of units I to V, replacement of HP heaters, installation of additional EOT crane in Turbine hall, installation of new D.M. Plant, improvement works for coal conveyance system, replacement of instruments and control system, etc., will be taken up. An amount of Rs. 21.65 crores is provided in the Seventh Plan and Rs. 11.73 crores is provided by the Centre.

3. Improvements at Tuticorin Thermal Power Station :

22.58. In this betterment programme closed loop circulation system is proposed to be erected and commissioned in the existing machinery cooling water system. Funds are made available from Centrally sponsored scheme. Rs. 1.21 crore is provided in the Seventh Plan and Rs. 5.56 crores is met by the Centre.

V. SURVEY INVESTIGATIONS, RESEARCH AND TRAINING.

22.59. An amount of Rs. 1,000 lakhs is sanctioned for survey and investigation of new hydro and thermal stations and for research and training.

22.60. The Scheme-wise allocations are shown in annexure.

ANNEXURE.

TABLE 22-I

Power Development Seventh Five-year Plan Schemes

Serial number.	Programme.	VII Plan outlay. (Rs in lakhs)
<i>I. Survey, Investigation, Research and Training—</i>		
<i>II. Generation Schemes—</i>		
<i>(a) On-going Schemes—</i>		
<i>Hydro—</i>		
1	Servalar	275.00
2	Kadamparai P.S.S.	3,577.00
3	Lower Mettur	4,323.00
4	Kundah-Addl. Unit	594.00
5	Parsons Valley	1,363.00
6	Pykara Dam M.H.	205.00
7	Lower Bhavani M.H.	774.00
8	Vaigai Dam M.H... .. .	487.00
<i>Thermal—</i>		
9	Tuticorin TPS Stg. I .. .. .	..
10	Tuticorin TPS Stg. II	50.00
11	Mettur Thermal Stg. I	21,435.00
12	Mettur Thermal Stg. II	24,000.00
Sub-Total ..		57,083.00
<i>(b) Schemes for benefit during VII Plan—</i>		
<i>Hydro—</i>		
1	Athikadavu M.H.	250.00
2	Punachi M.H.	85.00
3	Vilampatti M.H.	48.00
4	Maravakandi M.H.	77.00
<i>Thermal</i>		
5	North Madras Stg. I	30,507.18
6	Tuticorin Extn.	28,825.00
Sub-Total ..		59,792.18
<i>(c) Other New Schemes—</i>		
1	Bhavani Kattalai Stg. I .. .. .	..
2	Sathanur .. .. .	..
3	Pykara Ultimate Stg. I .. .. .	..
4	Paralayar .. .. .	..
5	Gomuganadhi .. .. .	..
6	Micro Hydel Scheme (Siruvani, Poosaripatti, Thukalapatti) .. .. .	..

(c) Other New Schemes—cont.

7	Pandiar Punnampuzha .. .. .	..	..	..	..	..	..	..	..	}	5,000.00
8	Cholathipuzha .. .. .	..	..	..	..	..	..	..	..
9	Hogenakkal .. .. .	..	..	..	..	..	..	..	..
10	Upper Amaravathi .. .. .	..	..	..	..	..	..	..	..
11	Shanmuganadhi .. .. .	..	..	..	..	..	..	..	..
12	Nellithorai .. .. .	..	..	..	..	..	..	..	..
13	Bhavani Kattalai Stg. II .. .. .	..	..	..	..	..	..	..	..
14	Vaigai Perannai .. .. .	..	..	..	..	..	..	..	..
15	Nirar-Nallar .. .. .	..	..	..	..	..	..	..	..
<i>Thermal—</i>											
16	Gas Turbines .. .. .	..	..	..	..	..	..	..	..		*
17	Cuddalore .. .. .	..	..	..	..	..	..	..	..		..
										Sub-Total ..	5,000.00

*(d) Renovation and Modernisation—**Hydra—*

1	Improvements to Mettur Tunnel PH (Syn. Con. Operation) .. .. .	..	..	..	..	..	..	..	..	..
2	Up-rating of generators at Pykara, Mettur Dam and Papanasam PHS... .. .	..	..	..	..	..	..	..	..	..

Thermal—

3	ETS Improvements .. .. .	..	..	..	..	..	..	..	..	1,321.61
4	ETS Improvements Stg. II .. .. .	..	..	..	..	..	..	..	..	2,564.70
5	ETS Improvements Stg. III .. .. .	..	..	..	..	..	..	..	..	..
6	TTPS Improvements .. .. .	..	..	..	..	..	..	..	..	120.51
										Sub-Total ..	4,006.82
<i>Total—(Generation)</i> ..										1,25,882.00	
<i>III. Transmission and Distribution (Incl. Acqn.)</i>										65,000.00	
<i>IV. Rural Electrification</i>										8,118.00	
<i>Total—I to IV</i> ..										2,00,000.00	

* Included in the L.S.

CHAPTER 23.

NEW SOURCES OF ENERGY.

APPROACH TO THE PLAN 1985-90.

23.0. The High level committee on 'Energy' constituted by the Government of Tamil Nadu recommended that an Energy Development Agency may be set up to co-ordinate and assist in the development activities on alternative and renewable sources of energy and energy conservation and to bridge the major gaps in the area of science and technology in the spheres of rural technology and non-conventional energy resources. The Government of Tamil Nadu has accepted the recommendation and have accorded sanction for the establishment of Tamil Nadu Energy Development Agency (TEDA) to be registered under Tamil Nadu Societies Registration Act, 27 of 1975 with the Chief Secretary to Government of Tamil Nadu as Chairman of the Agency. The Planning and Development Department of Tamil Nadu is the Administrative department for the Tamil Nadu Energy Development Agency. The major objectives of the Tamil Nadu Energy Development Agency are :—

(i) To actively promote the use and propagation of new and the renewable non-conventional energy sources in Tamil Nadu ; acting as the Nodel Agency for the purpose and implementation of project therefor ;

(ii) To promote energy conservation activities like oil and power.

(iii) To encourage research and development in respect of high technology areas ; and

(iv) To undertake projects relating to Integrated Rural Energy programmes in Tamil Nadu.

Review of performance in the Sixth Plan

23.1. The Tamil Nadu Energy Development Agency was established in the year 1984. Before the establishment of the Agency the subject 'New and Renewable Sources of Energy' was dealt with in the Planning and Development Department. The performance during the Sixth Plan under the different programmes is given in the following paragraphs.—

(1) *Solar Thermal Energy :*

23.2. Eight solar water heating system with a total capacity of 1,71,000 litres per day and approximately 3,696 M² collector area have

been installed during the Sixth Plan period. The installation of one solar water heating system of 10,000 litres per day and approximately 166 M² Collector area is also nearing completion. A water softening system has also been installed. During 1984-85, work Orders for 34 solar water heating systems with a total capacity of 1,73,850 litres per day and 27 solar water heating systems with less than 1,500 litres have been issued to the firms. The works are under progress.

23.3. In view of the demand by various users, domestic solar water heater of capacity 100 litres per day is being popularised with 50 per cent Central Government subsidy (maximum of Rs. 3,000) and 40 per cent Tamil Nadu Government subsidy for the balance amount, subject to a maximum of Rs. 1,500. So far, 103 domestic hot water systems have been installed and another 147 are under installation. More than 900 solar cookers have also been sold so far under subsidy schemes.

(2) *Solar Photovoltaic systems :*

23.4. 25 remote tribal villages were electrified under solar photovoltaic systems with 20 watt capacity with the help of Government of India at a total cost of about Rs. 16 lakhs. The State Government's share is about Rs. 6 lakhs.

23.5. Solar photovoltaic pump with a capacity of 1/3 H.P. were supplied at a nominal price of Rs. 4,000 each, to small Scheduled Tribes and Scheduled Castes farmers and at Rs. 5,000 for other categories.

(3) *Wind Mills :*

23.6. During the Sixth Plan, attention was given for the development and demonstration of water pumping wind mills. 65 wind mills have been allotted to Tamil Nadu under the National Wind Mill demonstration Programme by Government of India and 5 Wind Mills were sanctioned under Institute of Engineering and Rural Technology. The cost of a Wind Mill, viz., Rs. 10,500 is fully borne by Government of India. The cost relating to erection and storage tank amounting to Rs. 7,500 is to be borne by the beneficiary. 50 Wind Mills have been erected in Government/Educational Institutions land and the remaining are under construction.

(4) Integrated Rural Energy Planning programmes :

23.7. The Integrated Rural Energy Planning Scheme was started at the instance of Government of India during 1983-84 on a pilot basis. Two blocks, one at Chingleput District and the other at Coimbatore District were selected and detailed surveys were conducted. At the rate of Rs. 12.50 lakhs per block, action Plan were launched to popularise both energy efficient and non-conventional energy devices through demonstrations and extension work with varying pattern of subsidies. During 1984-85, the Integrated Rural Energy Planning Programme was intensified and extended to 3 more blocks in Madurai, Trichy and South Arcot Districts. The achievements recorded are given in the table 23.1.

TABLE 23.1.

Equipment purchased.	Target fixed.	Distribution of subsidy.	For demonstration.
(1)	(2)	(3)	(4)
1 Wind Mills	.. 130	31	1
2 Trupicultors	.. 80	44	15
3 Solar cookers	.. 213	38	85
4 Improved Wood burning stoves.	11,000	9,681	51
5 Smokeless chulhas	700	700	..
6 Community type biogas plant.	3	..	..
7 Sujala make high efficient foot valves.	1,000	400	..

23.8. Demonstrations were held and propaganda and publicity were given for popularising the use of these equipments.

Rural Renewable Energy System:—

23.9. A Rural Renewable Energy System has also been implemented in Keelakurichi village Tiruchirapalli district with 100 per cent subsidy, by Government of India. During the Sixth Plan two Wind Mills for drinking water supply and 12 solar photovoltaic stand alone type for street lighting were provided and 25 portable improved wood burning stoves, 25 domestic solar cooker were also distributed. A community centre has also been constructed to provide power for community T.V. and radio.

Programmes for the Seventh Plan:—

23.10. The Working Group set up by the State Planning Commission proposed a plan of Rs. 276 crores for New and Renewable Sources of Energy activities in Tamil Nadu during the VII Plan period. With certain changes in the light of discussions held with the Department of Non-conventional Energy Sources, a total plan of Rs. 200 crores, envisaging a State outlay of Rs. 65 crores was recommended. However, based on the discussions held with the working group of the Union Planning Commission a revised plan with the State outlay of Rs. 15 crores is proposed as detailed below. This outlay will attract substantial grant-in-aid from Government of India as applicable to various areas of Renewable Sources of Energy.

VII PLAN OUTLAY.

	(RUPEES IN LAKHS.)
I Solar Thermal Projects	.. 350.00
II Wind Energy	.. .. 200.00
III Photo Voltaic	.. .. 100.00
IV Bio-mass and Urban Waste	.. 50.00
V Integrated Rural Energy Programme.	150.00
VI Co-generation	.. .. 400.00
VII Energy Conservation	.. .. 110.00
VIII Animal Drought Power	.. 5.00
IX Battery Powered Vehicle	.. 10.00
X Micro Hydel Plants	.. .. 5.00
XI Other Areas of New Technology.	5.00
XII Rural Energy Centres	.. .. 15.00
XIII Training, Seminar, Extension and Establishment.	100.00
Total	.. <u>1,500.00</u>

I. Solar Thermal:—

23.11. An outlay of Rs. 350 lakhs is proposed for Solar Thermal Projects. The major thrust would be installation of hot water system in Industries using boilers to provide around 15 lakhs litres of hot water at temperature around 85°C. Approximately half the outlay would be for this to provide financial assistance.

23.12. It is proposed to encourage installation of Solar Hot Air Systems for various sectors like tea drying, cloth drying in textile process industries, Paddy drying etc., by extending initial subsidies

It is also targeted to sell approximately 17,000 Solar Cookers and install 1,500 domestic water heating system with moderate subsidies. The other areas would be installations of Solar Stills, Solar Airconditioning, Cold storage and deep freezing Units, generation of steam for Industrial applications, solar timber kilns etc. The details are shown in Table 23.II.—

TABLE 23-II
SOLAR THERMAL PROJECTS.

(STATE OUTLAY.)

Particulars.	Target. (Numbers)	Seventh
		Plan outlay.
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
1 Industrial Water Heating Systems.	200	210.00
2 Domestic SWH System.	1,500	22.50
3 Low Pressure Steam Production.	5	10.00
4 Solar Timber Kilns ..	10	2.50
5 Agricultural Dryer ..	10	5.00
6 Industrial Air Heating Systems.	15	15.00
7 Air Conditioning ..	5	10.00
8 Cold Storage and Deep Freezing.	3	15.00
9 Solar Cookers (Domestic and Community).	15,000	20.00
	+	
	2,000	
10 Solar Desalination Plants.	50	20.00
11 Solar Power Generator (Decentralised 25 KW.)	3	10.00
12 Solar Ponds	1	5.00
13 Passive Building (House Heating and Cooling.)	50	5.00
Total ..		350.00

II. Wind Energy.—

23.13. Tamil Nadu, being one among the best five States in India, has good potential for harnessing wind energy. An outlay of Rs. 200 lakhs is planned for this component.

23.14. It is proposed to set up initially during 1985-86 one pilot wind farm of 0.5 MW capacity for power generation in Tuticorin. All required hardwares are expected to be fully subsidised by Government of India. An outlay of Rs. 28 lakhs is proposed to meet the civil work costs and to

provide other infrastructural facilities. It is also proposed to encourage installation of water pumping wind mills mainly for Agricultural purposes by providing financial assistance. A target of 600 water pumping wind mills has been fixed. Installation of wind mills for local electrification wherever possible will also be done. It is also planned to be set up a wind mill manufacturing unit and also 30 data collection centres with a view to extending the wind farm concept to other wind potential sites/areas. The details are shown in Table 23.III.

TABLE 23. III.
WIND ENERGY PROJECTS.

(STATE OUTLAY.)

Particulars.	Target. (Numbers.)	Seventh
		Plan outlay.
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
1 Setting up of a Manufacturing Unit including wind mill testing and Data Centre.	1	17.00
2 Installation and Utilisation for water pumping and Village Illumination.	600	68.00
3 Setting up of Wind Farm for Power Generation (5 MW).	2	75.00
4 Wind Data Collection in 50 locations including those where wind-mills are already installed.	30	30.00
5 Wind Study Projects ..	3	10.00
Total ..		200.00

III. Photo-Voltaic.—

23.15. An outlay of Rs. 100 lakhs has been envisaged under this sector. The major area of interest would be to encourage installations of 400 numbers of Photo voltaic Water Pumping Units each of capacity ranging from 300 to 1,000 watts. In a small way, a demonstration power generation project (50 KW to 100 KW) is also envisaged as

stand alone systems to meet local needs. The other areas are Rural Lighting Systems, Solar Photo-Voltaic Powered Tricycle, Communication equipments, Refrigerators, Community T. V. etc. The details are shown in Table 23-IV.

TABLE 23. IV.
PHOTO VOLTAICS.
(STATE OUTLAY.)

Particulars.	Target. (Numbers).	Seventh Plan. outlay.
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
1 Water Pumping System (300 to 1000 W.) Average 500 W.	400	40.00
2 Power Generation 50 to 100 KW (Stand Alone System for R.E.).	1	20.00
3 Community Drinking Water Pumping System (2 KW.).	10	7.00
4 Rural Lighting System.	800	25.00
5 Tricycle/Communication Equipments.	3	3.00
6 200W.Community T.V., Radio Sets and Refri- gerators.	25	5.00
Total ..		100.00

IV. Bio-Mass Urban Waste :

23.16. The areas of interest in this component would be the setting up of Energy Plantations for Power generation/Gassifiers. Some demonstration units based on Agro. Industrial Waste (i.e. Sugar, Rice, Saw Mills, etc.) are also envisaged. The possibility of setting up a bio-energy research centre is also envisaged. It is also proposed to establish pilot plants in one of the cities for the Utilisation of Urban Waste/Sewerage sludge for the purpose of gas generation. An outlay of Rs. 50 lakhs is proposed towards these. The details are given in Table 35. V.

TABLE 23. V.
BIO-MASS URBAN WASTE ENERGY.
(STATE OUTLAY).

Particulars.	Target. (Numbers).	Seventh Plan Outlay.
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
<i>Bio-Mass Energy.—</i>		
1 Energy Plantation and Demonstration Centre.	2	23.00
2 Agro-Industrial Demons- tration Units (Based on sugar, rice mills, sawmills, cotton and Textile mills, tea and diary farms).	1	1.30
3 Liquid Fuel Programme (Demonstration Alco- hol Production).	1	1.80
4 Solid Fuel Programme (Pyrolysis and Bri- quetting).	1	1.40
5 Bio-Energy Gassifier with Engine Genera- tor.	15	9.00
6. Setting up of demons- tration Power Plant (2 MW capacity) with Biomass Energy Plantation in 2,000 hectares ..	..	1.75
7. Bio-Energy Research Centre .. ..	..	1.75
Total ..		40.00

Urban Waste Energy.—

1. Sewage Studies (in cities)	2	6.00
2. Incineration .. ..	..	2.00
3. Pyrolysis .. ..	..	2.00
Total ..		10.00

V. Integrated Rural Energy Programme (I.R.E.P.):

23.17. Integrated Rural Energy Programme initiated at the instance of the Union Planning Commission is an ongoing scheme in 5 select blocks from five districts. During VII Plan it is proposed to extend Integrated Rural Energy Programme activities to additional 13 blocks from different districts so as to cover all the 18 districts except Madras with one Integrated Rural Energy Programme Block. It is proposed to provide inputs worth of Rs. 10 lakhs in each of the block spread over a period of 3 or more years. In this amount, roughly 75 per cent would be by way of subsidy from both State Government and Government of India. An outlay of Rs. 150 lakhs is provided.

VI. Co-Generation :

23.18. A sugar industry with crushing capacity of 2,000 tonnes per day has potential to co-generate 9.5 MW of power with the required process steam by installing high pressure boilers and back pressure turbines. The captive power requirement of such a unit would be 3.5 MW. It would be possible to generate excess power of approximately 6 MW in each such plant during the entire crushing season lasting more than six months in a year. This surplus energy available during the crushing period could be fed to the Tamil Nadu Electricity Board grid. This is a capital intensive programme costing approximately Rs. 10 crores for each Sugar Mill. The Government of India have sanctioned one such co-generation plant for Dharmapuri District Co-operative Sugar Mills. Around 30 per cent of this project cost of Rs. 10 crores is being funded by Government of India. The equipments are to be supplied by M/s. Bharat Heavy Electricals Limited. During the VII Plan it is proposed to introduce the concept of co-generation in some more sugar mills and in other process Industries by motivating the Industries with Government grants. An outlay of Rs. 400 lakhs is provided as detailed in Table-35. VI.

TABLE 23. VI.
CO-GENERATION.
(State outlay)

Serial number and particulars.	Target.	Seventh Plan outlay.
(1)	(2) Nos.	(3) (RUPEES IN LAKHS)
1. Co-Generation in Sugar Industries	2	365.90
2. Co-Generation in other Process Industries ..	2	34.10
Total ..		400.00

VII. Energy Conservation :

23.19. In parallel to the efforts for developments and propagation of New and Renewable Source of Energy, it is also proposed to encourage energy conservation in Industries and Transport Sector with equal emphasis. This programme aims at encouraging Industries and Transport Sector to adopt energy conservation measures by good house-keeping techniques and other short and long term measures based on detailed energy audits wherever necessary. It is proposed to motivate the Industries initially by providing subsidies for the energy audits and hardwares. An outlay of Rs. 110 lakhs is provided towards this as detailed in Table 23-VII.

TABLE 23. VII.
ENERGY CONSERVATION.
(State outlay)

Particulars.	Target.	Seventh Plan outlay.
(1)	(2) Nos.	(3) (RUPEES IN LAKHS)
1 Energy Audits in Industries	200	19.0
2 Energy Conservation Programme in industries.	75	69.00
3 Energy Conservation in Transport Sector ..	..	22.00
Total ..		110.00

VIII. Animal Draught power :

23.20. Main thrust in this area will be for more efficient harnessing of animal draught power for different applications. An outlay of Rs. 5 lakhs is proposed as shown in Table 23. VIII.

TABLE 23 VIII.
ANIMAL DRAUGHT POWER.
(State outlay)

Particulars.	Seventh Plan outlay.
(1)	(2) (RUPEES IN LAKHS)
1 Development of different types of constructions.	.. 2.00
2 Improvement in draught power capabilities of Animals .. ..	.. 2.00
3 Development of other sources using Animal power .. ..	.. 1.00
Total ..	5.00

IX. Battery powered vehicle :

23.21. The possibility of introducing battery powered vehicle for different applications will be explored by proto-type tests. A provision of Rs. 10 lakhs is proposed for 5 Field Trial Units to be manufactured by a firm of automobile Industry.

X. Micro hydel power plants :

23.22. Having exhausted all major high potential hydel resources it has been proposed to install a large number of Micro Hydel Power Plants of capacity between 50 KW to 200 KW during the VII Plan period. A nominal provision of Rs. 5 lakhs is provided for enabling to set up a pilot plant.

XI. Other areas of new Technology :

23.23. During the VII Plan it is proposed to set up pilot projects in certain select areas of new technology like Ocean Energy, Geothermal Energy, Hydrogen Energy, etc., with substantial financial assistance from Government of India. A nominal provision of Rs. 5 lakhs is provided as State share as shown in Table 23. IX.

TABLE 23 IX.
AREAS OF NEW TECHNOLOGY.
(State outlay)

Particulars.	VII Plan outlay.
(1)	(2)
(RUPEES IN LAKHS)	
1 GeoThermal Pilot Project	1.00
2. Hydrogen-Pilot Project	2.00
3 Ocean Energy Pilot Project	2.00
Total ..	5.00

XII. Rural energy centres :

23.24. As a prelude exercise to the long term perspective of meeting the domestic energy requirements in rural areas, it is proposed on a pilot basis to meet the Energy needs of 50 select villages as suggested by the working group of Union Planning Commission. An outlay of Rs. 15 lakhs is envisaged for the above programme.

XIII. Training, Seminar, Extension programme and establishment.

23.25. An outlay of Rs. 100 lakhs is provided towards providing training, conducting seminar, undertaking Extension Programmes and meeting the establishment cost of the Tamil Nadu Energy Development Agency, *vide* Table 23-X.

TABLE 23 X.
SEMINAR, TRAINING AND EXTENSION
AND ESTABLISHMENT.

(State outlay)		Seventh Plan Outlay.
Particulars.	(1)	(2)
		(RUPEES IN LAKHS)
1 Seminar, Training and Extension .. ..	.. ..	27.00
2 Establishment .. ..	.. ..	73.00
Total ..	Total ..	100.00

Outlay :

23.26. The yearwise break up of the VII Plan outlay for the different programmes, are shown in the Table 23 XI given below :

TABLE 23 XI.
YEARWISE OUTLAY FOR NEW SOURCES OF ENERGY.

<i>Programme.</i>	1985-86	1986-87	1987-88	1988-89	1989-90	Total 1985-90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			(RUPEES IN LAKHS.)			
1 Solar Thermal Projects	95.00	70.60	61.50	60.00	62.90	350.00
2 Wind Energy	31.00	61.00	38.50	38.00	31.50	200.00
3 Photo Voltaic	9.75	21.50	26.00	22.75	20.00	100.00
4 Biomass and Urban waste ..	4.00	7.50	10.50	12.50	15.50	50.00
5 Integrated Rural Energy Programme	29.50	30.50	30.00	30.00	30.00	150.00
6 Co-generation	1.00	169.00	70.00	75.00	85.00	400.00
7 Energy Conservation	16.00	22.00	24.00	24.00	24.00	110.00
8 Animal Draught Power	0.40	0.90	1.20	1.25	1.25	5.00
9 Battery Powered Vehicle	0.60	1.40	2.00	3.00	3.00	10.00
10 Micro Hydrl.	0.10	0.90	1.50	1.50	1.00	5.00
11 Areas of New Technology ..	0.30	0.95	1.25	1.25	1.25	5.00
12 Rural Energy Centres	7.00	3.00	3.00	1.00	1.00	15.00
13 Seminar, Training and Extension and Establishments	9.37	15.00	20.00	25.00	30.63	1,00.00
Total	204.02	404.25	289.45	295.25	307.03	1,500.00

Part B

SECTORAL PLANS

IV Industry and Minerals

CHAPTER 24.

VILLAGE AND SMALL INDUSTRIES.

24.0 The main thrust of the industrial policy during the Plan period 1985-90 will be on the widespread development of the Small Scale sector including cottage, tiny household industries with a view to create increased employment opportunities and reduce the malaise of unemployment and under-employment. The strategy to be adopted would include specific programme for encouragement of select industries based on in-depth studies and market potential surveys provision of infrastructure facilities including development of growth centres, and revival of sick industrial units. While the Directorate of Industries and Commerce will be in charge of planning and implementation of programmes for the promotion of Industries in general and in particular for the development of industrial Co-operatives, the District Industries centres and electrical and electronic Industries the development institutions of the State like TIIC, SIDCO and SIPCOT along with the Tamil Small Industries Service Institute of Government of India and nationalised banks will take the responsibility of providing inputs to this sector including finance, management support, locational advantages training, marketing assistance, etc.

Review 1980-85

24.1. During the Sixth Plan the outlay for Village and Small Scale Industries was Rs. 8,000.00 lakhs. The expenditure incurred during the Plan period was of the order of Rs. 11,448.69 lakhs (143.11 per cent). The number of permanently registered units which stood at 28,220 in 1979-80 has gone upto 60,259 by March, 1985. This shows an increased trend of nearly 146.832 in the small sector. Modernisation of looms increased from 3,000 during 1979-80 to 44,000 by the end of the Sixth Plan period. Similarly there were 420 Handloom Weavers' Co-operative Societies in the year 1979-80 and this has increased to 630 by the end of the Sixth Plan period. Production of raw silk which was 5.52 lakh kg. during the first year of the Plan increased to Rs. 7.50 lakhs kg. by 1984-85.

(a) Directorate of Industries and Commerce

24.2. The Directorate of Industries and Commerce is attending to the planning and implementation of programmes for the promotion of Industries

in general and Small-Scale Industries in particular. The Directorate provides assistance and support to the existing and new industries and for marketing the products of Small-Scale Industries. The Directorate undertakes registration of Small Scale Industries and Industrial Co-operative Societies and issues essentiality certificates for importing machinery and raw materials from abroad. Facilities are also rendered to the industrialists for analysis and testing of their materials. The Directorate also attends to the setting up of functional industrial estates with built up factory units with necessary infrastructural facilities and allotting them to the industrialists for putting up factories for special type of industries like electrical, electronics industries, etc., Besides, the Centrally-sponsored self employment programmes for educated unemployed youths is also implemented by this Directorate. The Nucleus Cell in the Directorate is collecting on a sample basis, statistics about the small-scale industries in the State. District Industries Centres have been formed in all the Districts except in Madras City and Nilgiris district. The development needs of the Nilgiris district are looked after by the District Industries Centre, Coimbatore. Applications for issue of licences under the Industrial Development Regulation Act are recommended by the Directorate. Further, the implementation of Coir Industrial Co-operatives is also undertaken in the Directorate.

24.3. During the Sixth Five-Year Plan, the Directorate concentrated mainly on the organisation of Industrial Co-operatives for Match/Tea/Sago and Coir Industries which are considerably labour oriented. The District Industries Centres offered facilities and guidance to small entrepreneurs and continued assistance to the scheme of providing self-employment to the educated unemployed youths. Functional Industrial Estates for Electrical and Electronic Industrial Estate at Madurai and Coimbatore were established on an area of 48.83 acres. Technical library for electronic Industry was established at Hosur. The number of permanently registered units which stood at 28,220 in 1979-80 has gone upto 60,259 by March, 1985. This shows an increased trend of nearly 146.83 per cent in the small scale sector. During 1984-85 the number of units registered already by the end of March, 1985 is 10,958 which is twice the achievement of the previous year.

24.4. An assessment of the working of the District Industries Centres by all over India by Development Commissioner for 1980-81 has shown that the performance of Tamil Nadu in selected indicators of progress has been far above the All-India average. Tamil Nadu stood first among all the States in India in the additional employment generated per District Industries Centres and it held the second position for the financial aid advanced. The loan assistance given to artisans comparatively increased from Rs. 38.36 crores in 1982-83 to Rs. 57.46 crores in 1984-85. The Industrial Co-operative Sector has witnessed a spectacular expansion in the last four years which has resulted in the rapid growth of certain rural industries with a large employment potential like matches, coirs, etc. India ranks third among the coconut growing countries in the world and Tamil Nadu occupies the second in the country. The number of co-operatives coir societies has been substantially increased from 10 in 1979-80 to 57 societies at present. The production of Coir societies has gone up from Rs. 33.48 lakhs during 1982-83 to Rs. 65.84 lakhs in 1984. Construction of 13 de-fibering societies is in progress. To provide marketing facilities for coir products, an Apex Coir Marketing Society has been organised and has started functioning.

24.5. The broad thrust during the Seventh Five-Year Plan is to create necessary infrastructure for development of small-scale industries including electrical and electronic industries and coir Industrial Co-operatives. The outlay for the Directorate of Industries and Commerce during the Seventh Plan proposed, is Rs. 2,111.00 lakhs will be as follows :

	(RS. IN LAKHS.)
Industrial Estates	1,97.96
Small-Scale Industries	16,28.68
Industrial Co-operatives	1,84.36
Coir	1,00.00
Total ..	21,11.00

(i) Industrial Estates:

24.6. While the establishment of Industrial Estates in the State will be looked after by State owned agencies like SIDCO, this Directorate will provide the infrastructure needed for establishing electronic Industrial Estates. The bright future awaiting the Electronic Sector justifies the proposed acquisition and Development of about 200 acres of land near Madras, at Coimbatore, Hosur, Salem, Vellore, etc.

(ii) Small scale Industries

24.7. The thrust in this Sector will be mainly to create necessary facilities for growth of Small-Scale Industries by providing improved testing facilities, product development centres, raw Materials Depots, etc. The emphasis will be to create necessary infrastructure for growth of Small Scale and ancillary industry. It is proposed to establish one Auto Ancillary Development Centre at Madras, Modern Tool Room facilities and Research and Development Centre for Pumps and Motors at Coimbatore with Government of India participation and foreign Government assistance. The State Government will be providing land and building required for these projects free of cost. The District Industries Centres will continue to play the vital promotional role in development of industries in the districts. District Industries Centres will be established in the new districts formed and yet to be formed. Adequate staff to each taluk will be provided to attend to field work and to guide the S.S.I. Units. The data base will be expanded and strengthened and more Technical Information Centres will be set up to disseminate modern technology among entrepreneurs in the districts.

(iii) Industrial Co-operatives :

24.8. The existing Industrial Co-operatives will be helped to achieve optimum level of activity so that the members get gainful and continuous employment. The Tamil Nadu Industrial Co-operative Bank which is looking after the credit needs of the Industrial Co-operative Societies will be assisted by way of further State share participation. In the Nilgiris, the existing Tea factories will be provided with up-to-date and modern machinery, more acreage will be brought under Tea by utilising the assistance provided under Hill Area Development Programme and from NCDC. To combat the leather effluent problem in North Arcot and Madurai districts, Service Industrial Co-operative Societies at Ambur, Pernambut Ranipet and Dindigul will be established to treat the effluents of the member factories without allowing contamination of the environment.

(iv) Coir :

24.9. With the effort taken by Government since 1988-81, the number of Coir Industrial Co-operatives has increased from 62 to 100. An important problem in Coir industry is the low price earned by the fibre producers as there are no sufficient channels for diversification of

products. Hence an integrated programme in Coir will be launched during the Plan period to ensure availability of curled Coir to rubberised Coir factories, fiber to curled Coir units besides strengthening marketing infrastructure.

SIDCO

24.10. Tamil Nadu Small Industries Development Corporation (SIDCO) was formed in the year 1971, to aid counsel, assist finance or promote Small Scale Industries in the State. SIDCO is the agency through which the Small Scale and tiny industries are given various forms of assistance including provision for developed plots and built up sheds in Rural and Backward areas, equitable distribution of scarce and essential raw materials, supply of machinery on easy terms, marketing assistance and various types of subsidies including capital investment subsidy in backward taluks, interest free sales tax loan, etc. So far 1,035 conventional sheds in 27 locations have been constructed and allotted.

(i) Infrastructural facilities.

24.11. In infrastructure facilities are essential for the proper growth of Small Scale Industries. There is vast scope for the construction of sheds in the context of the dispersal and growth of small scale industries which has an important role to play in the economic development of the country. The Corporation undertakes this programme under the IDBI refinance Scheme through the financial institutions and other commercial banks. SIDCO takes up 3 types of sheds for construction, namely 4,000 sq. ft., 3,000 sq. ft. and 2,500 sq. ft. The Corporation proposes to construct 100 sheds per annum.

(ii) Assistance for setting up S.S.I. Units Capital subsidy.

24.12. Government of Tamil Nadu have declared certain taluks as eligible for subsidy of 15 per cent on the capital investment by the units. 24 taluks were covered under the scheme during the year 1980-81. Few more taluks have also been added, this subsidy scheme is likely to be continued. The State Government have also recently announced the scheme of State subsidy of 10 per cent on fixed capital assets created of Rs. 20,000 per worker employed whichever is lower subject to a ceiling of Rs. 10.00 lakhs per unit for: (1) Automobile Ancillaries, (2) Drugs and Pharmaceuticals and (3) Electronics.

(iii) Interest Free Sales Tax Loan for SSI Units

24.13. The new small scale industrial units set up in this State except in towns of more than 3 lakhs population and Madras City agglomeration with a 15 Km. belt area. Tiruchirappalli, Coimbatore, Madurai and Salem agglomerations with 8km belt area will be eligible for assistance under the scheme. The units going in for expansion also will get the benefits. The maximum interest free sales tax loan will be 20 per cent of the fixed assets or Rs. 20.00 lakhs per annum whichever is over subject to a maximum of Rs. One crore over a period of 6 years. The entire loan will have to be repaid by the beneficiary units from the Sixth year onwards.

(iv) Margin Money Assistance for Revival of sick Units.

24.14. Being aware of the need to ensure that small scale industrial units that are started are cared for and given a second lease of life even if they were to fall sick, the scheme for a Margin Money sanction for the Rehabilitation of Sick Small Scale Industrial Units is in existence from the year 1979-80. The scheme which made a small beginning in the year 1979-80 has been making a steady progress, since more number of units are availing themselves of this facility.

24.15. As a number of Small Scale industrial units are on the increase in the State there is likely to be an increase in the number of small scale industrial units falling sick and, therefore, this scheme has to be continued in the Seventh Plan period also. The outlay for SIDCO during the Seventh Plan is 11,06.00 lakhs will be as follows:

	(RS. IN LAKHS.)
1. Infrastructural facilities	1,51.00
2. Assistance for setting up of Industries (State subsidy)	3,55.00
3. Interest free Sales Tax Loan	3,00.00
4. Margin Money for revival of sick units	3,00.00
Total	11,06.00

(c) Handicrafts.

24.16. The Tamil Nadu Handicrafts Development Corporation was formed with the objective of development and promotion of Handicrafts in all its aspects. Developmental assistance to various crafts is possible in a number of ways such

as providing marketing facilities, conducting exhibitions, and training programmes, setting up production units, extending financial assistance to artisans, etc. The sale turnover which was Rs. 1,43.49 lakhs in 1980-81 increased to Rs. 2,31.36 lakhs in 1984-85. Similarly the production which was Rs. 38.08 lakhs during 1980-81 increased to Rs. 70.13 lakhs in 1984-85. It is proposed to set up a craft museum. The Handicraft artisans by and large belong to economically weaker sections of the society and work under unhealthy conditions. Most of them do not have even the basic amenity of a workshop-cum-residence to do the work. Hence it is proposed to extend financial assistance to the artisans to enable them to put up a workshop-cum-residence. It is proposed to depute the craftsmen of Tamil Nadu to Regional Design and Technical Centres, Bangalore, Ahmedabad, Moradabad, Agartala, etc., for advance training, improving designs and also to acquire know-how. The sale of Handicrafts has been increasing steadily. During the Seventh Plan period, it is proposed to achieve sales target of Rs. 15.00 crores. To achieve this target it is proposed (i) to increase the inventory level by procuring articles directly from artisans, (ii) to open new show-room at present, (iii) to renovate the show-rooms and (iv) to conduct more number of exhibitions. Tamil Nadu Handicrafts Development Corporation apart from doing sales within India is also importing items manufactured by its production centres. For this the cost should be such that it should be competitive in international market. The freight charges are very high which is a great hinderance to the export of handicrafts. So far this financial assistance is provided by way of freight subsidy. It is also proposed to set up Handicraft Development Centres in selected areas for providing assistance to the artisans concerned directly or indirectly to the individual group or co-operatives for procurement of raw materials, credit, marketing, design in print, etc. An amount of Rs. 1.60 crores is proposed to be set up for the development of Handicrafts in the Seventh Plan.

(d) Handlooms :

24.17. Handloom Sector will continue to receive the special attention under the Seventh Five-Year Plan also. There are about 5.56 lakhs of Handlooms functioning in Tamil Nadu of which 3.70 lakhs have already been covered into Co-operative fold. Against a target of 1.20 lakh looms during the Sixth Plan, the achievement was 1.35 lakh (101 per cent). Increasing the Co-operative coverage of Handloom is the most important of all the Handloom Development

Programme. To increase the coverage of Handlooms from the present level of 671 to 751 by the end of Seventh Five-Year Plan period, en-rolling of 0.47 lakh additional Handlooms through formation of new Primary Weavers Co-operative Societies besides en-rolling additional Handlooms in the existing Societies. Another important feature of the scheme is that it is proposed to form 50 more Industrial Weavers Co-operative Societies for the benefit of loomless weavers during the Seventh Plan period. Provision of State participation in the Share Capital of Primary Weavers Co-operative Societies in order to increase the maximum borrowing power of the societies to avail the cash credit accommodation now being provided by the Financing Banks will also be taken care of. NABARD has introduced scheme to finance Handlooms at concessional rate of interest from 1956 onwards. Working Capital is made available (i.e.) at 2.5 per cent below the bank rate, i.e., 7.5 per cent at present. A subsidy of 3 per cent to the District Central Co-operative Banks and 1 per cent to the Tamil Nadu State Co-operative Bank is being made available. As the Co-operative coverage of Handlooms is proposed to be increased, the credit needs towards working capital will also increase substantially by the end of the Seventh Plan period. The scheme of guarantee against the loss incurred by the Financing Banks in the issue of working capital loans to Weavers Co-operative Societies will be continued as usual under the scheme of 90 per cent of the loss incurred by the Central Co-operative Banks will be reimbursed to them and the balance of 10 per cent will be met by the Co-operative Banks. The level of technology has to be improved in the Handloom Sector. Therefore every effort should be made to upgrade the level of technology to appropriate level. It is proposed to modernise 7,500 looms already installed in Weavers Co-operative Societies during the Seventh Plan.

24.18. Diversification of the product with reference to market trend is very important in marketing handloom production. The need for improving the existing products and developing new products on Handlooms has been increasingly felt. To supplement the efforts of the Weavers Service Centre, Madras, the Co-optex has already set up five design-cum-service centres at important places, viz., Coimbatore, Trichirappalli, Madurai, Salem and Tirunelveli. A scheme for training the Weavers in the improved methods of weaving and the products of latest design will be continued during the Seventh Plan also. The Government of India have recently evolved a new centrally sponsored scheme which envisages

a grant of Rs. 5,400 per year per Society on a tapering scale for subsequent years as managerial assistance and the cost to be borne at 50 : 50 basis between the Central and State Government. Assistance would be made available to new societies registered or to existing societies regrouped/revitalised. Rebate Scheme has been continued during the first two years of Seventh Plan period. The Government of India have however reduced the number of days for allowing 20 per cent special rebate to 45 days in 1985-86 as against 60 days given during the last years. The Raw Material Bank will be set up by the Tamil Nadu Handloom Development Corporation while the yarn requirements of the Handloom Weavers within the co-operative sector are being taken care of by the 17 Co-operative Spinning Mills in the State, the Handloom Weavers outside the Co-operative fold are experiencing difficulties in regard to procurement of yarn at reasonable prices. The proposed Raw Material Bank will cover about 5,000 bales. Assuming a value of Rs. 5,000 per bale of yarn the total yarn to be kept up at a time would be about Rs. 2.5 crores. The Tamil Nadu Handloom Development Corporation has been instrumental for sanctioning working capital loans to weavers outside the co-operative fold. The loan operations of the Corporation are expected to reach the level of Rs. 450 lakhs by the end of Seventh Plan. The Handloom Weavers Savings and Security Scheme intended for the benefit of the Handloom Weavers within the Co-operative fold has to be continued as a social security measure during the Seventh Plan period also. Members of Weavers Co-operative Societies who have joined the scheme are contributing at the rate of 6 paise per rupee of wages earned by him. The Government contributes at the rate of 3 paise per rupee of wages earned by the weaver member. Interest is allowed on the deposit in the fund at the rate of 7 per cent per annum. The contribution of the members and that of the Government together with interest at 7 per cent are allowed to accommodate the fund account, of the Weavers covered by the scheme. Besides the weavers are also covered by a Group Insurance under which in the event of a Weaver's death, a sum of Rs. 3,000 is paid by the Life Insurance Corporation to the legal heir in addition to the amount accumulated in his account. At present, 1,06,500 members are covered under the scheme. It is proposed to extent the coverage of the scheme to 27,800 additional weavers during Seventh Five-Year Plan period to increase the coverage to 1,35,000 weavers. The Weavers Housing Scheme which was discontinued after 1962 has since been revived and now modified Weavers Housing Scheme is

being implemented from the year 1979-80, of the Handloom Weavers within the Co-operative fold. The cost of each house will be Rs. 12,000 out of this a sum of Rs. 1,000 of the cost of construction will be subsidised by the State Government and Rs. 9,700 will be obtained as loan from the 'Housing and Urban Development Corporation', New Delhi. The balance of Rs. 1,300 per house would be required to be paid by the beneficiary. The loan portion under the scheme is repayable in 20 years in equated monthly instalments at 7 per cent interest including $\frac{1}{2}$ per cent service charges to Co-optex. Another 10,000 houses will be constructed in the Seventh Five-Year Plan. An amount of Rs. 61.72 crores is proposed to be set up for the development of Handlooms in the Seventh Plan.

(e) Sericulture :

24.19 Planned development of Sericulture in Tamil Nadu is only of recent origin. The momentum of development picked up during the implementation of Intensive Sericulture Development Project in 1977-79 period and was further accelerated after the formation of a separate Department of Sericulture in the year 1979.

24.20 The new Department of Sericulture during past 5 years of its existence have formulated and implemented number of developmental schemes for the overall growth and expansion of the industry in the State. The main activity of planting of additional areas under mulberry was taken up on a regular and systematic way. At the beginning of the Sixth Plan the area under mulberry in the State which was 12,550 hectares more than doubled, by the end of the 1984-85 reaching an area of 26,825 hectares. The silkworm seed production has increased from 60.00 lakhs Disease Free layings to 110.00 lakhs by the end of the Sixth Plan. Similarly the raw silk production increased from 320 M. Ts. to 750 M. Ts. and the actual raw silk production has increased from 106 M.Ts. to 197 M.Ts. An additional employment of 1.77 lakhs was generated in the rural areas of the State. Assistance in the form of subsidised supply of mulberry seed cuttings, subsidy for purchase of rearing appliances and construction of rearing sheds, were extended to new agriculturists who switch over to Sericulture. A massive stipendary training programme for farmers was implemented in the State and during past 5 years more than 25,000 farmers have been trained in modern package of practices in Sericulture.

24.21 The main objective of Seventh Plan will be to consolidate the gains of Sixth Plan and to go ahead with vertical and horizontal expansion. An additional area of 40,000 acres are proposed to be brought under cultivation during the Seventh Plan. The raw silk production potential is proposed to be increased to 1,250 M.Ts by end of Seventh Plan. Additional employment is expected to be generated to 2 lakhs persons in villages. It is proposed to expand the infrastructure facilities besides continuing the financial assistance to new farmers. The Departmental activities are to be reorganised by functioning the roles of technical Officer. As a first step, it is proposed to re-organise the seed production and distribution programme. There is need for starting a separate Research Station for the State. The Handlooms are the main consumers of raw silk in the State. The expansion programmes of Sericulture Industry will get a boost if there is better understanding and also tie up arrangements with the Silk Handloom Weaving Sector. For this, a single organisation to look after the growth of these two sectors is proposed. The projection given for the Seventh Plan are based on the above main objectives. The main stress will be on increasing the silk worm seed production, increase the silk reeling capacity to convert at least 50 per cent of the cocoons produced in the State to raw silk, and also strengthen the Research and Silk Reeling aspects. The Seventh Plan outlay for this sector is Rs. 24.88 crores.

(f) Khadi and Village Industries :

24.22 With the advent of Planning era, the scope of Khadi and Village Industries in the development of the economy was assessed in the light of the constitutional provision under the direct principles of State Policy in respect of promotion of cottage industries on individual or Co-operative basis and securing right to work. The problems of growing unemployment and under employment especially in rural areas, added another dimension to these. Considering towards this direction, the Tamil Nadu Khadi and Village Industries Board constituted by the Tamil Nadu Khadi and Village Industries Act, 1959 extends financial and technical assistance to the Village Industries Units, arranges for training, undertakes research and extensions programmes and gives publicity to its activity, etc., getting financial assistance from Khadi and Village Industries Commission and the State Government. In addition the Khadi Commission approved 15 Industries. It implements

State Government Schemes such as Special Component Plan and Cluster Development Programme for the Welfare of the Scheduled Castes and Integrated Tribal Development Programme, Hill Area Development Programme for Nilgiris district, Drought Prone Area Programme, etc., for the Welfare of the Scheduled Tribe and others who are below the poverty line. Under plan schemes, funds are provided for the welfare of Rural Artisans under the following categories of schemes :

- (i) Integrated Tribal Development Programme.
- (ii) Rebate on sale of Khadi.
- (iii) New Schemes to Tamil Nadu Khadi and Village Industries Board.
- (iv) Hill Area Development Programme.

24.23 Opening of small industries in Tribal areas is essential for promoting the income of the Tribals. But there is no scope for developing the modern Industrial sector in any big way, without affecting the ecological imbalance in the Tribal areas. As a programme to give supplementary income to the Tribals, the bee-keeping programme is useful in the Tribal areas. While some beginnings have been made for development of bee-keeping, it is reported to be a success during Sixth Plan period in the Tamil Nadu. The Tribal areas with their evaluation, climate and flora are suited for a fairly big programme of bee-keeping. With the above object in mind it is proposed to diversify its bee-keeping activities in all the sub-plan areas in a phased manner during the Seventh Plan period. Besides bee-keeping, the Tamil Nadu Khadi and Village Industries Board propose to establish many small village industries units, using the natural resources in the Tribal areas in Cane and Bamboo, Mat Weaving, Galnut processing, tamarind processing extraction of lemongrass oils, etc., during the Seventh Plan period to benefit 3,003 beneficiaries. Every year, the Government is sanctioning Special Rebate at the rate of 5 per cent to 10 per cent for festival and important events on the sale of Khadi. During 1983-84, the Government have issued orders enhancing the rebate from 5 per cent to 10 per cent for Deepavali, Christmas and Pongal Festivals. Besides this, the Government have also issued orders sanctioning 10 per cent rebate on Polyvastra. This will give continuance and gainful employment opportunities to the existing spinners and weavers numbering approximately to 40,000 artisans. During the Seventh Plan period, a comprehensive scheme of establishing Rural Textile Centres One Nepali loom Centre, One Jacquard Weaving Centre and One Dyeing and Bleaching Unit

have been proposed to be taken up under Khadi Industry. In respect of Village Industries infrastructural assistance have been proposed to set up New Industrial Units/Co-operative Societies and as well for the existing units and Societies to generate employment opportunities in the rural areas. During the Sixth Plan period infrastructural assistance in the form of subsidy has been obtained from the Government under Hill Area Development Programme for the organisation of Eucalyptus/Lemon Grass Oil Producers, Industrial Co-operative Societies, Bakery Industrial Co-operative Society. Bee-hives and other accessories and distillation plants for the extraction of lemon grass and Eucalyptus Oil have also been distributed to individual artisans on 50 per cent grant and 50 per cent loan basis.

24.24 During the Seventh Plan period, the Board has proposed to distribute more number of bee-hives and distillation plants to the individual artisan on 50 per cent grant and 50 per cent loan basis, since there is vast potentiality to implement above mentioned schemes in the Nilgiris District. Besides the above, the Board is aiming at to establish one distilling unit for the Eucalyptus Lemon Grass Oil and one Basket Manufacturing Industrial Co-operative Societies and also construction of buildings to house leather selling

depots at Ooty and Gudalur. This has been proposed to benefit 1,874 individuals during the Seventh Plan period under Hill Area Development Programme. A major portion of the funds required for the development of Khadi and Village Industries comes from the Centre, the share of expenditure from the State Government under the Plan would be Rs. 9.63 crores.

24.25. The total outlay of the schemes coming under the Small Scale Industries-fold including Village Industries, Sericulture and Handlooms during the Seventh Plan works out to Rs. 130.00 crores as shown below :

	(RS. IN CRORES.)
1 Department of Industries and Commerce	21.11
2 Tamil Nadu Small Industries Development Corporation (SIDCO)	11.06
3 Handicrafts	1.60
4 Handlooms	61.72
5 Sericulture	24.88
6 Khadi and Village Industries	9.63
Total—Village and Small Industries.	130.00

TABLE 24—I.

DEPARTMENT OF INDUSTRIES AND COMMERCE

SEVENTH PLAN 1985-90.

ABSTRACT.

<i>Serial number and Head of development.</i>	1985-86	1986-87	1987-88	1988-89	1989-90	Total 1985-90	Capital Contn.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(RUPEES IN LAKHS)						
1 Industrial Estates ...	3.53	26.45	76.93	55.53	35.52	197.96	197.95
2 Small Scale Industries.	158.30	192.88	664.09	317.50	295.92	1,628.68	527.55
3 Handicrafts	0.01	0.01	0.01	0.01	0.01	0.05	..
4 Industrial Co-operatives	57.26	61.32	29.09	20.02	16.62	184.31	142.68
5 Coir	18.76	18.71	20.26	29.09	13.18	100.00	67.46
	<u>237.86</u>	<u>299.37</u>	<u>790.38</u>	<u>422.15</u>	<u>361.25</u>	<u>2,111.00</u>	<u>935.64</u>

TABLE 24—II

DEPARTMENT OF INDUSTRIES AND COMMERCE PHYSICAL TARGETS FOR SEVENTH PLAN

(i)	Small Scale Industries to be set up	30,000
(ii)	Extent of land to be acquired and/or developed for establishing Electronic Industrial Estate	200 acres
(iii)	Establishment of testing centres, common facility centres, product development centres, etc... .. .	25
(iv)	District Industries Centre to be set up	11
(v)	Coir Industrial Co-operative Societies	73
(vi)	New Industrial Co-operative Tea Factories	5
(vii)	New Tea Estate at Kodaikanal	1
(viii)	Leather Effluent Treatment Industrial Co-operative Societies	14

TABLE 24—III.

TAMIL NADU SMALL INDUSTRIES DEVELOPMENT CORPORATION LIMITED
SEVENTH FIVE-YEAR PLAN FINANCIAL OUTLAY

Serial number and name of the Scheme.	Ultimate cost of the Scheme.	SIDCO's generation.	Institutional Finance.	Government Fund.	Government Fund.		
					Capital.	Loan.	Revenue.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					(RS. IN LAKHS.)		
1. Infrastructural facilities	12,01.00	2,50.00	8,00.00	1,51.00	1,51.00	..	..
2. Assistance for setting up of Industries (State Subsidy)	3,55.00	..	..	3,55.00	..	..	3,55.00
3. Interest Free Sales Tax Loan	3,00.00	..	..	3,00.00	..	3,00.00	..
4. Margin Money for revival of sick units	3,00.00	..	..	3,00.00	..	300.00	..
	21,56.00	2,50.00	8,00.00	11,06.00	1,51.00	6,00.00	3,55.00

Serial number and name of the scheme.

	Year-wise allocation				
	1985-86. (9)	1986-87. (10)	1987-88. (11)	1988-89. (12)	1989-90. (13)
	(RUPEES IN LAKHS)				
1. Infrastructural facilities .. .. .	..	..	50.00	50.00	51.00
2. Assistance for setting up of Industries (States subsidy)	50.00	60.00	60.00	90.00	95.00
3. Interest Free Sales Tax Loan	50.00	50.00	65.00	65.00	70.00
4. Margin Money for revival of sick units	50.00	50.00	65.00	65.00	70.00
	1,50.00	1,60.00	2,40.00	2,70.00	2,86.00

TABLE 24—IV.

TAMIL NADU SMALL INDUSTRIES DEVELOPMENT CORPORATION
LIMITED,

PHYSICAL TARGETS FOR 1985—90.

<i>Serial number.</i>	<i>Item.</i>	<i>Unit.</i>	<i>Seventh Plan 1985-90 Target Proposed.</i>
(1)	(2)	(3)	(4)
I. Industrial Estates/Areas			
(a)	Estates/Areas Functioning	Numbers (Cum)	65
(b)	Number of Units	Numbers 1,000 (Cum)	1.50
(c)	Production	Rs. lakhs (Cum.)	7,000
(d)	Employment	Numbers 1,000 (Cum.)	20.00
II,	Sheds	Numbers	500

TABLE 24—V.

TAMIL NADU HANDICRAFTS DEVELOPMENT CORPORATION LIMITED
VII FIVE-YEAR PLAN 1985-90.

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>VII Plan Outlay (RS. IN LAKHS)</i>
(1)	(2)	(3)
1	Setting up of Raw-material Depots, for Brass, Bellmetal Wood and Cane ..	28.00
2	Opening of New Showrooms at 15 States Capitals	18.00
3	Construction of Building for Showrooms	14.00
4	Setting up of a Craft Museum	5.00
5	Setting up of Design and Research Centre	4.00
6	Housing Scheme for Artisans	6.00
7	Training for Craftsmen	5.00
8	Procurement of Articles directly from artisans	32.00
9	Subsidy for participation in the Exhibitions, Tradefares (Abroad and within India)	20.00
10	Freight Subsidy Exports	5.00
11	Schemes for Registrar of Handicrafts Units	8.00
12	Intensive Schemes for selected crafts in selected areas	5.00
13	Component Plan for Scheduled Castes and Tribal Sub-Plan for the Handicrafts Sector	10.00
Total ..		160.00

TABLE 24—VI

HANDLOOMS AND TEXTILES

STATEMENT SHOWING THE VII FIVE-YEAR PLAN 1985-1990

<i>Serial number.</i>	<i>Name of the Scheme.</i>	1985-90 (RS. IN LAKHS.)
(1)	(2)	(3)
<i>I. Co-operative coverage—</i>		
1	Share capital loan to weavers for admission into Co-operative Fold	50.00
2	State Participation in the Share Capital of Primary Weavers Co-operative Society	100.00
3	Industrial Weavers Co-operative Society	25.00
4	Silk and Art Silk Handloom Weavers Co-operative Society	15.00
5	Handloom Development Projects .. .. .	..
<i>II. Assistance to Working Capitals—</i>		
6	Subsidy towards interest on working capital loan	650.00
7	90 per cent Guarantee Schemes	25.00
<i>III. Transfer of Technology—</i>		
8	Modernisation of Handlooms	75.00
9	Design Centre .. .. .	..
10	Weaving Training .. .. .	..
<i>IV. Organisational Assistance—</i>		
11	Managerial Subsidy .. .. .	..
12	Scheme for Relief of Handloom Weavers	98.40
<i>V. Marketing—</i>		
13	Publicity and Propaganda	0.60
14	Assistance to Tamilnadu Handloom Weavers Co-operative Society	100.00
15	Rebate on Handloom Cloth	4,100.00
16	Opening of show room by Co-optex .. .. .	..
17	Raw materials Bank	15.00
<i>VI. Units of the Department :—</i>		
18	Assistance to Co-operative Spinning Mills .. .. .	..
19	Assistance to Tamilnadu Handloom Development Corporation Limited	10.00
20	Assistance to Tamilnadu Zari Limited	10.00
21	Assistance to Tamil Nadu Co-operative Textiles Processing Mills, Erode .. .. .	..
22	Assistance to Powerloom Complex .. .. .	..

23	Processing House at Bharathi Sagar	..	..	..	..	..	..	30.00
24	Hoisery Processing at Tripur	..	..	..	..	..	..	25.00
25	Handloom Complexes at Karur, Madurai and Erode	..	..	..	..	..	..	100.00
26	Re-organisation of Kancheepuram and Trichy circle	..	..	..	..	..	..	..
27	Housing Co-operatives at Madras	..	..	..	..	..	..	25.00
VII. Welfare Schemes—								
28	Weavers Housing Schemes	..	..	..	..	..	..	100.00
29	Co-operative Handlooms Weavers Security Scheme	..	..	..	..	..	..	618.00
VIII. Others—								
38	Statistical Wing	..	..	..	..	..	..	..
Total								6,172.88

TABLE 24—VII.

STATEMENT SHOWING THE PHYSICAL TARGET FOR VII FIVE YEAR-PLAN (1985-1990)

Serial number and Particulars.	VII Five Year Plan Target 1985-90.	Physical Targets.					
		1985-86	1986-87	1987-88	1988-89	1989-90	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
I. Co-operative Coverage :							
1	Share Capital Loan for admission of weavers into Co-operative fold	42,000	20,000	6,000	6,000	5,000	5,000
2	Industrial weavers Co-operative Society	1,200	300	300	300	200	100
3	Silk and Art Silk Weavers Co-operative society	500	100	100	100	100	100
II. Transfer of Technology :							
4	Modernisation of Handlooms	35,000	7,000	7,000	7,000	7,000	7,000
5	Weavers Training	70,000	14,000	14,000	14,000	14,000	14,000
III. Marketing :							
6	Opening of new showroom/Modernisation of existing showroom by Tamil Nadu Handloom Weavers Co-operative society	150	30	30	30	30	30
7	Opening of showroom by Primary Weavers Co-operative society	100	20	20	20	20	20
		15	3	3	3	3	3
IV. Units of the Departments :							
8	Assistance to Co-operative spinning mills for expansion of spindleage	50,000 (Spindles)	10,000	10,000	10,000	10,000	10,000
V. Welfare Schemes :							
9	Co-operative Handloom Weavers Savings	25,000	5,000	5,000	5,000	5,000	5,000
10	Weavers Housing Scheme	10,000	2,000	2,000	2,000	2,000	2,000

TABLE 24—VIII

SERICULTURE SEVENTH FIVE-YEAR PLAN 1985-90.

<i>Serial number.</i>	<i>Programme.</i>	<i>VII Plan Outlay (RS. in lakhs,hs.)</i>
(1)	(2)	(3)
1	Malberry Expansion and Financial Assistance to Farmers :	
	(a) Cost of Seed Materials	42.50 00
	(b) Farmers Training Programme	47.66 06
	(c) Supply of Scientific Tools	126.00 00
	(d) Purchase of Rearing appliances	119.25 05
	(e) Construction of Rearing Shed	251.65 05
2	Sericulture Extension-cum-Training Centres	179.81 01
3	Model Chawkie rearing centre	80.00 00
4	District Sericulture Centre	115.01 01
5	Seed Zone	36.39 09
6	Grainages	202.46 06
7	Establishment of Nurseries	28.65 55
8	Strengthening of Cocoon markets	38.65 55
9	Additional facilities to existing farm units	91.30 01
10	Research and Training Programme	74.80 80
11	Bye-products processing unit	74.33 35
12	Organisation Management and monitoring	21.00 06
13	Import of Silkworm Seed and deputation of Officers abroad	100.00 00
14	Silk Reeling and Twisting Complex :	
	(a) Reeling-cum-Twisting Complex in Private Sector	18.00 00
	(b) Reeling-cum-Complex in Co-operative Sector	77.88 7
	(c) Government Sector :	
	(i) Automatic Reeling Unit	154.00 7
	(ii) Reeling basins	388.00 0
	(iii) Bleaching dying and Weaving Unit	20.00 0
15	Publicity and Propaganda	21.00 0
	Total	2,488.00

TABLE 24—IX.

SERICULTURE.

PHYSICAL PROGRAMMES FOR VII PLAN.

<i>Serial number and name of the scheme.</i>	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Mulberry Expansion and Financial Assistance to the Farmers:						
(a) Area to be brought for Mulberry—						
(i) Irrigated (in acres)	5,000	7,500	70,000	10,000	10,000	42,500
(ii) Rainfed (in acres)	500	1,000	1,000	1,000	1,500	5,000
(b) Farmers Training Programmes (Number of Farmers).	1,500	3,000	3,000	3,000	3,000	13,500
(c) Free Supply of Scientific Tools (in sets).	1,500	3,000	3,000	3,000	3,000	13,500
(d) Subsidy for Rearing Appliances (in sets).	1,250	2,500	2,500	2,500	2,500	11,250
(e) Subsidy for Rearing Sheds (in numbers).	1,250	2,500	2,500	2,500	2,500	11,250
2 Sericulture Extension-cum-Training Centre.	23	17	22	22	23	107
3 Model Chawkie Rearing Centre ..	Nil.	5	5	5	..	10
4 District Sericulture Centre ..	..	1	1	1	..	3
5 Seed Zone and Seed Forms—						
(a) Local (Additional Centre) (in acres).	..	50	50	50	50	200
(b) Bivoltine (in acres) .. ..	..	50	50	50	50	200
6 Grainages .. .. .	..	2	..	4	4	10
7 Establishment of Nurseries (in acres).	50	50	50	75	..	225
8 Strengthening of Cocoon Markets.	2	2	2	2	2	10
9 Additional facilities to the existing farm and units of District Sericulture Centres.						(Lumpsum provision.)
10 Research and Training Programme (Establishment of Research Station.)	1	..	..	..	..	1
11 Organisation (Management and Monitoring.)						As per the need for 1st year onwards.
12 Publicity and Propaganda ..						(Lumpsum provision.)

<i>Serial number and name of the scheme.</i>	1985-86	1886-87	1987-88.	1988-89.	1989-90.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
13 Silk Reeling and Twisting Complex—						
(a) Reeling-cum-Twisting Complex in Private Sector (10 units of 10 Basin each.)	..	10	10	20	20	60
(b) Reeling-cum-Twisting Complex in Co-operative Sector (10 units of 10 Basins each).	..	10	10	20	20	60
(c) <i>Government Sector—</i>						
(i) Sericulture Automatic Reeling units.)	..	1	1	..	..	h
(ii) Reeling Basins (3 units of 100 Basins.)	..	2	2	..	..	4
(iii) Bleaching dyeing, weaving, etc.)	..	2	2	2	1	7
14 Import of silkworm seed and Deputation of Officers abroad.	..	2	2	2	2	8
15 Bye-Production Processing Unit ..						(Lumpsum provision.)

TABLE 24—X.

KHADI AND VILLAGE INDUSTRIES.

SEVENTH PLAN 1985—90.

<i>Serial number.</i>	<i>Name of the Sector.</i>	<i>Proposed Outlay.</i>					
		1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	1985-90.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tribal Sub-Plan—		(RS. IN LAKHS.)					
I	Supply of Beehives to Scheduled Castes	10.00	40.00	10.00	10.00	13.00	83.00
II	Other Village Industries Rebate on Sale of Khadi.	77.87	156.00	161.00	162.00	166.13	723.00
III	New Schemes for Khadi Board	29.40	23.00	16.00	16.00	17.60	102.00
IV	Hill Area Development Programme	5.10	14.00	14.00	10.00	11.50	55.00
	Total ..	1,22.37	233.00	201.00	198.00	208.63	963.00

TABLE 24 XI.
KHADI AND VILLAGE INDUSTRIES.

PHYSICAL PROGRAMMES FOR VII PLAN.

1 Tribal Area Sub-Plan.—

Year.	Number of beneficiaries.
1985-86	331
1986-87	714
1987-88	608
1988-89	690
1989-90	660
Total ..	<u>3,003</u>

II. New Schemes—

	<i>Number of Beneficiaries</i>
1 Research Centre for Cotton Khadi (Staff Cost) .. .. .	..
2 Construction of houses for weavers .. .. .	..
3 Purchase of cards and scutches .. .. .	..
4 Establishment of Saw Mill Unit	5
5 Modernisation of Looms .. .. .	..
6 Purchase of Jacquard boxes .. .. .	..
7 Rebate on Polyvastra .. .. .	..
8 Assistance to Khadi Board for development of silicate Unit	5
9 Establishment of Fibre Collection and sizing Centre and Brush making Unit .. .. .	..
10 Establishment of cotton facility work shed and facility centre for Pottery artisans	5
11 Provision of Cards of Scutchers	5
12 Establishment of Training-cum-Production Centre on Manufacture of Agarbathi in Dharmapuri district.	25
13 Provision of storing facility for cotton Khadi in Vellore .. .. .	..
Total ..	<u>50</u>

1986-87—

1 Establishment of 4 Rural Textile Centres 1. Nepali loom Centres+1. Jacquard Weaving and 1 Dyeing and Bleaching Unit.	205
2 Provision of Cone Polisher 10 Handpounding of Paddy I.Cs. at Rs. 10,000 each	250
3 Additional infrastructural facilities to Pottery Industrial Co-operative Society such as Pug. Mill, Godown and Shed over kiln.	100
Total ..	<u>555</u>

1987-88—

1 Establishment of 4 Rural Textile Centre one Nepali Loom Centre, One Jacquard Weaving Centre and Dyeing and Bleaching Unit.	205
2 Establishment of one beekeeping research Centre either at Javadhu Hills, North Arcot district or at Tenkasi in Tirunelveli district.	6
3 Establishment of 10 Honey Packing Centres in Selected places	40
4 Organisation of purchase Cell in Central Office .. .. .	..
5 Strengthening of existing oil and Soap laboratories at Madras	2
Total ..	<u>253</u>

1988-89—

1 Establishment of 4 Rural Textile Centres, One Nepali Loom Centre, and One Dyeing and Bleaching Unit.	205
2 Additional facilities to 5 footwear Units at Rs. 1.00 lakh each	50
3 Construction of building for Regional Deputy Director Office at Thanjavur .. ..	..
Total ..	<u>255</u>

1989-90—

1 Establishment of 4 Rural Textile Centres/One Nepali Loom Centre, One Jacquard Weaving Centre, One Dyeing and Bleaching Unit.	205
2 Construction of Building for Regional Deputy Director's Office, Vellore and Madurai.	..
Total ..	<u>205</u>

CHAPTER 25.

INDUSTRIES-MEDIUM AND LARGE.

Review 1980-85 :

25.0 Industrial Sector accounts for a major portion of the income generated in the State and is next only to Agriculture in importance. Massive increase in employment opportunities, utilization of local resources, exploration of new sectors hitherto untapped, and development of backward areas are the basic objectives of the Industrial Policy pursued by the Government of Tamil Nadu. With a view to achieving this objective, a set of strategies for the simultaneous development of the various sectors within the broad canvass of Industries, such as major industries, Medium Industries, Small Scale Industries and the tiny sectors has been thought out. It was also ensured that the large and medium Industries were assigned their proper role in such a way that they were made to function in a complementary manner and help in activating the growth forces in the State's economy. The State's Sixth Plan for Industrial Development was aimed to achieve the average growth rate of 8 to 9 per cent in Industrial production. The State Government have taken positive steps to encourage entrepreneurs to set up Industries in the State and out of 90 letters of intent 76 Industrial licences have been issued by Government of India to locate Industries in Tamil Nadu upto the end of 1984.

25.1 The major task of the State Government in the Industrial Sector is the promotion and development of major Industries by provision of financial assistance and by building up the economic infrastructure. Keeping this in view, a number of State Government Promotional agencies were set up and they have taken various steps for the development of major and medium Industries.

25.2 The State's Industrial growth rate during the Sixth Plan period was subject to a number of factors such as power availability, supply of crucial inputs, the turn out of the farm sector, and the labour situation besides the demand pattern as influenced by the general economic climate in the country. Viewed from the standpoint of the national average growth ranging from 0.7 per cent to 9.3 per cent, the State's record had been from 8.3 per cent to 10.5 per cent. The production performance for Tamil Nadu during the calendar year 1981 was good (10.5 per cent)

as borne out by the annual average of index of 3.78 per cent over the average from 1979 to 1983.

26.3 For the Sixth Five-Year Plan 1980-85, the outlay proposed for this sector was Rs. 8,992.00 lakhs. The expenditure incurred during the period was of the order of Rs. 15,918.65 lakhs or 177 per cent. The expenditure on consumer Industries has increased by 81 per cent. The expenditure incurred was high particularly in the case of Co-operative Spinning Mills followed by Ceramics, Paper, Textiles and Sugar.

Programme for the Seventh Plan 1985-90 :

I. Tamil Nadu Industrial Development Corporation (TIDCO).

25.4 Tamilnadu Industrial Development Corporation Limited (TIDCO) was set up in 1965 initially to implement a Cement Plant at Alangulam, Ramanathapuram District and a mini Steel Plant at Arakonam, North Arcot District. The object of Tamil Nadu Industrial Development Corporation Limited (TIDCO) is to promote, improve, establish and develop industrial activities in Tamil Nadu through public and joint sectors. Therefore the prompt implementation of the industrial projects and commencement of commercial production is the criteria of TIDCO for fixing physical targets. The scope of activities was subsequently enlarged to cover setting up of major industries both in Public Sector and in joint sector.

25.5 As on 31st December 1984, TIDCO has set up 42 projects, of this 29 are under production and 15 projects are under implementation with an investment of Rs. 565.07 crores. So far TIDCO has provided employment to nearly 10,500 persons through its projects which have commenced production during the year 1980-84. Its profit has also increased from Rs. 29.60 lakhs in 1980-81 to Rs. 163.03 lakhs in 1983-84. At present, 6 projects in the Public Sector (inclusive of subsidiary companies), and 22 projects in Joint Sector with a total project cost of Rs. 29,305.86 lakhs, and actual employment of 10,040 persons have already commenced commercial productions, Three projects in Public sector (inclusive of subsidiary companies) and four projects in joint sector with a project cost of Rs. 7,854 lakhs, and employment potential of 2,612 persons, are under implementation. 23 projects with a project cost of Rs. 48,648 lakhs and employment potential

of 9,105 persons are being taken up for implementation/under consideration as on today in respect of public sector and joint sectors.

25.6 During the Seventh Five-Year Plan 26 Projects with a project cost of Rs. 46,253 lakhs are expected to commence commercial production and these projects are expected to provide employment to about 8,860 persons. The plan for 1985-90 envisages a Government Contribution of Rs. 50 crores to TIDCO which would enable it to strengthen its equity basis and obtain sufficient loans from financial institutions. Details of the projects to be taken up / completed during the Seventh Plan period are given below —

I. Public Sector :

(1) *Tamilnadu Industrial Explosives Limited ;*

25.7 This project is being set up to manufacture 15,000 tonnes of Nitro Glycerine based explosives at Katpadi, North Arcot District. The product is the main input for mining and other construction industries. The cost of the project is Rs. 2,085 lakhs and the employment potential is expected to be 540 persons. The plant is expected to commence commercial production during 1985-86.

(2) **Magnesium Metal Project :**

25.8 This project is for the manufacture of 6,000 tonnes per annum of Magnesium metal which finds its application in Air structural Aluminium, Space Research and Metallurgical fields. This project is being set up with indigenous know how developed by Central Electro Chemical Research Institute, Karaikudi based on salt bitterns a by-product of salt industry. The project cost is Rs. 520 lakhs and it is expected to commence commercial production during 1985-86. This project will provide employment to about 110 persons.

(3) **Ariyalur Cement Works : Installing drier crusher and pre-calcination equipments :**

25.9 In order to overcome the inherent moisture problem in the lime stone and also with a view to achieve the rated capacity in the Ariyalur Cement Works, it is proposed to instal a drier, crusher and pre-calcinator. The estimated cost for this project is expected to be Rs. 826 lakhs.

(4) **Tamil Nadu Steels—Expansion :**

25.10 We are not able to meet the demand for special steels and higher size of billets. It is therefore proposed to put up an additional furnace

of 30 tonnes capacity and a bloom casting units. It is also proposed to provide additional facilities in the re-rolling Mill for rolling of higher size blooms to cater to the needs of the consuming industries. The project cost of the expansion is expected to be Rs. 1,710 lakhs and the employment potential is expected to be 140 persons.

(5) **Detonators and Detonating fuses projects :**

25.11 This project is for the manufacture of accessories to be used along with the explosives in mining and other activities. The initial manufacturing capacity of the project will be 50 million numbers of Detonators and 10 million metres of Detonating fuses. The project cost is estimated to be Rs.1,600 lakhs and it is expected to provide employment to about 400 persons.

(6) **Ammonium Nitrate and Nitric acid projects :**

25.12 It is proposed to set up a project for the manufacture of 24,000 tonnes per annum of Ammonium Nitrate and 24,000 tonnes per annum of Concentrated Nitric acid. Ammonium Nitrate of Explosives grade will be produced to be used as a raw material for our industrial explosives project and other explosives manufacturers and also to be used for producing 'ANFO' mixture. This is a secondary explosive used along with the high explosives in mining. Concentrated Nitric acid can also be used in the explosives complex. The input for this plant will be Ammonia. The project cost is Rs. 22,50 lakhs and it is expected to provide employment to about 200 persons.

(7) **Sponge Iron project :**

25.13 It is proposed to set up a project for the manufacture of one lakh tonnes per annum of Sponge Iron to cater to the needs of Tamilnadu Steels at Arakonam and also to the neighbouring mini steel plants in the Southern region. The project cost is estimated to be Rs. 5,000 lakhs and employment potential of the project is in the order of 360 persons.

(8) **Ariyalur Cement Works—Expansion :**

25.14 The present capacity of the Ariyalur Cement Works is 5 lakhs tonnes per annum. In view of the abundant availability of lime stone in the area, it is proposed to increase the capacity of this plant to 10 lakh tonnes. The project cost of expansion is in the order of Rs. 4,500 lakhs and it will provide additional employment to about 1,000 persons.

(9) Palayam Cement Plant :

25.15 It is proposed to set up a cement Plant with an installed capacity of 4 lakh tonnes per annum at Palayam in Madurai District. The project cost is estimated to be Rs. 5,000 lakhs and the employment potential of the project is in the order of 1,000 persons.

II. Joint Sector Projects :**1. Automotive Castings Limited :**

25.16 This project is for the manufacture of 20,000 tonnes of S.G. and grey iron casting for the Automobile Industry. The project is being located in Pudukottai District. The Project cost is estimated to be Rs. 2160 lakhs and the employment potential of the project is 845 persons.

2. Tamilnadu Petro Products Limited :

25.17 This project is for the manufacture of 15,000 tonnes per annum of Linear Alkyl Benzene which is a raw material for the manufacture of Synthetic detergents. This project is being set up adjacent to Madras Refineries Limited, Manali, Madras. The project cost is estimated to be Rs. 10,800 lakhs and it is expected to provide employment to around 300 persons.

3. Pentasis Limited :

25.18 The project is for the manufacture of 3000 tonnes per annum of Pentaerythritol and 1800 tonnes per annum of Sodium formats (bye product). The estimated project cost is Rs. 1,500 lakhs and the employment potential of the project is 150 persons.

4. Wrist watch Project :

25.19 This project is for the manufacture of 2 million pieces of mechanical and quartz Analog Watches per annum. The project cost is estimated to be Rs. 3,920 lakhs and the employment potential of the project is 1270 persons.

5. Goat Skin Project :

25.20 This project is for the manufacture of 12 lakhs pieces per annum of Glaced kids and lining from semi-finished skins with indigenous technology. The project cost is estimated to be Rs. 150 lakhs and employment potential is expected to be 150 persons. The project is proposed to be located at Ranipet, North Arcot District.

107D-4-35

6. Iso Proponal Project.

25.21 This project is for the manufacture of 10,000 tonnes per annum of Iso proponal and it is proposed to be set up adjacent to Madras Fertilizers Limited, Manali, Madras. The estimated project cost of the project is Rs. 900 lakhs and it is expected to provide employment to about 105 persons.

7. Polyols project :

25.22 This project is for the manufacture of 6,000 tonnes per annum of Polyols and it is being located in Ennore, near Madras. The estimated project cost is Rs. 972 lakhs and it is expected to provide employment to about 65 persons. Commercial production is expected to commence during 1987-88.

8. Telephone Cables Project

25.23 This Project envisages the manufacture of jelly filled paired telephone Cables for supply to Postal and Telegraph Department and Railways. At present our country is using only dry core cables. The Post and Telegraphs Department is shortly switching over to jelly filled telephone cables for better communication as these cables have inbuilt resistance to the ingress of moisture. The project cost is estimated to be Rs. 1200 lakhs and the employment potential of this project is about 270 persons.

9. Optical Instruments Project :

25.24 It is proposed to set up a project for the manufacture of Optical components mainly for export purposes. The capacity of the project is 5 lakh components per annum consisting of lenses, prisms, etc. The project cost is estimated to be Rs. 150 lakhs and the employment potential of the project is 300 persons.

10. Valve Castings and Forged Fittings Project :

25.25 This project envisages the manufacture of 2,500 tonnes of high pressure valves and other precision castings. Location of the project will be near Pudukottai. The project cost is estimated to be Rs. 350 lakhs and employment potential of the project will be around 300 persons.

11. Connectors Project

25.26 This project envisages the manufacture of 5 million numbers of Provisional grade connectors per annum and it is proposed to be located in Pudukkottai district. The estimated project cost is Rs. 300 lakhs and the employment potential of the project is 200 persons.

12. Floppy Disc project

25.27 The project envisages the manufacture of one million pieces of Flexible Disc-kettes and it is proposed to be located in Pudukkottai District. The project cost is estimated to be Rs. 135 lakhs and employment potential of the project is 100 persons.

13. Edible grade rice Bran Oil Project.

25.28 It is proposed to set up a project for the manufacture of 900 tonnes per annum of edible grade rice bran oil and also fatty acid. The project is proposed to be located in Chingleput District. The project cost is estimated to be Rs. 195 lakhs and employment potential of the project is 100 persons.

14. Toluene-di-Iso-Cyanate Project.

25.29 This project envisages manufacture of 6,000 tonnes per annum of Toluene-di-Iso-Cyanate and 8,500 tonnes per annum of phosgene. The Project is expected to be located at Cuddalore in South Arcot District. Toluene-di-Iso-Cyanate is a speciality chemical extensively used in Polyurethane industry for manufacturing flexible foams, rigid foams, elastomers and coatings, etc. The project is expected to cost Rs. 3,400 lakhs and it is expected to provide employment to about 255 persons.

15. Enriched Fructose Syrup projects.

25.30 This project envisages manufacture of 12,000 tonnes per annum of enriched fructose syrup. The project is expected to be located at Dharmapuri district. In Sweetness, enriched fructose syrup is equivalent to sucrose/natural sugar and can supplement and replace natural sugar in the fields of soft drinks, confectionery, sweets, etc. The project cost is estimated to be Rs. 620 lakhs and it is expected to provide employment to about 1,200 persons.

16. Fluoro Carbons Projects.

25.31 The project is for the manufacture of 3,000 tonnes per annum of Fluoro carbons. The project is proposed to be located in South Arcot District. The estimated project cost is in the order of Rs. 1,000 lakhs and the employment potential is expected to be 500 persons.

Other new projects :

25.32 TIDCO is also considering the possibility of taking up of some more joint sector projects for implementation during the Seventh Five-Year Plan. The provision made is for meeting the contribution for these projects.

II. The State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

25.33 The State Industries Promotion Corporation of Tamil Nadu started its operation in January, 1972. Since then it has played a very important role in the promotion and upliftment of Medium and Major Industries and acceleration of dispersal of Industries in the backward and under developed areas of the State.

25.34 The primary object of the State Industries Promotion Corporation (SIPCOT) is to develop medium and large scale Industries in Tamil Nadu with particular emphasis on development of backward areas. Towards achieving this goal, the Corporation offers financial and other assistance in the form of Term loan, developed plots with infrastructural facilities, packages of incentives consisting of Interest Free Sales Tax Loan and 15 per cent Central/State Subsidy and other facilities like underwriting, Seed capital assistance and subsidised feasibility study Report etc. From 1982-83 onwards State Capital Subsidy Scheme and Special Subsidy Scheme are also being implemented by SIPCOT.

25.35 The total assistance sanctioned by the Corporation upto 31st March, 1985 under various schemes amounted to Rs. 229.90 crores with direct employment potential for about 83,000 persons. Under the incentive scheme of Interest Free Sales Tax Loan, 221 units have been sanctioned and disbursed an amount of Rs. 2,555.52 lakhs and Rs. 2,314.43 lakhs respectively as Sales Tax Loan upto March, 1985. Upto March 1985 Seven Industrial Complexes were developed and the capital expenditure incurred for this was Rs. 849.34 lakhs in 1985. In order to give a powerful thrust to the disposal of Industries in backward

areas, SIPCOT has taken up strategy growth centres which have potential for development and providing all infrastructural facilities in these centres to facilitate promotion of projects in these areas. SIPCOT has already developed industrial complexes at Ranipet, Hosur and Manamadurai and developing complexes at Pudukottai, Cuddalore and Gumnudipoondi. Major developmental schemes such as Water Supply Schemes, Sewage Schemes, Construction of amenity buildings have taken up during 1984-85, Land is being acquired for the Development of Industrial complex at Tuticorin to accommodate salt based and marine chemical Industries.

25.36 Apart from these complexes the Government have proposed to develop 11 more industrial complexes in the following districts during the Seventh Five-Year Plan period, namely Madurai, Thanjavur, west Ramanathapuram, Tiruchirappalli, Periyar, Salem, Coimbatore, Kanyakumari, The Nilgiris, Dharmapuri and North Arcot. The total requirement of funds during the plan period will be as follows ;

(Rs. in lakhs)

1. Share Capital Assistance for—			
(a) Term Loan	.. .. .	2,035	
(b) Development of Industrial Complexes	.. .. .	840	
2. Interest Free Sales Tax Loan	..	1,625	
3. State Capital and Special Subsidy Scheme	.. .. .	500	
		<hr/>	
		5,000	
		<hr/>	

III. Tamil Nadu Industrial Investment Corporation (TIIC).

25.37 The Tamil Nadu Industrial Investment Corporation Limited (TIIC) the Premier State Level Financial Institution incorporated during 1949 under Companies Act is functioning within the frame work of State Financial Corporation Act, 1951 with the prime objective of extending financial assistance for the long-term financial requirements of Small and Medium Scale Units within the State of Tamil Nadu.

25.38 The Corporation extends term-loans for acquiring fixed assets like land, building, plant and machinery and equipments with priority to Small and Tiny Sector Industrial units in order to generate larger employment opportunities in the State. The financial assistance is available

not only for starting new units but also for expansion, diversification and modernisation, etc. of the existing units. The amount of assistance ranges from Rs. 5,000 to Rs. 30.00 lakhs.

25.39 In view of the fact that generation of more employment opportunities by the Small and Tiny Sector Industries at relatively lower investments the Corporation's main thrust was on the rapid development of Small Scale Industries by providing assistance on concessional terms with simplified procedures. The major share of the resources of the Corporation will be extended as term-loans to small scale sector. A statement showing details of the sanctions, disbursement and collection during the Sixth Plan period is given below.

Year. (1)	Sanction. (2)	Disbursement. Collection.	
		(3)	(4)
(RUPEES IN CRORES).			
1980-81	..	36.90	22.59
1981-82	..	52.13	35.07
1982-83	..	55.87	39.56
1983-84	..	59.74	41.11
1984-85	..	67.97	48.65
			32.40

25.40 There has been substantial increase in the volume of operation of the Corporation in the matter of sanctions, disbursement and collection. Ninety-nine per cent of the number of loans sanctioned every year during the last 3 years was for Small Scale Industries and nearly 85 per cent to 95 per cent of the total quantum of the loans has been sanctioned to Small Scale Industries in these years.

25.41 Though there is no separate scheme/plan for SSI Sector the Corporation considers all the applications for setting up viable projects for financial assistance. However assistance to SSI Sector account for the 90 per cent and other than SSI Sector 10 per cent of the total assistance. The outlay of Rs. 1,430 lakhs allotted by the Government will be extended to Small Scale, and Medium Scale Industries at the ratio of 90 per cent and 10 per cent respectively.

25.42 The main features of the performance of the Corporation in the recent years has been significant improvement in the assistance to Small Scale Sector to view of the larger employment potential. The objective of encouragement to Small Scale Sector will be continued by the Corporation in the future years also by allocating the major share of the resources of the Corporation.

To provide self-employment, the Corporation extends financial assistance on liberal terms to owner-cum-drivers for the purchase of Lorries, Trucks, Taxis, Tempos, Vans, Auto-rickshaws, etc., Assistance is granted to Registered Medical Practitioners for the construction of Nursing Home and purchase of Medical equipments to rural areas. To the people in rural areas, the Corporation continues to render assistance to Registered Medical Practitioners.

25.43 The Corporation provides loans for purchase of power generators to the Industrial units, renders financial assistance to Hotel Industry, provides gainful self-employment to the technician entrepreneur. It also acts as an executive agency for a Special Industrial Development Programme known as MUDP-II. During the Plan period, the equity contribution of the State Government would be Rs. 14.30 crores.

IV. Tamil Nadu Salt Corporation.

25.44 The Tamil Nadu Salt Corporation Limited was formed during 1974 and commenced business in February 1975. The main object of the Corporation is to manufacture salt from brine and trade or otherwise deal in all varieties of salt, salt based chemicals and by-products thereof. This Corporation has taken up two salt projects in Mariyur-Valinokkam in Ramnad district and Sardar Vedarathnam Salt Project in Thanjavur district. The Government ordered development of 56,000 acres of land in Mariyur Valinokkam salt Complex for Salt production. An area of 2,200 acres has been developed out of the effective area of 4,400 acres.

25.45 The production achieved during the Sixth Plan is as follows ;—

Year.	Production.
	(IN M.T.)
1980	29,047
1981	25,600
1982	37,000
1983	10,250
1984	31,100

25.46 For the year 1985 a production target of 60,000 M.T. has been fixed. The major constraint for the salt complex is marketing, because it is located in a remote corner and the major commuting areas are far away and this

had added to use the transport cost also. Sardar Vedarathnam Salt Project was taken up for development as Salt Works from 1979 and its business commenced from 1982 onwards. A quantity of 5,226 M.T. tonnes was produced during the year 1985 and as a part of the production season was swallowed by the heavy rains in July 1984, the production has been restricted to only 3,111 MT during the rest of the season in 1984. During the year 1985, a production target of 16,000 M.T. has been fixed. The employment provided in these two projects during the VI Plan is as follows :—

Project.	Seasonal employment (Number of persons).	Regular (Number of persons)
Mariyur Valinokkam ..	800	50
Sardar Vedarathnam ..	400-500	50

25.47 Sardar Vedavathnam Salt Project is only in the initial stages of development. The project when completed will provide regular employment to 100 persons besides seasonal employment to 1,000 persons. During the VII Plan it is proposed to establish a plant for iodised Salt Complex at Mariyur Valinokkam Salt Complex, Valinokkam, another at Sardar Vedarathnam Salt Project, Thambikottai and a third plant at Tuticorin by spray process with a capacity of 15,000 tonnes per annum. With a view to explore the possibilities of encouraging the development of marine chemical industries based on gypsum and bitterns, the Tamil Nadu Salt Corporation proposes to take up a plant for sorel Cement with a capacity of 3,000 tiles per shift which will give employment to about 20 persons. A plant to produce potassium Schoenite with a capacity of 5 tonnes per shift which will give employment to about 25 persons, and a plant for Bromide and Bromides with a capacity of half a tonne per day are also proposed. This will give employment for about 40 persons. After successful commissioning of the bromide plant, it may be considered to go in for bromides like ethylene di-bromide, methyl bromide depending on the demand at the time of consideration. To make these investments possible Rs. 1.60 crores is provided for the VII Plan period.

V. Tamil Nadu Ceramics Limited (TACEL)

25.48 Tamil Nadu Ceramics Limited was formed with ceramics Industry in the State. The units of Tamil Nadu Ceramics Limited are mainly concentrated at Vridhachalam in South Arcot

District. The total annual production at all the units of TACEL has increased from Rs. 207.12 lakhs in 1981-82 to Rs. 252.14 lakhs in 1984-85. The operational losses of the Corporation has increased from Rs. 10.97 lakhs in 1981-82, to Rs. 49.92 lakhs in 1983-84 and less is expected to be reduced to 43.43 lakhs by 1984-85. In order to reduce this loss and to speed up the production the Company has programmed to revitalise the stoneware pipe factory by construction of a continuous Chamber Kiln at a cost of Rs. 30 lakhs. It has also adopted certain strategies to widen the scope of activities of TACEL and help to improve the commercial viability of TACEL.

25.49 One of the major reasons for under-development of this industry in India is the lack of proper and updated machineries. It is therefore, proposed to manufacture machines required for ceramic industry during the VII Plan. There is a great demand for electronic components such as ceramic coils, resistors, capacitors, etc., and these are at present imported from Germany, Korea, Japan and China. A multi-layer ceramic capacitor project is proposed during the VII Plan. A ceramic fibre project is also proposed during the plan period. The demand for this project is of the order of 1,000 M.Ts. for the country. Manufacture of vitrified floor and wall tile unit jointly with Messrs. Sakthi Sugars Limited is also proposed to be started in Periyar district. This proposed unit will manufacture 16,000 tonnes of tiles per annum. The Corporation envisages a plan outlay of Rs. 2.50 crores for the Seventh Plan which will be met from State Government's contribution.

V. Electronics Corporation of Tamil Nadu (ELCOT).

25.50 The main objective of Electronics Corporation of Tamil Nadu Limited is to accelerate the pace of growth of electronics production and services and significantly improve the present performance of 2.5 per cent in relation to the national output. The Corporation undertakes ventures directly as well as establish joint ventures. The value of electronic goods sold in Tamil Nadu has gone up from a level of Rs. 19 crores in 1980-81 to Rs. 33 crores in 1983-84 representing an increase of more than 70 per cent. Elcot expects to generate an investment of over Rs. 200 crores in the Public and joint Sectors alone by the end of Seventh Five-Year Plan period. From a meagre turnover of about Rs. 35 lakhs for the year ending 31st March, 1984, Elcot and its joint

ventures are expected to achieve a turnover of Rs. 10 crores during the current year. Electronic Industries provide direct employment for over 300 persons per capital investment of Rs. 1 crore.

25.51 Tamil Nadu has a vast reservoir of scientific man-power and skilled force and therefore, is ideally suited for the growth of electronic Industries. The target for Elcots direct contribution to the growth of electronics production is fixed at 25 per cent of the total production in Tamilnadu leaving the remaining 75 per cent to private organisations. The targetted annual production consists of consumer and mass communication electronics, Communication equipment, computer process control and Instrumentation, Medical electronics and components. The Corporation envisages a plan outlay of Rs. 10 crores during 1985-90 which will be met from State Governments' Contribution.

VI. Tamil Nadu Leather Development Corporation (TALCO).

25.52 Tamil Nadu Leather Development Corporation Limited (TALCO) was incorporated as Government owned Company in 1983 with an authorised share capital of Rs. 10 crores consisting of one lakh equities of Rs. 1,000 each. The main objectives of the Corporation is to provide wide spread facilities to help Small Farmers to arrange adequate marketing support for selling the products to manufacture, process, buy, stock, sell, to promote, establish sales office, exhibitions and marketing assistance in India and elsewhere. The main thrust on development of leather Industry during the VII Plan could be categorised into the following programmes : (1) Infrastructural Development, (2) Schemes for helping the artisans, (3) Ecological and Environmental matters, and (4) High value items. It is expected to provide additional employment opportunities to about 45,000 people of which at least 50 per cent would be artisans. The wages earned per artisan may rise to Rs. 20.30 per day at current prices, as against the existing level of Rs. 6.10 per day. For leather Development Corporation the Government equity share will be Rs. 2.00 crores.

VII. Tamil Nadu Sugar Corporation (TASCO).

25.53 Sugar Industry being an Agro-based Industry plays a very important role in the economic development of Agriculturists. Sugar being an essential consumable commodity it also plays an important role in public utility. Sugar Industry is the largest among the processing Industries next only to textiles. For putting

direct attention in the proper development and functioning of Sugar Industry in general and Co-operative Sector Sugar Mills in particular. Government of Tamil Nadu created a separate Directorate in October, 1969 to deal with all matters connected with Sugar Industry. So, the Directorate of Sugar has to devote special attention in the development of the existing sugar Mills and also to implementing new projects. At the time of forming the Directorate only six Sugar Mills were functioning and the Seventh Mill was under erection. On date five new mills have been added to the list thus bringing to total to 12. Hence the rate of growth has been doubled. Mayiladuthurai Co-operative Sugar Mills which is an ongoing scheme has been taken up during the Sixth Five Year Plan and will spill over to the Seventh Five Year Plan period. The quantity of Sugarcane crushed, sugar produced and recovery percentage obtained by the Sugar Mills in Tamil Nadu during the Sixth Five Year Plan period were furnished to the Table below ;—

Year.	Quantity of percent- age Cane Crushed.	Quantity of Sugar pro- duced.	Percen- tage of Sugar recovered.	Capacity utilisation.
(1)	(2)	(3)	(4)	(5)
	(IN LAKHS TONNES.)			
1980-81 ..	49.54	4.30	8.67	69
1981-82 ..	85.93	7.35	8.78	120
1982-83 ..	72.02	6.51	9.04	101
1983-84 ..	45.55	4.24	9.30	60
1984-85 ..	63.94	5.81	9.09	84

25.54 The quantum of sugar produced has declined to 4.24 tonnes in 1983-84 as against 6.5 tonnes in the previous year was due to partial drought then prevailed in this State. One more sugar factory at Aranthangi will also be taken up during the Seventh Five-Year Plan at a total cost of Rs. 7.10 crores.

VIII. Free Trade Zone at Meenambakkam.

25.55 In September, 1983, the Government of India have conveyed their decision to set up an Export Processing Zone at Madras near Meenambakkam Airport in Tamil Nadu with a view to promote exports from the region. This is a Government of India Scheme. The main features of the Project will be ;

(i) It will be entirely export oriented. The unit admitted into the Zone will be obliged to export 100 per cent of their production.

(ii) The units in the Zone will be given certain facilities and concessions in the matter of import of raw materials, components, capital equipments, etc.

25.56 The Government issued instructions that an extent of 150 acres of Government land adjoining the T.B. Sanatorium, Tambaram may be transferred in favour of State Industries Promotion Corporation of Tamil Nadu Limited for being placed under the disposal of the Government of India. The Government have sanctioned a sum of Rs. 2.00 crores during the VII Plan period towards the cost of acquisition of lands for the Export Processing Zone. 40 per cent of the cost of the land will have to be paid by the Government of India while taking over the land and the balance costs of land be paid Annually as lease rent for 99 years with 10 per cent Interest. The Government of Tamil Nadu have nominated State Industries Promotion Corporation of Tamil Nadu Limited as an agency for developing the land intended for Free Trade Zone.

IX. Tamil Nadu Small Industries Corporation (TANSI)

25.57 As a part of the Programmes for development of Small Scale Industries in the State during the first three Five-Year Plan periods, the Government established a number of Departmental Small Scale Industrial Units. In the year 1965, the Government formed TANSI by transferring these units so as to use the Maximum capacity of these units and to run them on commercial lines. The schemes proposed for Seventh Five-Year Plan have been drawn up with a view to fill in the gaps in the technological potential of the State, and also with a view to serve as nucleus plans, which will generate growth of ancillary and connected industries in the next 2 plan periods. Care has also been taken to see that to the extent possible the capacities available in the existing units of TANSI are also utilised to the optimum extent. Some of these schemes are aimed at import substitution and some are designed to exploit alternative energy sources like solar energy. These schemes will involve an outlay of the order of Rs. 4.05 crores and the share of the Government is Rs. 2.50 Crores

X. Co-operative Spinning Mills.

25.58 For assistance towards Co-operative Spinning Mills for a absorbing Repatriates from Sri Lanka an amount of Rs. 2.50 Crores is provided during the Seventh Plan period. Summing up the plan allocations in the various projects under large and medium Industries will be as follows ;

<i>Schemes/Projects.</i>			<i>Plan allocation for 1985-90.</i>		
			(RS. IN CRORES.)		
1. Investment in TIDCO			50.00	9. Sugar Industry and Corporation ..	7.10
2. Investment in SIPCOT			50.00	10. Co-operative Spinning Mills for backward areas, etc.	2.50
3. Investment in THIC			14.30	11. Tamil Nadu News Print Limited.	0.48
4. Electronic Corporation			10.00	12. Tamil Nadu Zari Limited ..	0.01
5. Investment in Tamil Nadu Salt Corporation			1.60	13. Salem Steel Plant	0.01
6. Leather Development Corporation.			2.00	14. Free Trade Zone	2.00
7. Assistance to TANSI			2.50		
8. Tamil Nadu Ceramic Limited ..			2.50	Total ..	145.00

TABLE 25.I.

TAMIL NADU INDUSTRIAL DEVELOPMENT CORPORATION LIMITED.

Details of projects expected to be taken up/completed during the period from 1985-86 to 1989-90.

Serial number and name of the Project.	Project cost.	TIDCO's commitment.	Direct employ-ment potential.	Expected Year of start of the project.	Expected year of comple-tion.	TIDCO's contribution during 1985-86 to 1989-90.					
						1985-86	1986-87	1987-88	1988-89	1989-90	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	RS. IN LAKHS.	RS. IN LAKHS.	(NO. OF PERSONS.)			(RUPEES IN LAKHS.)					
I. Public Sector :											
1. Tamil Nadu Industrial Explosives limited	2085.00	421.00	540	Already started.	1985-86	(-)-150.00	..	..	..	..	(-)-150.00
2. Tamil Nadu Chemical Products Limited—Magnesium Metal Project	520.00	195.18	110	Do.	1985-86	70.00	..	..	..	..	70.00
3. TANCEM—Ariyalur Cement Works—Installing Drier Crusher and Pre-calcination Equipments	826.00	235.00..	..	1985-86	1986-87	60.00	135.00	..	..	..	195.00
4. Tamil Nadu Steels Limited—Expansion	1,710.00	570.00	140	1985-86	1989-90	30.00	200.00	200.00	120.00	..	550.00
5. Detonators and Detonating Fuses Projects	1,600.00	295.00	400	1984-85	1985-86	120.58	..	..	..	..	120.58
6. Ammonium Nitrate and Nitric Acid Project	2,250.00	382.00	200	1984-85	1987-88	212.78	67.00	..	..	..	279.78
7. Sponge Iron Project	5,000.00	850.00	360	1986-87	1989-90	30.00	100.00	200.00	250.00	267.00	847.00
8. TANCEM—Ariyalur Cement Works—Expansion	4,500.00	1,500.00	1,000	1986-87	1989-90	200.00	200.00	300.00	300.00	500.00	1,500.00
9. TANCEM—Palayam Cement Plant	5,000.00	1,666.00	1,000	1986-87	1990-91	50.00	200.00	300.00	300.00	450.00	1,300.00
10. Other New Projects .. ..	..	..	..	..	..	14.28	27.91	55.30	53.49	51.00	201.98
11. Registered Office—Addition to Fixed Assets .. .. .	..	..	..	..	..	2.00	2.00	2.00	2.00	2.00	10.00
	<u>23,491.00</u>	<u>6,114.18</u>	<u>3,750</u>	..	..	<u>639.64</u>	<u>931.91</u>	<u>1,057.30</u>	<u>1,025.49</u>	<u>1,270.00</u>	<u>4,924.34</u>

II. Joint Sector :

107D-4-36

1. Asica Tobacco Company Limited.	Production already commenced.					(— 9.00	..	..	..	..	(—)9.00
2. Southern Agrifurane Industries Limited	Do.					(—) 5.00	..	..	..	..	(—) 5.00
3. Automotive Castings Limited.	2,160.00	156.00	845	1985-86	1988-89	20.00	50.00	61.00	7.51	..	137.51
4. Tamil Nadu Petro Products Limited	10,800.00	936.00	300	1985-86	1987-88	25.52	..	..	..	..	25.52
5. Pentasia Limited	1,500.00	156.00	150	1985-86	1986-87	65.00	..	..	..	..	65.00
6. Wrist Watch Project	3,920.00	340.00	1,270	1985-86	1987-88	150.00	150.00	17.97	..	..	317.97
7. Goat Skin Project	160.00	10.00	150	1984-85	1985-86	0.86	..	..	..	..	0.86
8. Iso propoal Project	900.00	78.00	105	1985-86	1987-88	60.00	6.92	..	..	..	66.92
9. Polyols Project	972.00	85.00	65	1985-86	1987-88	60.00	14.82	..	..	..	74.82
10. Telephone Cables Project	1,200.00	120.00	270	1986-87	1988-89	30.00	50.00	34.73	..	..	114.73
11. Optical Instruments Project	150.00	10.00	300	1985-86	1986-87	5.00	3.35	..	..	..	8.35
12. Valve Castings and Forged Fittings Project	350.00	35.00	300	1985-86	1986-87	30.00	..	..	..	..	30.00
13. Connectors Project	300.00	23.00	200	1985-86	1986-87	12.99	..	..	..	..	12.99
14. Floppy Disc. Project	135.00	11.00	100	1985-86	1986-87	5.99	..	..	..	..	5.99
15. Edible Grade Rice Bran Oil Project	195.00	25.00	100	1985-86	1986-87	20.00	..	..	..	..	20.00
16. Toluene Di-Iso Cyonate Project.	3,400.00	295.00	255	1986-87	1989-90	25.00	50.00	100.00	118.00	..	293.00
17. Enriched Fructose Syrup Project.	620.00	51.00	1,200	1986-87	1988-89	5.00	20.00	20.00	4.00	..	49.00
18. Fluro Carbons Project	1,000.00	100.00	500	1986-87	1988-89	5.00	20.00	40.00	35.00	..	100.00
19. Other New Projects .. .. .	..	..	..	..	..	20.00	20.00	80.00	50.00	70.00	240.00
	<u>51,253.00</u>	<u>8,545.18</u>	<u>9,860</u>			<u>1,166.00</u>	<u>1,317.00</u>	<u>1,410.00</u>	<u>1,240.00</u>	<u>1,340.00</u>	<u>6,473.00</u>

TABLE 19.II.

SI PCOT

SCHEMES—SEVENTH FIVE-YEAR PLAN.

<i>Plan Schemes.</i>	<i>Seventh Five-Year Plan Projections (1985-90).</i>					<i>Total.</i>
	1985-86	1986-87	1987-88	1988-89	1989-90	
	(RUPEES IN LAKHS.)					
1. Share Capital Assistance for —						
(a) Term loan	435	400	400	400	400	2,035
(b) Developed Industrial Complexes	140	175	175	175	175	840
2. I.F.S.T. Loan	325	325	325	325	325	1,625
3. State Capital Subsidy	100	100	100	100	100	500
Total ..	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>1,000</u>	<u>5,000</u>

TABLE 19.III.

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

(RUPEES IN LAKHS.)

Serial number and name of the project.	Installed capacity p.m. (in M.T.)	Year of start.	Year of completion.	Total project cost.	1985-86 approved outlay	Proposed outlay during				Total proposed outlay during 1985-90.	Employment (number of persons).
						1986-87	1987-88	1988-89	1989-90		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I. Continuing Schemes :											
1. Mariyur Valinokkam Complex.	Salt 2,40,000	1975	Under develop- ment.	145.00	10.00	10.00	10.00	10.00	10.00	50.00	1,500 (S) 100(R)
2. Sardar Vedarathnam Salt Project.	1,20,000	1979	Do.	120.00	10.00	10.00	10.00	10.00	..	40.00	1,000(S) 100(R)
II. New Schemes :											
1. Establishment of Plant for indised Salt.	15,000 (per Plant)	1986	1987	25.00 (three plants)	..	10.00	10.00	..	..	20.00	30(R)
2. Marine Chemicals—											
(a) Bromine and Bromides ..	(C)	1987	1988	10.00	..	..	15.00	15.00	5.00	35.00	40(R)
(b) Soral Cement	3,000 tiles.	1988	1988	15.00	..	..	..	10.00	..	10.00	25(R)
(c) Potasium Schoenite	5(a)	1989	1989	10.00	..	..	..	..	5.00	5.00	25(R)
Total ..					20.00	30.00	45.00	45.00	20.00	160.00	
(a) Capacity per 8 hour shifts.		(b) Capacity per day.				(R) Regular.			(S) Seasonal.		

TABLE 25-IV.

SUGAR CORPORATION.

SEVENTH FIVE-YEAR PLAN PROJECTION (1985-90).

Serial number.	Name of the scheme.	Total Govern- ment invest- ment.	Financial requirements in annual phasing.				
			1985-86 (4)	1986-87 (5)	1987-88. (6)	1988-89. (7)	1989-90 (8)
			(Rs. IN LAKHS)				
1	Tamil Nadu Sugar Institute.	25	5	10	10	..	..
2	1250 TCD Sugar Plant (Mayiladuthurai).	207	207	..	..	..	..
3	1250 TCD Sugar Plant (Aranthangi).	260	260	..	..	..	..
4	Co-generation Plant (Dharmapuri district Co-operative Sugar Mills and Kallakurichi Co-operative Sugar Mills).	150	150	..	..	..	..
5	Mini Paper Plant ..	20	20	..	..	..	..
6	Distillery Unit (Amaravathi Co-operative Sugar Mills and Kallakurichi (Co-operative Sugar Mills).	25	25	..	..	..	..
7	Two Alcohol Plant (Peram- balur Sugar Mills and Salem Co-operative Sugar Mills).	23	23	..	..	..	..
	Total ..	710	690	10	10	..	..

TABLE 25—V.

TAMIL NADU SMALL INDUSTRIES CORPORATION LIMITED.

SEVENTH FIVE-YEAR PLAN SCHEMES.

<i>Serial number.</i>	<i>Name of the scheme.</i>	<i>Total cost of scheme.</i>	<i>Government assistance.</i>
(1)	(2)	(3)	(4)
		(RUPEES IN LAKHS)	
1	Modernisation of Tansi Tannery, Vinuamangalam	29.00	29.00
2	Modernisation of Calvanising Plant at Tansi Structural and Galvanising Works, Mettur Dam.	14.00	14.00
3	Installation Rotary furnace at Tansi Foundry and Heavy Machine Shop, Erode.	14.00	14.00
	Solar Energy Timber Seasoning Kiln	0.70	0.70
5	Unit head for special purpose machine at Tansi Machine Tools, Ranipet.	8.00	8.00
6	Manufacture of Pressure Vessel at Tansi Structural Works, Tiruchirappalli.	20.00	20.00
7	Manufacture of Dairy Equipments and Components	26.00	13.00
8	Modernisation and Expansion for Manufacture of 400 KV Transmission Tower.	66.00	30.00
9	Modernisation and Expansion for Manufacture of Power Transformers.	27.50	18.00
10	Manufacturer of Conveyor Systems	24.50	12.50
11	Import Substitution for oil well drilling equipment and components ..	59.50	30.50
12	Solar Energy equipment Manufacture	12.50	12.50
13	Mini Hand Made Paper Units Manufacture	10.50	5.25
14	Mini Weaving Plant Manufacture	10.50	5.25
15	Bitumen Storage Equipment Manufacture	26.00	11.00
16	Machine Tools Servicing repair Unit	26.00	11.30
17	Modernisation of Tool Room	30.00	15.00
		4,04.70	2,50.00

CHAPTER 26.

MINING AND METALLURGICAL INDUSTRIES.

26.0. The exploitation and development of Mineral resources in the State contributes to the overall Industrial Growth of the State. Tamil Nadu has ample scope for developing mineral based industries particularly those based on limesone, kankar, silica sands dolomite, graphite besides black and grey granites.

Review 1980-85 :

26.1. The Sixth Plan outlay for the sector was Rs. 185 lakhs. The expenditure incurred during the period was of the order of 468.38 lakhs. (253.18 per cent).

26.2. The production of black granite and Grey granite which was 2045 M³ and 1153 M³ during 1980-81 increased to 3587M³ and 3432 M³ respectively. Major minerals which was of the order of 19005 MT in 1980-81 rose upto 87674 MT during 1984-85.

26.3. During the Sixth Five-Year Plan the Department of Geology and Mining has been carrying out systematic and detailed mineral investigation in the State such as for limestone, Gold, clay, quartz and feldspar, silica sands, iron ores, semi-precious and gemstones, base-metals, etc., This has resulted in providing additional reserves of limestones for the 2 State-owned cement plants in addition to three other private plants as well. Several areas have also been identified for the setting up of mini cement plants. With the decentralisation of the branch in certain districts, the mineral administration work at the district level was expedited. The expansion of this helped to process the mining lease applications and send the recommendation to Government expeditiously and to take up immediate decision on policy matters relating to Mineral Administration.

26.4. A separate Directorate of Geology and Mining was formed with effect from 14th April, 1983. With the formation of the new Directorate, district offices were opened one in each district except at Madras. The main activities of the new directorate are (i) Mineral exploration and (ii) Mineral Administration work.

26.5. The following Mineral investigations have been done by the department of Geology and Mining during the Sixth Plan period.

(1) Investigation for Gold in Maharajagadai, Krishnagiri taluk, Dharmapuri district.

(2) Investigation for beneficiation studies and of the low grade iron ores in Thiruvannamalai, North Arcot district and Ninnamalai, Salem District and to study the feasibility of making Sponge iron at: Sponge Iron India Ltd., Panlancha, Andhra Pradesh.

(3) Investigation for Silica sands around Kariapattinam to Vedaranyam taluk, Thanjavur district.

(4) Investigation for clays in Erichi, Aranthangi Taluk, Pudukottai district.

(5) Investigation of Brine in Devipattinam-Kilakkarai area, Ramanathapuram district.

(6) Reassessment of the limestone reserves in the leaseholds of the Madras Cements in and around Thulukkappatti, Ramanathapuram district.

(7) Investigation for precious and semi-precious stones in Sevutturampatti village in Namakkal taluk of Salem District.

(8) Re appraisal of the copper lode and multi-metalsulphide deposit in Mamandur in South Arcot district.

(9) Investigations for precious and semi-precious stone as part of the scheme for development of gem industry in Tamil Nadu.

(10) Investigation for quartz and feldspar in parts of Feriyar district.

(11) Detailed Investigations for sulphide mineralisation near Sankari taluk, Salem district.

(12) Follow up investigations on landslide in Nilgiris district.

(13) Scheme for the investigation of mineral resources and environmental studies and development in Western Ghat region.

26.6 The role of Tamil Nadu Minerals Limited is to exploit and export ornamental stones such as black and coloured granites and handle industrial minerals such as limestone, quartz, feldspar, clays and silica sands within the country. Besides evaluation of the mineral potentialities, this Department of Geology and Mining has been extending necessary technical assistance from time to time to the State owned Corporations like Tamil Nadu Magnesite Limited, Tamil Nadu Ceramics Limited, Tamil Nadu Cement Corporation Limited, Tamil Nadu Newsprint Limited, Tamil Nadu Minerals Limited and Tamil Nadu Electricity Board.

26.7. A new Directorate of Geology and Mining was created in the final stage of Sixth Five-Year Plan (1983-84) with a view to give an impetus to mineral administration, a task hitherto handled by the respective District Collectors and also to chalk out and complete new assignments in the field of mineral exploration. The new Department is expected to streamline the mineral administration by assisting the District Collectors and provide additional revenue in mining sector by plugging loop-holes in the collection of royalty, seignorage fee, etc., besides helping the entrepreneurs in the acquisition of new mineral concessions. The task of setting up of offices in all the districts would be complete with the setting up of Regional Offices to co-ordinate the activities within their respective spheres.

26.8. It is proposed to take up intensive studies for the fuel minerals like lignite, for which there is large scope and for gold in the extension of the southern belt of Kolar Gold Fields which fall in the State, besides an over-all examination and interpretation of aerial photographs which will aid in understanding the structures of the shield area of the State. A systematic geophysical and geochemical evaluation of the hitherto uncovered areas is also proposed to be attempted.

Emphasis during Seventh Plan :

26.9. The focus during the Seventh Plan period would be Special studies in the fields of geology, which have been hitherto only scantily touched, such as geophysical and geochemical exploration, engineering geology studies, environmental studies, detailed petrographical studies, provision of detailed mineral map, etc., as well as rehabilitation of mineral areas and boosting revenue from Mining Sector substantially. An amount of Rs. 2.05 crores is provided for the Seventh Plan.

26.10. The following schemes are proposed to be taken up during the Seventh Plan period:

I. On-going Schemes :

(a) Expansion of State Geological Department.

26.11 Eight new district Offices set up during the end of Sixth Plan period involving an expenditure of 17.08 lakhs towards the salaries of staff, establishment charges, rent for the building, office contingencies, travelling allowance and other allowances, etc., is included in the "on-going schemes". An amount of Rs. 85.40 lakhs is provided for this during the Seventh Plan period.

II. New Schemes :

1. Strengthening of Geology and Mining.

26.12 Strengthening of the district offices, and creation of two Regional Offices, one at Madurai and another at Coimbatore to co-ordinate and inspect the work of the District Offices will be taken up during the Seventh Plan period. This is expected not only to increase the mineral revenue considerably but also intensify the geological investigation to evaluate and assess the mineral potentialities on modern methods. The main accent of the Scheme is prevention of clandestine mining and illicit transport of minerals thereby arresting the leakage of revenue on minerals. An outlay of Rs. 32.60 lakhs is provided for the plan period.

2. Setting up of Geochemical and Geophysical Wing :

26.13 The encouraging results obtained during the tenure of Geophysical and geochemical activities carried out during 1968-74 in parts of Salem, North Arcot, Dharmapuri and South Arcot districts under the aegis of the United Nations Development Programme has prompted to extend the integrated surveys to the entire State of Tamil Nadu using modern sophisticated equipment by acquiring additional tools and staff thereby overcoming the technological obsolescence accumulated over the last decade. The survey by its very nature helps unravelling the hidden mineral potentialities of the region. This programme will help to detect and locate sub-surface geological structure and deposits and an amount of Rs. 40.00 lakhs is provided for the scheme.

3. *Scheme for detailed exploration of lignite in parts of South Arcot Districts (freehold areas outside NLC Mines):*

26.14 Lignite has been found to occur over an extent of 470 Sq. Kms. mainly in South Arcot with a total reserve of about 3,000 Million tonnes. Out of which about 260 sq.kms. have been granted to Neyveli Lignite Corporation. The Exploration wing of Neyveli Lignite Corporation and the Coal Division of Geological Survey of India, are concentrating their activities within their lease-hold areas only. The Director of Geology and Mining has proposed to carry out exploration activities mainly in the freehold areas outside Neyveli Lignite Corporation mines in order to determine the thickness of lignite seams, overburden to lignite ratio, quality of lignite, and reserves over an extent of 110 sq. Kms. Rs. 28.00 lakhs is provided for the scheme during the Seventh Plan period.

4. *Investigation for gold mineralisation in Maharajagadai, Krishnagiri taluk, Dharmapuri district :*

26.15 The Southern extension of Kolar schist belt is found to continue in Tamil Nadu over a length of 7 Kms. in the Naralapalli (Reserved Forest) and Maharajagadai area of Krishnagiri taluk, Dharmapuri district. Encouraged by the gold mineralisation north of Tamil Nadu border and in the adjoining A. P. Region both the Geological Survey of India and the Directorate of Geology and Mining, Tamil Nadu have taken up a collaborative Scheme to explore the potentialities of gold mineralisation in well defined but separate blocks as agreed upon. Detailed mapping, Geophysical prospecting and drilling are envisaged during the plan period. An amount of Rs. 18.00 lakhs is provided during 1985-90.

5. *Purchase of aerial photos for continuing modern methods of Mineral Survey in Tamil Nadu :*

26.16 The utility of aerial photographs in the field of geology, Regional soil sampling, forestry, landuse studies and civil engineering need not be over-emphasised. The acquisition of 2 sets at periodical intervals to determine the kinds of land use and their changes, with degradation of land is an essential accompaniment for any modern method of survey. This will also help in delineating the structural and lithological formation of the area surveyed and quicken the phase of mineral survey especially in hilly and inaccessible areas and an amount of Rs. 1.00 lakh is provided for the Seventh Plan.

26.17 Tamil Nadu Minerals was formed in April, 1978 by the Government of Tamil Nadu with an authorised capital of Rs. 100.00 lakhs for commercial exploitation of some of the important Minerals. Now it has been increased to Rs. 300 lakhs by Government to enable it to cope up with the increased number of quarries and mines taken up for exploitation and also for the setting up of new progress. The paid up share capital has also increased from Rs. 37.50 lakhs in 1980 to 197.50 lakhs in 1985. The Company's employment increased from 845 persons during 1979-80 to nearly 2,500 persons during 1984-85. The Sixth Five-Year Plan outlay for Tamil Nadu Minerals was Rs. 110.00 lakhs and during the plan period the expenditure incurred was Rs. 170.00 lakhs (154.54 per cent).

Cutting and Polishing Unit :

26.18 With a view to fully exploit the international market for polished granite slabs and availability of granite in abundance in Tamil Nadu, TAMIN has programmed to set up a modern sophisticated 100 per cent export oriented Granite Cutting and Polishing Unit at Manali near Madras at an estimated cost of Rs. 385.00 lakhs with imported machinery. This project will enable TAMIN to directly export the finished granite products to the end users with a highest margin of profit.

26.19 Government have approved the scheme at a cost of Rs.385.00 lakhs and allotted land at Manali Village near Madras for construction of building for the unit. Machineries required for the unit have been imported from West Germany. It is expected that the plant will commence production during 1985-86 and will have a capacity to produce 50,000 M² of slabs and 10,000 M² of monuments of international specification and standards.

Sivaganga Graphite Scheme :

26.20 Graphite ore, comparable to the world's best quality of Madagascar is available in Sivaganga, Pasumpon Muthuramalingam District. It is proposed to set up a beneficiation and crucible manufacturing plant at Sivaganga utilising this graphite ore. The total land required for the project is 1,104 acres comprising of 600 acres of poramboke land and 504 acres of patta land. The Government have given permission to mine ore in poramboke land.

26.21 The beneficiated graphite has excellent export and inland market. The scheme will start functioning by the end of 1986-87. The capacity of the plant will be 100 tonnes of ore per day producing 14 tonnes of beneficiated graphite. The Government have sanctioned a share capital assistance of Rs. 45 lakhs.

26.22 TAMIN plays an important role in earning foreign exchange since its inception and its export of granites has earned foreign exchange of Rs. 333 lakhs.

26.23 The production and sales particulars of TAMIN during the Sixth plan period is shown below :—

	1980-85	
	Production.	Sales.
1. Black Granite (cu.m.) ..	11,408	9,835
2. Grey Granite (cu.m.) ..	10,012	82,99
3. Major Minerals (MT) ...	189,853	147,876

26.24. During the Seventh Five-Year Plan (1985-90) in addition to the ongoing programme TAMIN will launch new initiation in the following fields :—

(i) Setting up of Carbon Bonded Crucibles.

(ii) Expansion of Granite Cutting and Polishing Unit at Krishnagiri.

(iii) Expansion of Vermiculite Exfoliation Plant at Ambattur.

(iv) Setting up of Crushing Unit for Quartz and Feldspar at Karur.

(v) Setting up of Limekiln for manufacture of quick and Hydrated lime at Ariyalur and

(vi) Establishment of Research Development Wing at Central Office.

26.25. The total outlay for these schemes will be in the order of Rs. 800.00 lakhs, and the Government has provided Rs. 140.00 lakhs during the Seventh Plan.

26.26. The schemes are discussed below briefly:—

(i) Ongoing Schemes :

26.27. Every year, the Corporation is taking up new quarries for operation involving heavy capital and investment expenditure. Funds will be utilised for purchase of Cranes, Compressors, etc. The cost of this scheme is Rs. 30.00 lakhs.

(ii) Carbon Bonded Crucible Plant :

26.28. Tamil Nadu Minerals Limited proposed to set up a Carbon Bonded Crucible Plant using the beneficiated graphite of Sivaganga. The proposed capacity will be about 1,000 tonnes per annum. The technology for the manufacture of Carbon Bonded Crucible will be procured from U.S.A., West Germany or United Kingdom which countries possess the most advanced technology in this field. The scheme is expected to cost about Rs. 470.00 lakhs. Government would be required to issue Rs. 50.00 lakhs during 1985-90.

(iii) Cutting and Polishing Unit at Krishnagiri :

26.29. TAMIN is setting up a Granite Cutting and Polishing Unit at Manali as a 100 per cent Export Oriented Unit. There is a tremendous internal demand at present for the Cut and Polished Wall Panels, Window Sills, Floor Tiles, etc. In order to cater to the local demands TAMIN intends expanding the existing polishing unit at Krishnagiri. Installation of a block sawing machine, automatic grinding and polishing machines and edge cutting machines are programmed. The total cost of the project including the material handling equipment, Civil works, etc., will be about Rs. 60.00 lakhs.

(iv) Vermiculite Exfoliation Plant :

26.30. Vermiculite is versatile mineral which has wide and various application as insulation material, soil conditioner and sound proof material. The existing Vermiculite Exfoliation Plant has a capacity of 2 tonnes per day which is far below the industrial demand. TAMIN has a proposal to expand the existing unit to increase the production to 12 tonnes per day. The kiln design for the envisaged production will be added to the Unit. The total investment for this expansion will be about Rs. 30.00 lakhs.

(v) Crushing Unit for Quartz and Feldspar :

26.31. Many Industries use crushed and powdered Quartz and Feldspar for manufacture of electrical insulators. In view of the expansion in the power projects, there is a plenty of scope for large consumption of powdered Quartz and Feldspar in India. Even some of the electrical insulator companies want to have increased supply of Quartz and Feldspar powders. At present TAMIN is supplying lumps of Quartz and Feldspar to Industries in order to meet the increased demand for the Quartz and Feldspar powders.

TAMIN has a proposal to set up a crushing unit with a capacity of 200 tonnes per month. The cost of the project will be about Rs. 50.00 lakhs.

(vi) Hydrated and Quick Lime Plant :

26.32. TAMIN is to embark upon a prestigious programme to utilise high grade limestone deposits occurring in all over Tamil Nadu. The Limestone is of high purity in nature which can be profitable if we produce quick and hydrated Lime besides calcium carbides. To start with, TAMIN will put up a kiln for manufacture of 100 MT. quick lime and hydrated lime per day at an estimated cost of Rs. 60.00 lakhs.

(vii) White Cement Plant :

26.33. Tamil Nadu is endowed with large reserves of limeshell along the coastal limes. At present the deposit is mostly illicitly mined without any scientific background. Since this being a rare deposit, a planned development of mining is of paramount importance. The limeshell can be utilised for the manufacture of White Cement. Since TAMIN has got a mining lease over an extent of 1,330.00 acres in Ramanathapuram District and it is likely to get mining lease for 6,000 acres shortly which will enable us to feed a White Cement plant 50 M.T. per day to start with. At present there is no white cement plant in Tamil Nadu. The cost of project will be around Rs. 70.00 lakhs.

(viii) Research and Development Wing :

26.34. Realising the need and necessity of Research and Development which has a vital function of activity for multi-various mineral based industries proposed to be launched by TAMIN, a centre for Research and Development will be set up. The proposed centre will consist of laboratories to take studies on beneficiation of various Ores and Minerals, Petrological studies of rocks for quality assurance of finished granites and chemical analysis of various minerals exploited by TAMIN. The cost of this project is estimated at Rs. 30.00 lakhs including cost of machinery, Laboratory equipments, Sophisticated microscopes, Quality Control tools, Glass Wares, Civil Works and personnel.

26.35. Tamil Nadu Magnesite Limited was formed in 1979 with an authorised share capital of Rs. 200 lakhs to operate the magnesite mines over an extent of 578.92 acres in The thi yangarpatti

Village, Omalur Taluk, Salem District formerly held by Messrs. Salem Magnesites Limited. The main object is to process new Magnesite and to sell the intermediary products, namely calcined magnesite and dead burnt magnesite, which are used as raw materials for the manufacture of refractories, fertilisers, chemicals, etc. It provides employment to 2,400 persons.

26.36. The Physical performance of TANMAG during the Sixth Plan is shown below :

	1980-81			
Raw Magnesite Production (M.T.)..	114000			
Raw Magnesite Sales (M.T.) ..	120000			
	1981-82	1982-83	1983-84	1984-85
	1,33,000	1,19,000	117856	109845
	1,28,000	1,10,000	107818	102474

26.37. The chalk hills in Salem District having large deposit of magnesite is being operated by both Public Sector and Private Sector Companies. The mining area presently operated by Messrs. Tamil Nadu Magnesite Limited (TANMAG) was earlier leased out to a Private Company for about four decades and on the expiry of the lease by the end of 1978, the Government took a decision to reserve the mine for State Exploitation. During January, 1979 TANMAG (a wholly owned Government of Tamil Nadu undertaking) was incorporated for the purposes of operating the magnesite mine, so reserved for state exploitation. When the mine was handed over to TANMAG for operation, the mine was declared as dangerous by the Director-General of Mines Safety, Dhanbad due to un-systematic and erratic operation of the mines by the erstwhile losses. Hence, TANMAG was forced to handle a very huge quantity of reject material to bring the mines to the required minimum safety level. With great difficulty the rectification work was completed in a record time and the mine has been declared as safe during the year 1983 itself. Subsequently, the mine has won many safety awards from the Mines Safety Directorate. From the very inception of the company TANMAG is operating profitably.

26.38. The company has invested Rs. 6.50 lakhs in its subsidiary company Messrs. Tamil Nadu Magnesite Products Limited which was in Joint Sector till 1982. The Subsidiary Company became a fully owned subsidiary of Messrs. Tamil Nadu Magnesite Limited with effect from 8th February 1982 on termination of the Joint Sector

agreement with Messrs. Salem Magnesite (P) Limited. The subsidiary company is manufacturing two intermediary products namely Dead Burnt Magnesite and Calcined Magnesite. While DBM is used as raw material for the manufacture of Refractory Bricks, Ramming Mass and Fettling Materials, Calcined Magnesite is used as raw material for Magnesium Sulphate, Emerystone, Rayon pulp and animal feed manufacturing.

26.39 The Rotary Kiln Project is being implemented as per the schedule. The Magnesite Products consumers have become very choosy and want only very high grade material to go with the changed technology of steel making. So efforts are taken to improve the quality of the ore as it contains about 27 per cent to 28 per cent Mg. Co-(Magnesite). By the present method of mining the ore all the mine owners are able to get only 6 per cent to 8 per cent of the above magnesite from the mined ore. Balance Magnesite, i.e., about 70 per cent of the available magnesite, is being thrown away as reject by all the mine owners. This practice is going on for the past few decades. To salvage a major portion of this waste, magnesite, Tamil Nadu Magnesite Ltd., is implementing a Beneficiation Project and entered into a Technical

Collaboration Agreement with Messrs. Sulzer Brothers Limited, Winterthur, Switzerland to supply of technical know-how for the production of high quality, Sinter Magnesite with MGO about 99 per cent. For this project Messrs. M. N. Dastur & Co., (P) Ltd. Calcutta have already submitted their interim note. As per the interim note the total cost of the project is about Rs. 58.00 crores.

26.40 Using the High Quality Sinter Magnesite and High Grade Dead Burnt Magnesite from our Rotary Kiln, it has been planned to manufacture the value added finished product which our country is importing at present. The foreign Investment Bureau has already approved the proposal for the transfer of technology from Messrs. Refractories Consultants and Engineering Austria. It is planned to Commission this part of the Project during 1988.

26.41 Summing up the total outlay for 1985-90 in respect of "Mining and Metallurgy" would be Rs. 10.00 crores comprising of Rs. 2.05 crores for geology and Mining, Rs. 1.40 crores for Tamil Nadu Minerals and Rs. 6.55 crores for Tamil Nadu Magnesite Ltd.

GEOLOGY AND MINING

TABLE 26-I

SCHEMES PROPOSED DURING VII FIVE-YEAR PLAN (1985-90)

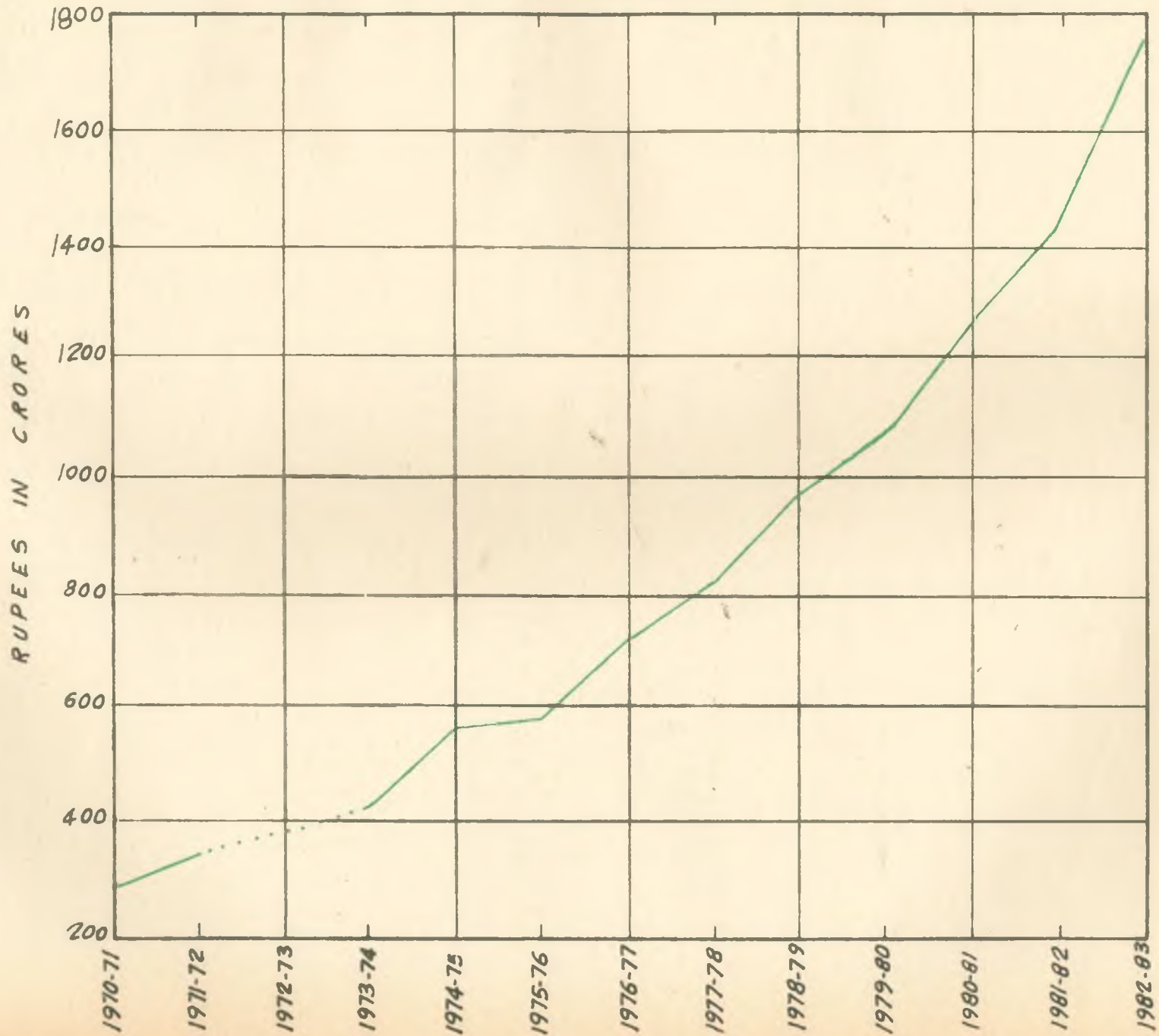
	<i>VII Plan outlay 1985-1990</i>
	(RUPEES IN LAKHS.)
<i>On Going Schemes:</i>	
1. Expansion of State Geological Department (Regional Mining Cells)	85.40
<i>New Schemes:</i>	
1. Strengthening of Geology and Mining Wing	32.60
2. Detailed exploration for lignite in parts of South Arcot District (freehold areas)	28.00
3. Setting up of geophysical and geochemical wings	40.00
4. Detailed exploration for gold in Krishnagiri taluk, Dharmapuri District	18.00
5. Purchase of aerial photographs for continuing the modern methods of mineral survey in Tamil Nadu.	1.00
	205.00

TABLE 26-11.

**PROJECTS PROPOSED BY TAMIL NADU MINERALS LIMITED
DURING 1985-90 (TAMIN).**

Serial number and name of the scheme.	Total cost of the schemes.	Govt. investment in VII Plan.	Employment Generation			
			Technical.	Skilled.	Unskilled	Indirect.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RS. IN LAKHS.)		(NUMBER OF PERSONS.)			
1. Ongoing Schemes	30.00	30.00	..	5	40	20
2. Carbon Bonded crucible Scheme, Sivaganga.	470.00	50.00	30	60	100	100
3. Expansion of Granite Polishing Unit, Krishnagiri.	60.00	10.00	3	6	12	10
4. Expansion of Vermiculite Exfoliation Plant, Ambattur.	30.00	5.00	1	3	19	5
5. Crushing Unit for Quartz and Feldspar, Karur.	50.00	10.00	2	8	10	10
6. Quick lime and Hydrated Lime Plant	60.00	10.00	5	10	50	50
7. White Cement Plant	70.00	15.00	5	10	50	50
8. Research and Development ..	30.00	10.00	3	5	2	..
Total ..	800.00	140.00	49	107	274	245

VALUE ADDED BY MANUFACTURE (ALL INDUSTRIES)



Part B

SECTORAL PLANS

V Transport

CHAPTER 27.

PORTS, LIGHTHOUSES AND SHIPPING.

27.0. Now-a-days, the minor ports in the country are attracting more trades due to their cheap working, quick turnover and also at the time of congestion and strikes at the Major Ports. Further minor ports in the present day have their own limitation as they cannot deploy mechanisation to a greater extent in the working to compete with Major Ports in the rate of loading and unloading. They have potential for the development for the Export and Import of Specific items which can be economically handled avoiding bottle-necks in the transportation. Mostly as all Minor Ports of this State are in rural areas, any employment potential that could be derived from the Development of these Minor Ports will only help the rural population and any opportunity that may be generated at these ports will help persons below poverty line, mainly backward communities such as fishermen and other scheduled caste people to uplift their economic conditions.

Review of Sixth Plan (1980-85) :

27.1. Tamil Nadu with its uninterrupted vast coastal line of 1,000 kilometres has two major Ports, two Intermediate Ports and five Minor Ports. The Intermediate Ports of Cuddalore and Nagapattinam and Minor Ports of Pamban, Kilkarai, Rameswaram, Colachel and Kanyakumari are administered by Tamil Nadu Port Department. In addition to these, Valinokkam situated in Ramanathapuram district has been recently declared as a Minor Port for the export of Salt and the Development works of this port are under progress.

27.2. Rameswaram and Nagapattinam Ports have passenger traffic in addition to cargo traffic. The port of Kanyakumari is mainly intended to supervise and control the passenger traffic between them and land and Vivekananda Rock Memorial.

27.3. In the Sixth Five-Year Plan, a sum of Rs. 137.30 lakhs have been spent for the Development of Ports against an approved outlay of Rs. 400.00 lakhs. The expenditure incurred was only 34.32 per cent of the outlay as the major work relating to construction of a pier at Rameswaram Port could not be taken up.

27.4. In the Sixth Five Year Plan period, the works viz. Developing Valinokkam as a Minor Port and construction of R.C.C. Jetty at Colachel

have been included, besides improving infrastructural facilities at Cuddalore, Nagapattinam and Rameswaram.

27.5. No Central assistance was received during Fifth and Sixth Five-Year Plan periods for any development in the Port sector. All the development works undertaken were executed under State Plan.

Approaches to the VII Plan :

27.6. All the ports have to be developed further to hope-with the increasing need of the present trade. In view of this, schemes which are essentially required to improve the facilities at all the ports administered by Tamil Nadu Port Department are included in the Seventh Five-Year Plan Project. In this plan, provision have also been included to maintain the structure and other installations created in the previous plan and during these plan periods.

Proposals for 1985-90 :

27.7. During Seventh Plan period (1985-90) an amount of Rs. 3,00.00 lakhs has been provided for the implementation of various new schemes and for completing the spillover schemes.

27.8. The details of new schemes provided and the spillover schemes are described below :—

A. On going Scheme.—Provision of Rs. 1,64.76 lakhs is made during 1985-90 for the completion of the spillover works, i.e., development of Colachel and Valinokkam as minor Ports. Construction of Wharf on the western bank of Oppanar, construction of quarters for Port Staff at Cuddalore, forming rubble mount break water under-neath the R.C.C. pier at Nagapattinam and Cuddalore, etc.

B. New Schemes.—New Schemes at seven minor ports to the extent of Rs. 135.24 lakhs are proposed in the Plan 1985-90 :

(i) Cuddalore Port :

27.9. Cuddalore Port has vast scope for development. The main bottle necks in this port are that the existing wharves have only limited space with no storage facility. And also there is no good road for the vehicles to move easily and quickly. At Cuddalore Port, the main difficulty

is the sandbar problem. It is also felt that Cuddalore Port can be used in a better way to have optimum utilisation and a thorough study is to be undertaken.

27.10. The enhanced emphasis in developing Cuddalore Port makes excellent economic sense. Its hinterland includes iron ore from Salem district and lignite from Neyveli. This port is also having railway siding and also connected with Southern Trunk Road. Appointment of consultants for developing Cuddalore Port is also under consideration. The traffic demand would rise from 3,95,000 tonnes in 1985-86 to 7,20,000 tonnes in 1989-90.

27.11. Proposals have been made in the VII Plan for repairing the island jetty procuring spare parts for dredgers for forming of internal roads for quick movement of Cargo from the landing place, construction of a new lighthouse with searching light, etc. Particular focus is also given for maintaining structures created during previous Plans.

(ii) *Nagapattinam Port :*

27.12. Nagapattinam is another important intermediate Port where in addition to passenger traffic to the Ports in the straits, lot of food grains and fertilizers are being imported and general cargo like Onion, Chillies, etc., are exported regularly. About 6,000 passengers disembark and embark from this Port every year. Its hinterland consists of Thanjavur, Tiruchirappalli, Salem, Coimbatore, Madurai and Ramanathapuram districts. During VI Plan stacking area in wharf has been concreted for easy handling of cargo. Particular focus is given in VII Plan for repairs to mobile sand pump and purchase of dredger pump, concreting the stacking area, renovation of RCC Jetty and also for dredging the channel of back water.

(iii) *Colachel port :*

27.13. Colachel is a natural port which is the only Port in the West coast of this State protected on all sides by a chain of rocks and the Muttom point so much so the Port appears like a Bag. This Port has deep water closely, but has no jetty at present. Open beach extending to about 274 m. is used for loading cargo of ilmenite sand. Based on Techno-Economic Survey Report, it is proposed to develop this Port at a cost of Rs. 245.00 lakhs. In the VI Plan, construction of a RCC Jetty, technical survey and design of an open jetty are under progress. Messrs. Indian Rare Earths Limited, the only user of this port at the moment to export their ilmenite sand to various countries have represented the importance of providing basic

facilities such as construction of a jetty, provision of good road and storage facility and have also come forward to share the cost on 50 : 50 basis. Nearly 40,000 tonnes of cargo have been routed through Tuticorin Port annually involving huge expenditure to avoid contamination by saline water. Once a jetty is constructed, Messrs. Indian Rare Earths Limited shall utilise this Port to export all their products.

(iv) *Rameswaram Port :*

27.14. Rameswaram is one of the largest passenger handling port in the country. So far, the traffic is handled with semi-permanent structures constructed in 1971 to receive repatriates from Sri Lanka. The ship anchors at a distance of 0.75 kilometres and the passengers and their luggages are being taken by wooden barges and they are landing with the aid of small wooden jetty. By this method, the passengers are put into hardship and risk.

27.15. Hence for safe traffic of the passengers Government sanctioned the construction of one R.C.C. Jetty for berthing ships. After the construction of jetty is over, it is necessary to provide other infrastructures. Hence in the Seventh Five-Year Plan Schemes, it is proposed to provide lighting arrangements, laying a pipeline, etc.

(v) *Pamban Port :*

27.16. The Pamban channel connecting Palk Strait and Gulf of Mannar is the only water way for the shallow drafted vessels. This channel is mostly used by all the sailing vessels, Naval vessels (both Indian and Sri Lanka), dredgers belonging to dredging Corporation of India and small cargo ships. The channel between elbow buoy and south fairway buoy measuring of about 1,000 Mts. runs along a sand bank which is subjected to siltation. Eventhough sufficient depths are available from the north fairway buoy up to the elbow buoy, manoeuvring of vessels between elbow buoy and south fairway buoy is very difficult because of siltation. The present depth available in this area is about 6 feet at low water. This area was last dredged during the year 1959 by hiring the dredger 'Tuticorin' from Tuticorin Port Trust which was then under the control of the Tamil Nadu Government. Subsequently a part of the channel was dredged in 1978 again utilising the dredger 'Tuticorin'. Since then no further dredging has been carried out and the depth available in the sand bank channel is deteriorating gradually.

27.17. Recently the Tuticorin Sailing Vessels Owners' Association have represented that they have cargo offerings from Tuticorin to ports in north Sri Lanka and have requested for dredging of this channel to enable the sailing vessels to pass through. They have informed that a minimum quantity of 30,000 tonnes of gypsum and 20,000 tonnes of cement would pass through the channel to the Ports of Sri Lanka earning considerable amount of Foreign Exchange. This will also benefit about 3,000 families engaged in the sailing vessels industry at Tuticorin. Recently the Shipping Corporation of India also enquired whether their vessel T.S.S. 'Ramanujam' can pass through the channel on its way to Bombay from Rameswaram. Dredging of this channel will definitely improve the trade from Tuticorin, the shallow drafted vessels to go from east coast to west coast, without going around Sri Lanka. In this connection, it is also to be mentioned that the road bridge which is being constructed across the Pamban Channel provides for free navigation of vessels and sufficient clearance under the bridge has been provided. The channel is also being used by a number of fishing vessels and at the moment deep drafted fishing trawlers are not able to utilise this channel due to less depth available

27.18. Considering all the above facts and in view of the improvements of the water way both commercially and strategically, it is proposed to dredge the channel to a depth of 12 feet. Construction of R.C.C. Jetty, Construction of Foreshore boundary wall, etc., are also proposed, during the Seventh Plan.

(vi) *Ennore Port :*

27.19. It is proposed to develop Ennore as a roadstead Minor Port in the Seventh Plan. Ennore is situated 16 Km. north of Madras. Ennore has developed into a vast industrial area and large number of factories have come up. In order to improve the supply of coal to the thermal power station at Ennore and also to reduce the cost of transport it is proposed to develop Ennore as a Minor Port which will play a good role in transportation of coal to the existing and future Thermal Power Station and will also solve their coolant water problem once for all.

27.20. It is anticipated that 1 Million tonnes of Cargo are likely to generate in this area within another 10 years. When the Port is fully developed, in the initial stages, this Port may be expected to handle at least 2,000 to 3,000 tonnes per day and gradually this can be improved up to 4,000 tonnes a day.

27.21. It is also proposed to develop Valinokkam as a minor Port, and an amount of Rs. 11500 lakhs is provided for the same. It is proposed to provide rough stone boulders on either side of Kilakkarai Port up to 50 metres to arrest sea erosion and an amount of Rs. 2.00 lakhs is provided for this in the Seventh Plan.

Shipping :

27.22. Tamil Nadu has a long coast line on the Eastern side of the Indian Peninsula with two major ports Madras and Tuticorin, two intermediate ports - Cuddalore and Nagapattinam and a number of minor ports like Rameswaram, Kilakkarai, Colachel and Kanniyakumari etc. This state having good maritime tradition had large scope of coastal movement of cargo. However with the rapid development of road traffic in the last few decades, the traffic on coastal water declined. However, with the advent of massive Thermal Power Stations, need for regular large scale movement of bulk coal has arisen in the course of the last one decade. Realising the impossibility of organising rail/ road movement of coal for power generation, the Government of Tamil Nadu established Poompuhar Shipping Corporation Limited in the State Sector in 1974. The operations of the Corporation were commenced with two small bulk carriers and these vessels had to be disposed of by 1980 as they had become too old to be operated economically.

27.23. The Corporation has made steady progress since the inception. Against a cargo volume of just 1.50 lakhs tonnes in 1974-75, the quantity carried in 1983-84 was 15.82 lakhs tonnes and the estimate for the year 1984-85 is 17.50 lakhs tonnes. Incidentally PSC is the largest carrier of coal in India at present. The feasibility of operating a regular passenger ferry service between Kanniyakumari and Rameswaram and the Hydrofoil service between Madras and Nagapattinam/Rameswaram is also being explored.

27.24. Within the next five years PSC will have to operate a bunch of bulk carriers specially designed to operate in limited drafts met with the port servicing the bulk coal movement and equipped with specialised gear for a massive rapid discharge of coal to cater to the needs of Thermal Power Stations in the most efficient and economic manner.

27.25. The main object of the programme in the Shipping Sector is to build up a compact, homogeneous fleet of modern geared bulk carriers to move the entire coal requirements of the Thermal Power Sector locations at Tuticorin with some margin to cater to the needs of other shore based Thermal Power Stations. The shipping facility will be able to carry upto 20 lakhs tonnes of coal in a year. The speciality of the plan is to obtain specially designed modern fuel efficient vessels capable of operating in limited draft usually with the coal loading and discharge Ports and of ensuring self discharge of Coal by means of large size grabs and heavy duty cranes. A fleet of 3 ships is contemplated and assuming 85 per cent of the cost of the ships will be met out of yard credits, the outlay assumptions are made. Including the 10 per cent cost of one vessel for which order was confirmed in VI Plan period. The total outlay is estimated at Rs. 635 lakhs for the plan period.

27.26. For restoring the state minor ports to provide access to coastal vessels carrying fertilisers and foodgrains, a sustained effort is needed for dredging. Additional funds to the tune of Rs.65 lakhs would be needed to purchase two dredgers.

27.27. The scheme for building up a fleet of bulk carriers as formulated on the strength of what can be termed as captive cargo and the cargo volume is not subject to any vagaries or fluctuations as coal mining and power generation are not subject to the influence of any business cycles. For the success of a shipping venture, the cargo availability forms the background of its success and as this vital factor is assured, the commercial success of the venture is very much ensured.

27.28. Summing up, the total outlay for the Seventh Plan is Rs. 1,000.00 lakhs of which Rs. 300.00 lakhs is for Minor Ports and Rs. 700.00 lakhs is for Shipping. The Programme wise outlay is shown in Table 28.I and 28.II.

TABLE—27.1
SEVENTH FIVE YEAR PLAN 1985—90.
MINOR PORTS—OUTLAYS AND EXPENDITURE.

Serial number and Portwise details.	VII Plan					
	1985—1990 Outlay.	1985—86	1986—87	1987—88	1988—89	1989—90
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS).						
<i>Spillover Schemes :</i>						
1 Rameswaram Port	6.68	..	6.68	..	..	..
2 Nagapattinam Port	17.50	17.50	..	..	..	..
3 Cuddalore Port	60.58	20.93	35.04	4.61	..	..
4 Valinokkam Port	10.00	10.00	..	..	..	..
5 Colachel Port	70.00	17.00	44.20	8.00	..	..
Total ..	164.76	66.23	85.92	12.61	..	..
<i>New Schemes :</i>						
1 Rameswaram Port	12.87	9.87	..	1.00	1.00	1.00
2 Nagapattinam Port	49.48	28.71	17.77	1.00	1.00	1.00
3 Cuddalore Port	57.12	13.87	38.25	1.50	1.50	2.00
4 Pamban Port	8.76	8.75	0.01	..	..	..
5 Valinokkam Port	5.00	2.00	3.00	..	..	..
6 Kilakarai Port	2.00	2.00	..	..	..	..
7 Ennore Port	0.01	..	..	..	0.01	..
Total ..	135.24	65.20	59.03	3.50	3.51	4.00
Spillover and New Schemes ..	300.00	131.43	145.95	16.11	3.51	4.00

TABLE 27.2.

SEVENTH FIVE-YEAR PLAN 1985-90 SHIPPING
—OUTLAYS.*Serial number and programme.*

	(RUPEES IN LAKHS)
1 Acquisition of tonnage construction of Bulk Carriers of 40,000 DWT for carrying coal from Haldia to Tutu- corin.	635
2 Establishment of organised passenger traffic in the Buckingham Canal North Madras Section.	65
Total ..	700

CHAPTER 28.

ROADS AND BRIDGES.

28.0. Roads play an important role in the development of Industries, Agriculture, Trade and Commerce. The diversification of Industries and general economic development depend upon an adequate road system. Rural Roads Play a vital role in dispersing industries to backward area, providing productive employment creating link between industries and agriculture and for growing closer ties between producers and consumers in rural and urban areas. Rural roads help to modernise the outlook of Rural population by exploding them to modern group of life.

28.1. In terms of traffic, the share of roads in total traffic movement in both passengers and goods is increasing much faster than that of the railways thereby underlying the need and urgency of providing more and better roads to cater to the needs of the Country.

28.2. Many people live in the rural areas where roads are the only means of communications. Similarly in backward, tribal and inaccessible areas the development of road system is of utmost importance for their integration with the National main stream of life.

28.3. Rural roads (M.N.P.) need greater attention to sustain the green revolution and enable farmers to bring their produce to the demand centres to get a better price. Roads are required to feed villages with fertilizers, hybrid seeds, finished goods etc., and to take out marketable surplus quickly to the urban areas.

28.4. Financial Performance :

The financial performance of the State Sector Schemes are as given below :

<i>Serial number and programme.</i>	<i>VI Plan Outlay during 1980-85.</i>	<i>Expenditure incurred during 1980-85.</i>	<i>Percentage of expenditure to VI Plan Outlay.</i>
(1)	(2)	(3)	(4)
(RUPEES IN CRORE)			
<i>I. Rural Roads—</i>			
1 Rural Roads.	40.00	44.55	111.37

<i>Serial number and programme</i>	<i>VI Plan Outlay during 1980-85</i>	<i>Expenditure incurred during 1980-85</i>	<i>Percentage of expenditure to VI Plan Outlay</i>
(1)	(2)	(3)	(4)
2 Other Schemes serving rural areas.	35.70	23.76	66.55
II. State Roads (Other than rural roads Item I above).	43.30	40.51	93.56
III. Others not covered under items I and II above.	20.00	34.15	170.75
Total ..	139.00	142.97*	102.86

* Flow from Tamil Nadu Rural Roads Development Funds is Rs. 14.22 crores for the year 1981-82 and 1982-83. Therefore net expenditure on Roads and Bridges during VI Plan Period is Rs. 128.75 crores. This works out to 92.63 percent.

28.5 A provision of Rs. 139.00 crores had been proposed for Road Development Programme under State Sector Scheme in the VI Five-Year Plan 1980-85. The expenditure incurred during the VI Plan is Rs. 142.97 crores, which has exceeded Plan outlay

28.6. The VI Plan was formulated with the following main consideration in view :

1. Spill over works were given top priority for earliest completion.
2. Missing links and missing bridges were accorded priority.
3. Regarding Rural Roads Scheme, Government of India expects that 100 percent habitations in population group 1,500 and above and 50 per cent habitation in the population group 1,000 to 1,500 shall be linked with all weather roads by the end of VII Plan i.e., by 1990. With this in mind, the targets were phased yearwise since 1980 and are being kept up.
4. Works to serve the Tribal people was taken up and executed under Tribal area Sub-Plan.

28.7. The total road length including National Highways in the State which was 32,807 Kms. in 1950-51 (i.e.) at the beginning of first Plan had increased to 81,617 Kms. by the end of IV Plan (i.e.) by 1973-74 and 1,34,613 Kms. by the end of VI Plan (i.e.) by 1984-85. The increase has been four-fold.

28.8. The achievements in Road formation during the Sixth Plan are given in the following table:—

Classification of Roads.	LENGTH IN KMS.	
	1980	1985
(1)	(2)	(3)
1 National Highways ..	1,865	1,884
2, State Highways ..	1,814	1,852
3. Major District Roads ..	14,028	14,031
4. Other District Roads ..	17,714	21,238
5. Sugar Cane Road Development Roads.	..	926
6. Panchayat and Panchayat Union Roads.	68,964	94,682
Total ..	1,04,385	1,34,613

28.9 Broad Thrust during the Seventh Plan :

An Outlay of Rs. 130.00 Crores is proposed for the State Sector Schemes under "Roads and Bridges" for the Seventh Plan. A major chunk i.e. Rs. 60 Crores goes to the Rural Roads Scheme which is one of the Minimum Needs Programme for the Rural Area. It will be ensured that all habitations with a population exceeding 1,500 and 50 per cent of the habitations in population group 1,000—1,500 are connected by all Weather Roads by the end of the Seventh Plan period.

28.10. In the Seventh Plan now formulated special provision has been made for the following two items :—

	Outlay earmarked.
	(RUPBES IN CRORES.)
1. Preserving the permanent assets created under various Plan schemes such as Hill Area Development Programme, Tribal Sub-Plan, Rural Roads, etc.	0.50
2. Acquisition of lands for construction of Bye-pass roads, Ring Roads, etc.	0.15

28.11. Policies and Programmes :

The details of Programmes involved in the Seventh Plan are indicated in Table 27-I. The main investment thrust will be on the "Minimum Needs Programme" and the construction of bridges and formation/improvement of roads. The physical targets proposed during the plan period are indicated in Table 27-II.

TABLE A.

<i>Serial number.</i>	<i>Scheme.</i>	<i>Seventh Plan Outlay.</i>	<i>Content of the Scheme.</i>
(1)	(2)	(3)	(4)
		(RS. IN CRORES).	
I.	National Highways (Urban) ..	1.50	National Highways as the name implies are roads predominantly of National interest. Works of original nature such as strengthening the existing weak structures and widening and strengthening pavement and improvements to geometrics to meet the growing needs of traffic are taken up.
II.	State Highways	5.00	Construction of culverts and bridges improvements to the geometrics of the roads, strengthening the existing weak structures and widening and strengthening of pavements, replacing old and narrow bridges and providing new structures, metalling, black topping, etc. are taken up.
III.	Major District Roads	10.00	
IV.	Other District Roads	8.00	
V.	Other Roads (Panchayat and Panchayat Union Road Works).	14.00	In Panchayat and Panchayat Union Road works of original nature like provision of (a) Major/Minor Bridges Causeways and Culverts and (b) improvements to roads which cost more than Rs. 50,000 are taken up for execution.
VI.	Rural Roads (Minimum Needs Programme).	60.00	Under this scheme, all weather roads connecting all habitations with a population of 1,500 and above to the nearest motorable road are laid. The population criteria is relaxable in the case of backward and underdeveloped areas so as to cover even habitations with a population of 1,000 also. Cluster of habitations with a collective population of 1,500 and above are also being considered for provision of road facility under this scheme. The Panchayat and Panchayat Union roads are taken up for improvements and after completion, the roads are taken over by the Government for future maintenance thereby reducing the financial burden on the local bodies. New formation are also taken up under this scheme. So far, this scheme has been sanctioned in six phases covering a length of 6,363.66 Km.
VII.	Tribal Sub-Plan	5.00	This scheme is intended to facilitate the tribal people in remote hill areas to have a link with the plains. The movement of agricultural produce from these tribal areas to the plains is very much handicapped for want of communication facilities. This scheme has been in operation since 1976-77 in Tamil Nadu in the districts of Salem, North Arcot, South Arcot and Dharmapuri,

TABLE A—cont.

Serial number.	Scheme.	Seventh Plan Outlay.	Content of the Scheme.
(1)	(2)	(3)	(4)
		(RS. IN CRORES).	
VII. Tribal Sub-Plan—cont.			in Kolli hills. Javadu hills, Pachai hills and Chitteri hills respectively. So far in this schemes 29 works aggregating to a length of 304.85 kms. have been sanctioned. Of these, 17 works to a length of 221.85 kms. have been almost completed. Other works are under execution. Construction of 32 roads aggregating to a length of 406.00 kms. in tribal areas is under consideration.
VIII. Railway Safety Works (Construction of Over and under Bridges) in lieu of existing level crossing.		0.40	The cost of construction of over and Under Bridges in lieu of existing level crossings is borne jointly by State Government and Railways. If the road over bridges lie within the jurisdiction of Municipalities the State's share of expenditure (which is 50 per cent of the total cost) is borne by the State Government and the Municipalities equally. Here the share of the Municipalities is not generally reimbursed from "The Railway Safety Works Fund" to the limited amount available with the result the entire burden is on the State. The Government of India, Ministry of Railways have constituted a Fund known as "The Railway Safety Works Fund" with effect from April, 1966 to reimburse the expenditure incurred by the State Government towards the manning of unmanned level crossing, upgrading existing level crossings and providing over/under Bridges in lieu of existing level crossings.
			Out of this Fund, 20 per cent is directly allotted to the Railways for manning the unmanned level crossings and upgrading existing level crossings under the Railway Act. The balance 80 per cent of the Railways Safety Works Fund is earmarked to be given to the State Government for replacing the level crossings by Over/Under Bridges. It is of high importance because it will avert accidents thereby ensuring traffic and Public Safety. "The Railway Safety Works Fund" for manning the unmanned level crossings and upgrading of the existing level crossings is very meagre about Rs. 15 to 20 lakhs per annum.

TABLE A—cont.

<i>Serial number.</i>	<i>Scheme.</i>	<i>Seventh Plan Outlay.</i>	<i>Content of the Scheme.</i>
(1)	(2)	(3)	(4)
		(RS. IN CRORES).	
IX.	Construction of feeder roads to fishermen hamlets.	0.50	There are several fishermen hamlet in coastal area which stand unconnected with the villages in the interior. Unless the catches are immediately shifted newly to the marketing centres without loss of time they may perish resulting in avoidable loss to the Fishermen. So construction of feeder roads connecting the fishermen hamlets with the maintained road nearby is of paramount importance. The Government is already actively at it. This proposal is only a continuation of the plans launched in previous plan period. To meet the immediate necessity it is proposed to improve the communication facilities to these fishermen hamlets.
X.	Madras Urban Development Programme (Under World Bank Aid)	6.50	The Government of Tamil Nadu has taken up works relating to Urban Development in Madras Metropolitan Area with the financial Assistance of the World Bank. This scheme includes construction of inner ring roads, construction of minor and major bridges, construction of subways, etc. These works are taken up in two phases. Phase III would be put into execution shortly.
XI.	Integrated Urban Development Programme.	1.25	It is of high importance because it will avert accidents thereby ensuring traffic and public Safety.
XII.	Central Road Fund Scheme	5.00	As per the guidelines, the Central Road Fund will be utilised for research and development programmes, traffic studies, economic services, training programmes for young engineers and providing Road side amenities like motels, etc. Besides certain selected road/bridge work are also taken up from this fund.
XIII.	Schemes completed for which token provision is made (not covered in above schemes).	0.05	
XIV.	Preserving the permanent assets created under various plan schemes.	0.50	Large KM. of roads are being constructed to all weather standards by the High ways and Rural Works Department every year at huge cost to meet the dire necessity of the people in rural areas, hilly areas, etc. These roads are to be constructed as permanent assets and need to be preserved as such by periodical renewals/maintenance with adequate funds. Otherwise they may loose their identity due to efflux of time, owing to continued wear and tear, non-maintenance, vagaries of nature like flood damages, land slide, etc.

TABLE A.

<i>Serial number.</i>	<i>Scheme.</i>	<i>Seventh Plan Outlay.</i>	<i>Content of the Scheme.</i>
(1)	(2)	(3)	(4)
		(RS. IN CRORES.)	
XV.	Acquisition of lands for construction of bye pass road, ring Roads, etc.	10.15	There are 55 towns having a population of 50,000 and above and two municipal towns having a population of 2 lakhs and above as per 1981 census in Tamil Nadu. Out of 55 towns having a population of 50,000 and above 10 towns enjoy the benefit of bye pass roads (either already in existence or being formed). The present traffic intensity in towns is very high. The existing Government Roads - Stretches lying in the jurisdiction of towns are all almost narrow with heavily built up area on either side. Widening these stretches with in the towns to cope up with traffic needs is found not feasible. Construction of bypass roads to these towns to relieve traffic congestion, to avert accident, is found absolutely essential. So, for this purpose, land has to be acquired in advance. This will facilitate in averting huge expenditure on land acquisition at a later date.
XVI.	(a) Avenues (Plantation)	.. 1.00	Development of Trees on Road margins with a view to provide shade and beautify the long stretches of roads besides maintaining ecological balance and giving resting places for the road users, needs to be taken on a large scale. It would be a source of income to Government from its usufructs, timber and fire wood. It generates potential for rural employment and growth of rural industries.
	(b) Research and Development	.. 1.00	Research is a fundamental requisite for any development process. The Highways Research Station established in 1957 has been of great assistance in attending to investigation, testing and research for more than 25 years. The objective is to minimise the cost of construction of road and road structures by exploiting the raw materials available locally. The research Station has taken up studies on fly ash utilisation lignite from Neyveli, precast construction traffic studies, structural analysis, etc.
	(c) Tools and Plant	.. 5.00	Every year there is increase in the length of roads brought under maintenance. Improvements to the pavement of the carriage way is required to meet the increase in fast moving traffic. This has necessitated the improvements and modernisation of the tools and plant, purchase of road rollers, bitumen conveyors, mixing equipments, stone crushers, etc., are included under this.

TABLE 27—I.

<i>Serial number.</i>	<i>Scheme.</i>	<i>Seventh Plan Outlay.</i>	<i>Content of the Scheme.</i>
(1)	(2)	(3)	(4)
		(RS. IN CRORES).	
	(d) Others like—		
	(i) Prorata establishment	4.15	....
	(ii) Assistance to Municipalities Corporation for construction of Roads and Bridges.	1.00	....
	Total for State Sector Schemes	130.00 Crores.	

TABLE 27—II.

PHYSICAL TARGETS PROPOSED FOR ROADS AND BRIDGES DURING THE PLAN PERIOD.

(IN KM.)

<i>Description of Work.</i>	<i>Seventh Plan Target.</i>
(1)	(2)
Formation of Roads	125
Improvements to Roads (Government Roads)	350
Construction of New Rural Roads	25
Improvements to existing Rural Roads	1,500
Number of (Major) Bridges to be constructed	50
Number of Habitations to be connected with All Weather Roads under Minimum Needs Programme, etc.	..
Habitation with population of 1,500 and above	1,264
Habitation with population of 1,000 to 1,500	373

The yearwise Outlays for the Seventh Plan is indicated in the annexure.

TABLE 27—III.
ANNEXURE.

PHASING OF PLAN OUT-LAY.

Serial number and name of schemes.	VII Plan Outlay (1985-90) (2)	(RUPEES IN CRORES).				
		1985-86 (3)	1986-87 (4)	1987-88 (5)	1988-89 (6)	1989-90 (7)
1. National Highways	1.50	0.79	0.20	0.19	0.16	0.16
2. State Roads Scheme.—						
(a) State Highways	5.00	1.41	0.89	0.90	0.90	0.90
(b) Major District Roads (District Roads).	10.00	2.91	1.80	1.80	1.80	1.69
(c) Other District Roads	8.00	1.44	1.60	1.60	1.60	1.76
3. Other Roads Scheme (Works on Panchayat and Panchayat Union Roads).	14.00	2.07	3.00	3.00	3.00	2.93
4. Tools and Plants	5.00	0.37	1.00	1.20	1.20	1.23
5. Avenues	1.00	0.24	0.20	0.20	0.20	0.16
6. Research and Development	1.00	0.25	0.20	0.20	0.20	0.15
7. Rural Roads Scheme (Minimum Needs Programme).	60.00	5.00 1.58	13.42	14.00	13.00	13.00
8. Construction of Feeder Roads to Fishermen Hamlets.	0.50	0.11	0.12	0.10	0.10	0.07
9. Construction of Over / Under Bridges in lieu of existing level crossing.	0.40	0.07	0.09	0.08	0.08	0.08
10. Madras Urban Development Pro- gramme Under World Bank Aid.	6.50	1.85	2.00	2.00	0.32	0.33
11. Integrated Urban Development Programme.	1.25	0.14	0.30	0.30	0.30	0.21
12. Central Road Fund Scheme	5.00	0.35	1.05	1.20	1.20	1.20
13. Tribal Sub-Plan	5.00	1.70	0.90	0.80	0.80	0.80
14. For preserving the permanent assets created under Hill Area Development Programme, Western Ghat, Eastern Ghat, Minimum Needs Programme, etc.	0.50	..	0.10	0.13	0.13	0.14
15. Acquisition of lands for construc- tion of Bye-pass Roads, Ring Roads, etc.	0.15	..	0.03	0.04	0.04	0.04
16. Assistance to Municipalities Corporations for construction of Roads and Bridges.	1.00	0.27	0.19	0.18	0.18	0.18
17. Prorata establishment	4.15	2.90	0.41	0.33	0.29	0.22
18. Wayside Amenities (Construction Motels)	..	..	..	..	..	..
19. Others	0.05	0.05	..	..	..	..
20. (—) Flow from Tamil Nadu Rural Development Funds.	..	..	..	..	..	..
Total	130.00	23.50	27.50	28.25	25.50	25.2

CHAPTER 29.

ROAD AND INLAND WATER TRANSPORT.

ROAD TRANSPORT :

29.0. In respect of Road Transport, the Seventh Five-Year Plan 1985-90 will have the following objectives and priorities :

(a) As recommended by the National Transport Policy Committee future nationalisation should be guided by efficiency of operations of existing undertakings and the extent to which they can provide consumer satisfaction.

(b) The thrust of policy should be to consolidate and improve existing operations before taking up new routes.

(c) Future programme of nationalisation should proceed according to a long-term plan drawn up for 5 to 10 years. Such an approach will remove uncertainty and enable private operators to provide service on routes not likely to be run by public sector.

(d) On partially nationalised routes where both public sector and private sector vehicles operate, there is often un-healthy competition.

(e) Replacement of overaged vehicles should be given over-riding priority to ensure that there are no overaged buses in the fleet of the Corporations/Undertakings at the end of the 7th Plan. For this purpose full provision has to be made by the Corporations/Undertakings.

(f) Provision for maintenance should receive very high priority in the 7th Plan and it must be ensured that the provisions thus made are in fact used for the purpose.

(g) For proper maintenance of vehicles the workshop facilities will need to be suitably strengthened. There is also a need to evolve a rational inventory policy.

Nationalised Transport Sector : Present Status ;

29.1. In pursuance of the Government's Policy of nationalisation of passenger bus transport, 13 Transport Corporations have been set up under the Companies Act, covering different regions in the State. Of the 13 Transport

Corporations, one is exclusively operating Express Services throughout the State and the other is operating exclusively in the Madras Metropolitan Area. As on 31st March, 1985, out of 14,401 buses in the State, 9,251 buses were operated by the State Transport Corporations. The percentage of nationalisation bus wise worked out to 64.2 per cent. The Fleet strength of the Corporations has increased from 6,471 at the beginning of the Sixth Five-Year Plan to 9,251 at the end of the Plan.

Sixth Five-Year Plan ;

29.2. The Sixth Five Year-Plan envisaged at total outlay of Rs. 209 crores on Road Transport, of which the financial commitment of the State was indicated as Rs. 75.50 Crores. The physical targets and Financial allocations were

	(RS. IN CRORES.)
Purchase of buses for augmentation and replacement, 6,775 numbers	186.88
Workshop buildings	16.25
Other expenditure	6.06
	209.19
Total ..	209 Crores

The norms adopted were:

Augmentation of buses.	Six per cent every year for all Corporations except Metro, where it will be 6.8 per cent.
Replacement of buses ..	Metro after 8 years, Express after 3 years and Others after 7 years.

29.3. The actual physical and financial performance during the Sixth Plan Period 1980-85 are indicated below :

Years.	Number of buses replaced.	Number of buses augmented.	Total number of buses purchased.	Cost.	Expenditure on land buildings and machinery.	Total capital expenditure.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RS IN CRORES)						
1980-81	726	666	1,392	34.55	3.50	38.05
1981-82	875	836	1,711	41.03	4.43	45.46
1982-83	886	499	1,385	27.89	4.60	32.49
1983-84	746	53	799	22.91	4.49	27.40
1984-85	938	790	1,728	45.26	4.58	49.84
Total	4,171	2,567	7,015	171.64	21.60	193.24
As programmed for VI Plan			6,775			209.00

29.4. The slight short-fall in financial achievement is due to scarcity of cement required for civil works.

29.5. Seventh Five-Year Plan.

(a) *Capital programme of buses.*—Progressive nationalisation in a phased manner on a long term plan after consolidating the existing position, it is proposed to augment the fleet of the State Transport Corporations by about 3.5 per cent every year. At the same time priority is given

for replacement of overaged buses. In order to provide safe breakdown free service to the travelling public and to lesson the cost of maintenance it is proposed to adopt the following norms for replacement:—

Metro after ..	10 years
Express after ..	2 years
Others after ..	5 years

With the above assumptions the capital programme of buses during the Seventh Plan period would be as follows :

Year.	Number of buses for augmentation.	Number of buses for replacement.	Total.	Cost/bus.	Total cost. *(RS IN LAKHS.)
(1)	(2)	(3)	(4)	(5)	(6)
1985-86	274	1,341	1,615	3.00	4,845
1986-87	292	1,313	1,605	3.10	4,976
1987-88	296	1,275	1,571	3.20	5,027
1988-89	317	1,350	1,667	3.30	3,501
1989-90	328	1,191	1,519	3.40	5,165
Total	1,507	6,470	7,977		25,514 or Rs. 255.14 Crores.

* Present day cost of a bus is Rs. 2.90 lakhs. It is assumed to increase by Rs. 10,000/- every year.

(b) Civil Works :

(i) At the end of the Seventh Plan there would be 10,758 buses in the State Transport Undertakings. In order to maintain them in a satisfactory condition, 212 depots are required. At present there are 180 depots only. Hence provision has to be included in the Seventh Plan for construction of 32 depots.

(ii) For the newly started four Corporations, four centralised workshops are required for body-buildings, tyre retreading, engine reconditioning, reconditioning of spare parts, etc.

(iii) A way side Motel is proposed to be constructed on the National Highway 45 near Mamandoor with all facilities like parking, space for buses, rest-rooms for crew, canteen, bathrooms, toilet, service station, etc.

(iv) It is also proposed to construct bus-stands at twenty select places on modern lines for the convenience of the travelling public.

(v) Cost of Civil Works :

	(RS. IN CRORES)
Bus depots 32 Nos. at Rs. 30 lakhs each	9.60
Workshops 4 Numbers at Rs. 40 lakhs each	1.60
Way side Motel	2.00
Bus stands at Rs. 40 lakhs each in 20 centres	8.00

(c) Other Miscellaneous provisions :

29.6. Provision of Rs. 200 lakhs is made for Research Development and Training of Drivers and Technical Staff to be undertaken by the Institute of Road Transport and all Corporations.

(d) Motor Vehicles Maintenance Department :

29.7. Provision of Rs. 200 lakhs is also made for the ongoing schemes and new schemes of Motor Vehicles Maintenance Department. Details are given below :

Name of Scheme.	Amount (Rupees in lakhs.)
(1)	(2)
1. Ongoing Scheme	125.93
2. Plan schemes approved for 1985-86 .. ..	..
(i) (a) Construction of Administrative Block at CAW, Madurai	2.50
(ii) (b) Formation of VAC Unit in the Directorate	0.82
(iii) (c) Sinking of Borewell in GAW, Madurai	0.25
Total	3.57
3. New Schemes—	
(i) Additional Land for GAW, Tirunelveli	1.00
(ii) Opening of Mini Workshop at Dindigul	14.00
(iii) Expansion of Directorate and M. M. Unit	5.50
(iv) Formation of one more Regional Deputy Directorate	2.00
(v) Opening of Mini Workshop at Karur	14.00
(vi) Opening of Mini Workshop at Sivaganga	14.00
(vii) Additional Workshop for Madras	20.00
Total	70.50
Grand total (1+2+3)	200.00

4. Thus the gross outlay on Road Transport works out to :

	(RS IN CRORES)
(i) Buses 7,977 Numbers	255.14
(ii) Bus depots 32 Numbers	9.60
(iii) Workshops 4 Numbers	1.60
(iv) Way-side Motel	2.00
(v) Bus-stands	8.00
(vi) Research, development and Training of drivers and technical staff by L.R.T. and Transport Corporations	2.00
(vii) M. V. M. D.	2.00
Total	280.34

e. Financing the Plan :	(RS IN CRORES)
Gross outlay	280.34
Internal generation of S.T. Us.	177.63
Net assistance from T.D.F.C. and Govt	36.00
Assistance from L. I. C.	10.64
Assistance from other Institutional Sources	54.07
State Government outlay on M.V.M.D.	2.00

29.8. The State Government assistance amounting to Rs. 5 Crores is only for providing the equity base for the Tamil Nadu Transport

Development Finance Corporation and the State Transport Undertakings to enable them to raise Finance from various source.

OUTLAY ON ROAD TRANSPORT DURING THE SEVENTH PLAN

<i>Programme.</i>	<i>Seventh Plan Outlay.</i>
(1)	(2)
State Plan Outlay ;	
Replacement and Augmentation of Buses	130.00
Schemes under M.V.M.D.	2.00
Total	132.00
Non-Plan Outlay ;	
Replacement and Augmentation of buses	125.14 (7,977 Nos.)
Infrastructure	23.20
Total	148.34
Gross outlay	280.34

Inland Water Transport ;

29.9. The Buckingham canal is a salt water canal (260 miles) 413 Km. in length, running (196 miles) 315 km. north and (64 miles) 103 km. South of Madras City. The canal runs along the coromantal coast of South India about 1 Km. away from the sea. It can offer a line of Navigation for small country crafts between Marakanam Back-waters in South Arcot District of Tamil Nadu and Pedda Ganjam in Krishna District of Andhra Pradesh. It runs for a distance of 15km. through thickly inhabited portions of Madras City known as junction canal and is intercepted by the River Cooum within the city

limits. The canal north of the river Cooum in Madras City is known as North Buckingham canal and South of the Cooum is called as South Buckingham Canal. About 1.80 km. length of river Cooum serves as a link connecting the North and South attaches of Buckingham canal. The canal had been used for the conveyance of goods such as firewood, salt and lime shell through country boats. During the Seventh Plan period Rs. 2.50 crores has been allotted for the improvement of Buckingham canal stretch between Ennore and Andhra Pradesh border and another 2.50 crores has been allotted for Development of Cooum river and Buckingham Canal in Madras City limits.

CHAPTER 30.

TOURISM.

30.0. The vast reservoir of tourism resources—natural, historical, religious, cultural, archaeological, ethnic, Beaches and Wild-life as well as business traffic—have created conditions for developing tourism as a thriving industry. The natural beauty of Tamil Nadu is both spectacular and varied with a myriad of tourist attractions. It has an immense potential to cater to the varied tastes of tourists, both domestic and international. Tamil Nadu is the window to the modern South as much as it is a wide open archive of ancient legacies, living traditions and incredible cultural treasures. Despite these tourism resources, Tamil Nadu's share of global traffic has not been growing compared to international tourist arrivals in certain centres of the Country. There is need for giving emphasis for increasing State's share of international tourists. The Seventh Five Year Plan (1985-90) aims at not only to increase State's share of international tourists but also to disperse the tourist flow to tourist centres identified in Tourism Master Plans prepared during the Sixth Plan period and which are under various stages of examination and implementation.

Review — 1980-85 :

30.1. During the Sixth Plan, the expenditure incurred was Rs. 460.73 lakhs against the total outlay of Rs. 800.00 lakhs provided for Tourism. This works out to 57.6 per cent.

30.2. During the Sixth Plan, nearly 1,736.25 lakhs tourists comprising of 1,724.65 lakh of domestic and 11.60 lakhs of foreigners have visited these tourist centres. The daily arrival of Tourists to Rameswaram which were 2,559 in 1979 is expected to go up to 4,905 in 1990. Similarly, the projected tourist arrival at Udhagamandalam and Mamallapuram in 1990 will be 28.20 lakhs and 11.28 lakhs respectively.

OBJECTIVES FOR DEVELOPMENT OF TOURISM SECTOR (1985-90)

30.3. (1) To make co-ordinated and intensive efforts to carry out the schemes and projects on the basis of the tourism Master Plans of selected centres and regions ;

(2) To provide accommodation and transport to match with the anticipated growth of international and domestic tourism ;

(3) To expand and consolidate where necessary tourist accommodation presently provided by the Corporation at various tourist centres ;

(4) To highlight economic and employment effects of tourism development in the State ;

(5) To emphasise the foreign exchange earning potential of tourism in the State and take further measures towards increased facilities leading to more exchange earnings from international tourists ;

(6) To strive for balanced development of international tourism so as to increase the flow of international tourist to centres particularly to Beach Resorts in Tamil Nadu ;

(7) To encourage building of a chain of low and medium price tourist accommodation in important tourist centres for domestic and low spending foreign tourists by enlisting joint sector and private sector to supplement corporation's efforts in this direction ;

(8) To provide appropriate incentives to joint and private sector to supplement the efforts of Tamil Nadu Tourism Development Corporation in the provision of infrastructure and building of hotels particularly in the proposed centres of Beach Tourism in Rameswaram and Kanniyakumari ;

(9) To further promote national integration by bringing together persons from various States speaking different languages and following different customs to the famous Pilgrim/Tourist centres in Tamil Nadu ;

(10) To promote domestic tourism, by developing District Excursion Centres of local importance possessing potential expansion as major tourist spots.

PROGRAMME PROPOSED FOR THE SEVENTH FIVE YEAR PLAN 1985-90.

I. Accommodation and Transport Facilities :

30.4. The promotion of tourism pre-supposes the provision of basic infrastructure facilities

such as accommodation and transport to different categories of the tourists. While the Department of Tourism encourages private investment in these fields by recommending suitable cases to State financial institutions and commercial banks, it has to step in where private investment is not forthcoming. It has since been decided that the Government apart from executing such schemes through the Tamil Nadu Tourism Development Corporation, an undertaking of the State Government, will also float joint sector companies and encourage investment by Non-resident Indians. Schemes have already been identified for implementation under this programme and the promoters have been selected.

The outlay of Rs. 100.00 lakhs will be utilised by the Department of Tourism by way of Share Capital and Loan to the T.T.D.C. and Joint Sector Projects, in the fields of provision of accommodation and transport facilities.

Accommodation through Tamil Nadu Tourism Development Corporation :

30.5. T.T.D.C. has submitted proposals to Put up 17 additional hotel units with 150 rooms and 700 beds approximately costing Rs. 310.00 lakhs as detailed below :—

<i>Hotel/Motel.</i>							<i>Rooms,</i>	<i>Beds.</i>	<i>Cost Tentative.</i>
(1)							(2)	(3)	(4)
LAKHS.									
1.	Namakkal	..	..	..	..	Motel	8	16	15
2.	Erode	..	..	..	..	Hotel	30	60	40
3.	Vellore	..	..	..	..	Hotel	10	20	20
4.	Karur	..	..	..	..	Motel	8	16	15
5.	Tindivanam	..	..	..	..	Motel	8	16	15
6.	Mamandoor	..	..	..	..	Motel	8	16	15
7.	Villupuram	..	..	..	..	Motel	8	16	15
8.	Salem	..	..	..	..	Hotel	20	40	40
<i>Youth Hostel.</i>									
1.	Madurai	..	..	..	..	..	6	60	15
2.	Coimbatore	..	..	..	..	..	8	80	15
3.	Thanjavur	..	..	..	..	..	4	40	15
4.	Tiruchendur	..	..	..	..	..	2	20	15
5.	Point Calimare	..	..	..	..	..	6	60	15
6.	Tiruvannamalai	..	..	..	..	..	6	60	15
7.	Kancheepuram	..	..	..	..	..	6	60	15
8.	Sathanur Dam	..	..	..	..	..	6	60	15
9.	Palani	..	..	..	..	..	6	60	15
							150	700	310

Transport through Tamil Nadu Tourism Development Corporation

30.6. T.T.D.C. has submitted proposals for expansion of the Transport Wing amounting to Rs. 78.00 lakhs as detailed below : New coach tours and private hire 10 vehicles. Substitution of old vehicles purchased in the following years-

TMZ 3635	..	5th November 1983
TMX 3536	..	29th March 1976
TMW 665	..	13th December 1976
TMW 1331	..	6th January 1977
TMV 1610	..	2nd February 1978

A.C. Coaches—3
Non-A.C. Coach—12

Cost of vehicles	(RS IN LAKHS).
A.C. Coaches 3 X 6.	18.00
Non—A.C. Coaches 12 X 5	.. 60.00
Total	.. 78.00

30.7. This department will however restrict the assistance to the tune of Rs. 50.00 lakhs towards accommodation and transport facilities through T.T.D.C.

Accommodation through Joint Sector Projects :

30.8. The following Joint Sector Projects are proposed to be implemented during the Seventh Five Year Plan period :—

(1) International Beach Resort Complex at Thiruvananthapuram.—

Total Cost ..	..	300.00 lakhs.
State Share ..	..	12.50 lakhs.

(2) International Youth Resort at Muttukadu.—

Total Cost ..	..	100.00 lakhs.
State Share ..	..	12.50 lakhs.

(3) International Tourist Complex at Madras.—

Total Cost ..	..	100.00 lakhs.
State Share ..	..	12.50 lakhs.

(4) Economy Hotel at Madras—

Total Cost ..	..	100.00 lakhs.
State share ..	..	12.50 lakhs.

Development of Tourist Complexes:

30.9. In pursuance of the suggestion made by the Union Planning Commission, that "concentrating in a few specified schemes under 'Tourism' would be a better strategy instead of spreading resources over a number of schemes", it is

proposed to develop well known International Tourist Centres for which Master Plans have been prepared and investments have already been made. These are Mamallapuram, Kanniyakumari, Rameswaram and Uththangamandalam. A total expenditure of Rs. 247.20 lakhs is proposed to be incurred for the development of these places in the VII Plan.

Mamallapuram :

(i) Open Air Museums.

30.10. Formation of a Open-Air-Museum at Mamallapuram depicting the cultural heritage of the State has been planned by the Government with a view of exposing to the foreign tourists the rich cultural heritage of Tamil Nadu. The Museum will also provide recreational facilities to the tourists. The ultimate cost of the project is estimated to be Rs. 68.00 lakhs. The work has been entrusted with the T.T.D.C. for execution. A sum of Rs. 27.09 lakhs has already been sanctioned. The work is in progress. The balance amount of Rs. 40.91 lakhs will be provided in order to complete the said scheme.

Kanniyakumari

(i) Skating rink.

30.11. Kanniyakumari lacks adequate recreational facilities to destination tourists. A modern recreational facility like the skating rink would be quite an attraction to the Youth Tourists. A sum of Rs. 6.00 lakhs is provided for this scheme.

(ii) Auditorium.

30.12. For the tourists visiting Kanniyakumari there is no recreational facilities there. There fore it is proposed that auditorium may be constructed at Kanniyakumari. The ultimate cost of the scheme would be Rs. 40.00 lakhs. The scheme will be implemented through the T.T.D.C. Ltd.

(iii) Sanitation and drinking water facilities

30.13. The sanitation and drinking water facilities available at Kanniyakumari are not adequate to the thousands of tourists who visit the town daily. The entire beach stretch is dirtied in the mornings by the tourists who could not find suitable sanitary facilities. To provide adequate drinking water and sanitary facilities a sum of Rs. 13.00 lakhs is required over the next five years.

Rameswaram.

(i) Beautification of Beach and sanitary facilities.

30.14. It is proposed to develop Rameswaram as a beach resort of international standards, Beach resorts would be developed at Pamban and Kilakkarai. The beaches are to be cleared and replenished and adequately landscaped with green plants. It is also proposed to beautify the area around the Agnitheertham and the Hotel of Tamil Nadu.

30.15. The unsatisfactory sanitary condition of Rameswaram Township and Pamban are partly due to the lack of toilets for the use of general public and the tourists. Sanitary facilities are to be improved in this temple town to meet the overgrowing demand.

30.16. For beautification of beach and provision of sanitary facilities a sum of Rs. 13.00 lakhs is provided.

(ii) *Telescope Tower and rest shed at Gandharana parvatham.*

30.17. It is proposed to have a Telescope Tower and rest-shed at a cost of Rs. 10.00 lakhs on the hillock called Gandharana Parvatham adjacent to the Temple, popularly known as "Ramerpadam" and possibly at the site of old metrological tower at Mandapam. Apart from providing a panoramic view of the Rameswaram and Pamban and the seas around it will be a revenue earning proposition.

(iii) *Glass Bottomed Boats*

(Marine National Park).

30.18. The Fisheries Department is developing a Marine National Park around the Kurusadi and Shingle Islands which are richly endowed with marine shells, mulluses and other rare varieties of fish and sub-marine life. These islands are very near to the proposed beach resort complexes proposed to be developed at Rameswaram. It is proposed to acquire special type of glass bottomed boats which would enable to have a look at the rich sea-life. A sum of Rs. 25.00 lakhs is provided for this purpose.

(iv) *Tourist Reception Centre.*

30.19. The Tourist flow to Rameswaram consists largely of pilgrim and budget tourists, who require a clean and neat place at economical rate of rent. The Tourist Reception Centre proposed will not only provide such accommodation but will also render assistance and provide tourist information to the visiting tourists. There will be a shopping complex to meet the requirements of the tourists including the sale of curies. The proposed Tourist Reception Centre will be a multi-purpose project for tourists consisting of boarding and lodging facilities, Tourist Information Office and Shopping Complex. A sum of Rs. 10 lakhs is provided for this purpose.

Udhagamandalam :

(i) *Wayside amenities*

30.20. It is proposed to provide wayside amenities such as Motel/Cafeteria, Drinking Water and Toilets on the highways leading to Udhagamandalam, Coonoor, Kothagiri and Mudumalai in the Nilgiris at a total cost of Rs. 12.79 lakhs.

(ii) *Preparation of Project report on environmental protection of Udhagai Lake :*

30.21. The Lake in Udhagamandalam is the centre of attraction for the tourists visiting the Hill Station. At present, the Udhagamandalam lake is being polluted by the drainage which is let into the Lake and it is getting silted at certain places. In addition to the above dangers, it is reported that the Lake is shrinking in size, and the area has come down to 22.9 hectares from its original area of 65 hectares. A detailed project report on the environmental protection of the Udhagamandalam lake has to be prepared through experts in the field. A sum of Rs. 50,000 (non-recurring) would be required for this purpose.

(iii) *Cable Car :*

30.22. It is proposed to take up the construction of serial ropeway between Pykara Top and Mudumalai. This will be implemented with the participation of Messers Usha Braco and Co., at a total cost of Rs. 50.00 lakhs, our share being Rs. 10.00 lakhs.

(iv) *Convention Centre :*

30.23. The Master Plan prepared visualises the development of a convention centre at Udhagamandalam through the construction of a Star Hotel with a convention Hall of international standards, Udhagamandalam has unique features which are not found in other hill stations like Nainital and Darjeeling and therefore, it could develop as a premier convention centre. The total cost for this scheme is estimated at 800.00 lakhs. However during the VII Plan period a sum of Rs. 30.00 lakhs is allotted to this scheme.

(v) *Floating restaurant :*

30.24. The construction of a Floating Restaurant in Udhagamandalam lake is one of the schemes suggested by the Hon'ble Chief Minister. The Floating Restaurant will be berthed near one corner of the Lake. It will be well furnished, decorated and equipped with amenities to

form a unique attraction in the Lake atmosphere. A rough proposal with a sketch of the Floating Restaurant has been obtained from private boat builders with an offer to construct and deliver a Floating restaurant in Udhagamandalam Lake. This will be run by the T.T.D.C. The cost of this project is estimated at Rs. 4.00 lakhs.

(vi) *Construction of Pedestrian Bridges :*

30.25. The scheme of construction of an Ornamental Pedestrian Bridge on Udhagamandalam Lake is one of the schemes suggested by the Hon'ble Chief Minister. The Collector of the Nilgiris has informed that the Highways Department has already taken up the work of investigation of the scheme of construction of pedestrian bridge across Udhagamandalam Lake in anticipation of administrative sanction of the Government. The estimated cost of construction of this foot bridge would be approximately Rs. 25.00 lakhs subject to finalisation of the design by the Superintending Engineer (Highways) Designs Circle, Madras. In view of the importance of this scheme, it is proposed to take up the scheme of "Construction of Pedestrian Bridge across Udhagamandalam Lake" at a cost of Rs. 25.00 lakhs.

(vii) *Improvement to Skating rink :*

30.26. To provide modern recreational facilities it is proposed to enlarge the existing skating rink at Udhagamandalam. This would attract a large number of tourists especially Youth tourists who visit Udhagamandalam. A sum of Rs. 7.00 lakhs is provided for this scheme.

Kodaikanal :

(i) *Beautification of Kodaikanal Lake :*

30.27. Regarding the beautification of Kodaikanal Lake, the following improvements have to be made such as planting of flowering trees around the lake, flower beds, ornamental fence works and illumination for the entire lake road (5 K.Ms.). The estimated cost for beautification of the lake is Rs. 5.00 lakhs.

(ii) *Amenities at Coaker's Walk :*

30.28. Planting of flower trees and forming of flower garden may be provided in the steep slopes of the Coaker's Walk. Besides these handrailings may be provided as a protection to the pedestrians. The estimated cost for the works will be Rs. 1.00 lakh. A sum of Rs. 1.00 lakh is provided for this scheme.

(iii) *Toilets and rain sheds*

30.29. For the convenience of the tourists, it is proposed to construct 2 numbers of Pay and Use toilets and rain-sheds in the following places of interest in Kodaikanal.

1. Pillar rocks
2. Bearshola falls.

The total estimated cost for the above purpose is Rs. 3.00 lakhs.

Yercaud :

Formation of Watch Tower and basic amenities for tourists at foot of Shevaroy Hills :

30.30. The foot of the Shevaroy Hills just 8 Kms. from the Salem Bus-stand is becoming an important point for a visitor to Yercaud, because of the development of a Zoological park by Forest Department and a carved temple of the private trust. Hence, basic amenities like toilets, drinking water may be provided and a Watch Tower may also be constructed for the benefit of visitors, in order to have a thorough view of the wild life. A sum of Rs. 3.00 lakh is provided.

Kancheepuram :

Pallavapuram Projects :

30.31. This proposal has been mooted by Government of India, Department of Tourism. The total cost of this project is Rs. 20.00 lakhs. The G.O.I. is willing to provide major assistance for this scheme. The share of this Government would be around 2.00 lakhs. The scheme is to project the ancient and traditional art and culture of the Pallavas. A sum of Rs. 2.00 lakhs is provided for this scheme.

Poompuhar :

(i) *Formation of Children's Park :*

30.32. Thousands of tourists are visiting the Poompuhar Tourists Complex every day. The tourists immediately leave the complex after seeing the Silappathikara Kalaikoodam and other Mandrams. A Children's Park may be formed in the Poompuhar Tourist Complex so as to enable to retain the tourists all over the day in the complex. Playing equipments, fountains and colourful lights may be provided in the Park. The estimated cost for this scheme will be Rs. 5.00 lakhs. A sum of Rs. 5.00 lakhs is provided for this scheme.

(ii) *Illumination of Art Gallery and Purchase of diesel generator :*

30.33. The Tourists visiting the Poompuhar Tourist Complex are increasing every day. The Art Gallery and other Mandrams in Poompuhar Tourist Complex are kept open for visitors from 8-30 a.m. to 8-30 p.m. Nearly thousand tourists are visiting this place daily. During summer the number of tourists will be up to 3,000. The Art Gallery and other Mandrams look more beautiful and attractive during night hours.

30.34. The visitors have to experience a lot of inconveniences during the time of electricity failures which occur often and often in this locality. Under these circumstances, to avoid the same it is proposed that a generator of 5 Kilowatts capacity may be installed along with 4 numbers of emergency lamps at Art Gallery. A sum of Rs. 1.80 lakhs is provided for this scheme.

Kattabomman Memorial Fort :

Housing of historical paintings at Kattabomman Memorial Fort:

30.35. Kattabomman Memorial Fort at Pan-chankruchi was constructed by the Government during 1974 to commemorate Veerapandiya Kattabomman, who had raised first voice against British Regime. Now this monument and the Rest House with 6 rooms are administrated by the Department of Tourism.

30.36. Kattabomman Memorial Fort has a circular compound Wall. One main gate is there to keep safety of the premises. With provision of necessary roof adjoining the inside circular compound wall, 20 numbers of 15X10 size history board, Kattabomman's heroic life history may be highlighted through paintings by expert artist. The estimated cost is Rs. 2.00 lakhs as detailed below :

	LAKHS.
(a) 20 numbers of 15 X 10 size boards depicting life history of Kattabomman (20 X 5,000).	1.00
(b) Provision of roof sheds adjoining the circular compound wall and spotlights to the boards.	0.75
(c) Construction of a wall bifurcating Fort Complex from Jiggamnal Temple for the benefit of visiting Tourists.	0.25
Total ..	2.00

Madurai:

Improvements to Sound and Light Project at Madurai :

30.37. The Sound and Light Project at Thirumalai Naicker Mahal at Madurai commissioned during World Tamil Conference held at Madurai in 1980, is now under the administrative control of the Government. It was set at a cost of about Rs. 30.00 lakhs. It is proposed to modernise this project by introduction of latest electronic gadgets, revised script and provide amenities to visitors. Hence a sum of Rs. 10.00 lakhs is provided for this scheme.

DISTRICT EXCURSION CENTRES :

30.38. With a view to provide basic infrastructural facilities to select picnic spots in the districts a scheme has been designed by the State Government, with Co-operation of the State owned Transport undertakings. This is termed as District Excursion Centre Development Programme. It is proposed to develop the following D.E.C.'s during the Seventh Plan at a total cost of Rs. 40.00 lakhs.

1. Pulicat (Chengalpattu district).
2. Amirdhi Water falls (N.A. district).
3. Gomuki Dam Site (S.A. District).
4. Manora (Thanjavur District).
5. Viralimalai (Pudukottai District).
6. Virahanur Reservoir (Madurai District).
7. Kumbakurai falls (Madurai District).
8. Yercaud (Salem District).
9. Valparai (Coimbatore District).
10. Thalavady (Periyar District).
11. Theerthamalai (Dharmapuri District).
12. Hogenekkal (Dharmapuri District).
13. Kodanadu View Point (The Nilgiris District).
14. Khalutty falls (The Nilgiris District).

30.39 It is also proposed to provide additional sanction for the following centres :

- (i) Sithannavasal (Pudukottai District).
- (ii) Bhavani-Kooduthirai (Periyar District).
- (iii) Gangaikonda cholapuram (Thiruchirappalli District).
- (iv) Thirumoorthy Hills (Coimbatore District).
- (v) Papanasam (Thirunelveli District).
- (vi) Kolli Hills (Salem District).
- (vii) Elagiri Hills (N.A. District).
- (viii) Grand Anicut (Thanjavur District).
- (ix) Pilyavikkul (Ramnathapuram District.)

Promotion and Publicity :

30.40. This will include production of Video Cassettes, purchase of Video Camera, deck and other components. Colour T.V. and deck, provision of hoardings, advertisement campaign in all regional languages including English, Quiz competition, publication of tourist literatures, posters, thematic folders, and tourist directory.

A sum of Rs. 40.00 lakhs is provided towards promotion and publicity during VII Plan period.

Strengthening of Tourism Department :

30.41. It is proposed to open new Tourist Offices at Kancheepuram, Vellore, Kodaikanal, Thanjavur, Bombay, Goa, Hyderabad, Bangalore and Trivandrum and new Tourist Information Centres at Chidambaram, Nagapattinam, Melmaruvathur, Madras, Egmore, Kanniyakumari Railway Station and new Airport terminal at Madras. It is also proposed to strengthen the existing Tourist Offices and Tourism Information Centre's by creating additional posts. It is also propose to strengthen the Statistical wing of Tourism Department, by creation of supporting staff to the Statistical Officer. A sum of Rs. 15 lakhs is provided for this scheme.

Guide Services and Training Programme :—

30.42. Training course will be offered to the Receptionists, the Tourist Officers and the Headquarters staff by organising Special Training Programmes and also deputing them to Tourist Training Institute of the Government of India, New Delhi. A sum of Rs. 5.00 lakhs is provided for this scheme.

Water Sports in Selected Places :

30.43. The promotion of Water sports as part of Tourism activity has been recognised by the Government of India and financial assistance is being extended by the Government of India to such schemes implemented by the State Government. Water Sports include swimming, boating yatching and wind surfing, etc. It is proposed to include Water sports at Muttukadu, Pulicat and Pichavaram backwaters, Rameswaram, Kanniyakumari and Mamallapuram sea waters. A sum of Rs. 20.00 lakhs is provided.

TABLE—30.I.

TOURISM—ABSTRACT OF SCHEMES.		Outlay proposed during 1985-90
Serial number and name of the Scheme.	(1)	(2)
		(Rs. IN LAKHS.)
1. Accommodation ..		} 100.00
2. Transport facilities (As share capital and loan to TTDC and also for Joint Sector Pro- jects).		
3. Development of Toursit Complexes.	..	280.00
(1) Mamallapuram ..		40.91
(2) Kanniyakumari ..		59.00
(3) Rameswaram ..		58.00
(4) Udthagamandalam		89.29
(5) Kodaikanal ..		9.00
(6) Yercaud ..		3.00
(7) Kancheepuram ..		2.00
(8) Poompuhar ..		6.80
(9) Kattabomman Me- morial Fort Panchalan- kurichi.		2.00
(10) Madurai ..		10.00
4. District Excursion Centres.	..	40.00
5. Promotion and Publicity	..	40.00
6. Strengthening of Tourism Department	..	15.00
7. Guide Services and Training Programme.	..	5.00
8. Water-sports in selected places.	..	20.00
Total		<hr/> 500.00 <hr/>

Part B

SECTORAL PLANS

**VI Social and
Community Services**

CHAPTER 31.

GENERAL EDUCATION.

Review of Past Performance :

31.0 Education and Manpower Planning are inseparable in the Indian Economy. Elsewhere we are considering the employment and manpower aspects. 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. In this Chapter, the outlays on General Education are dealt with.

31.1 The post-independence period in general and the Second and Third Plan periods in particular have been characterised by unprecedented expansion of educational facilities at all levels and certain new movements of great educational signi-

ficance were ushered in towards the realisation of the goal of universal and effective education. Consequent on the vast expansion of educational facilities during the sixties and seventies, 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. The Fourth All India Educational Survey has revealed that out of a total of 45,188 habitations in Tamil Nadu, only 1,489 habitations (each with a population of less than 300) did not have a primary school within 2 kilometres and the population in these habitations was only 2.03 lakhs accounting for 0.70 per cent of the total rural population.

Plan Expenditure on Education :

31.2 Educational Expenditure constitute the highest single component in the total Budget. The Tamil Nadu Plan expenditure on education during the earlier Plans is given below :

TABLE 31.1.

<i>Plan period.</i>	<i>General Education.</i>	<i>Art and Culture.</i>	<i>Total General Education and Art and Culture.</i>	<i>Technical Education.</i>	<i>Total Education.</i>	<i>Total Tamil Nadu State Plan.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			(RUPEES IN CRORES.)			
First Five-Year Plan (1951-56) .. ..	..	..	3.82	..	3.82	80
Second Five-Year Plan (1956-61) .. ..	..	..	11.37	2.16	13.53	188
Third Five-Year Plan (1961-66)	34.05	0.13	34.18	6.95	41.13	347
Annual Plans 1966-67 to 1968-69	19.57	0.06	19.63	4.68	24.31	266
Fourth Five-Year Plan (1969-74)	40.06	0.23	40.29	5.38	45.67	559
Fifth Five-Year Plan (1974-79)	43.18	0.67	43.85	4.06	47.91	1,165
Annual Plan (1979-80)	14.46	0.22	14.68	0.82	15.50	380
Sixth Five-Year Plan (1980-85) :						
Actual 1980-81	15.42	0.49	15.91	1.38	17.29	456.46
Actual 1981-82	18.48	0.89	19.37	2.81	22.18	673.30
Actual 1982-83	27.92	1.01	28.93	5.89	34.82	746.49
Actual 1983-84	29.94	0.86	30.80	4.99	35.79	824.91
Actual 1984-85	43.92	1.02	44.94	5.89	50.83	943.45
Total Expenditure 1980-85	135.68	4.27	139.95	20.96	160.91	3,644.61

(The figures of educational expenditure as given above do not include the expenditure incurred on Adi-draavidar/Scheduled Tribes and Backward Class schools and on a few social items; nor does it include the expenditure on Medical, Agricultural and Veterinary education.)

Plan and Non-plan Components :

31.3 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.

31.4 The following table shows the Plan and Non-Plan Components of the Education Budget for the period from 1973-74 to 1984-85.

TABLE 31-II.

Year.	(RUPEES IN CRORES.)		
	Total Expenditure from Government Funds on Revenue Account.	Expenditure on Education demand.	Percentage to total Budget.
(1)	(2)	(3)	(4)
1973-74 (Actuals)	473	104	22.0
1974-75 (Actuals)	528	115	21.8
1975-76 (Actuals)	558	123	22.0
1976-77 (Actuals)	628	143	22.8
1977-78 (Actuals)	706	164	23.2
1978-79 (Actuals)	754	186	24.7
1979-80 (Actuals)	850	201	23.6
1980-81 (Actuals)	1,152	238	20.7
1981-82 (Actuals)	1,360	269	19.8
1982-83 (Actuals)	1,576	345	21.9
1983-84 (Actuals)	1,911	381	19.9
1984-85 (Revised Estimate)	2,070	443	21.4

31.5 Programmes for General Education consist of schemes which foster the development of Elementary Education, Secondary Education, Higher Secondary Education, Government Examinations, Non-Formal and Adult Education, Collegiate Education, Grants to Universities for Non-Technical Education, Legal Education, Traditional Tamil Arts and Sports and Youth Services. Tamil Nadu has become a pioneer in

many an educational activity and its achievement in the field of education over the years has not only been considerable but, has also attracted the attention of the other Indian States.

Review of the Progress during 1980-81 to 1984-85.

School Education :

31.6 The following figures reveal the strides made under school education from the third five year plan onwards :

TABLE 31-III.

Item	Unit	Position in 1965-66 (end of Third Plan)	Position in 1968-69 (end of Annual Plan)	Position in 1973-74 (end of IV Plan)	Position in 1978-79 (end of V Plan)	Position in 1979-80	Position in 1984-85 (end of VI Plan)	Addition during 1980-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Enrolment (Age group 6-17)	In lakhs	61.28	67.83	75.96	85.43	88.79	105.46	16.67
2. Girls Enrolment (Age group 6-17)	„	23.84	27.31	31.25	36.07	37.66	46.00	8.34
3. Scheduled Castes and Scheduled Tribes enrolment (Age group 6-17)	„	9.84	11.31	13.35	17.45	16.64	20.67	4.03
4. Strength of Teachers in all schools	„	1.97	2.09	2.39	2.56	2.58	2.84	0.26
5. Schools (including Higher Secondary Schools)	Nos.	32940	34225	35322	36238	36573	38488	1915

Elementary Education :

31.7 Universalisation of Elementary education is one of the programmes covered under the new 20 point programme. The following figures show the achievements in Tamil Nadu under this programme.

TABLE 31-IV

Targets/Achievements.	Enrolment in percentage		Year, (1)	Age group (2)	Age group (3)	Total (4)	
	Age group	Age group					
	6-11	11-14					
(1)	(2)	(3)	1980-81	..	1.18	0.75	1.93
All India Sixth Plan target of enrolment at the end of Sixth Plan (i.e. by 1984-85).	95	50	1981-82	..	0.61	1.22	1.83
			1982-83	..	2.26	0.85	3.11
			1983-84	..	2.40	1.42	3.82
Achievement in Tamil Nadu in 1979-80	1984-85	..	1.54	1.44	2.98
Achievement in Tamil Nadu in 1984-85	Total	..	7.99	5.68	13.67
	98.66	72.18					

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31.8 The number of pupils additionally enrolled in schools in Tamil Nadu during the Sixth Plan period are as follows ;—

TABLE 31-V

Additional Enrolment during the Sixth Plan period
Sixth Plan Target: 10 lakh pupils (Age groups 6-11 and 11-14).

Year, (1)	Age group		Total (4)	
	6-11 (2)	11-14 (3)		
1980-81	..	1.18	0.75	1.93
1981-82	..	0.61	1.22	1.83
1982-83	..	2.26	0.85	3.11
1983-84	..	2.40	1.42	3.82
1984-85	..	1.54	1.44	2.98
Total	..	7.99	5.68	13.67

Secondary Education :

31.9 Out of 17.95 lakhs of children in the age group 14-16 in 1984-85, 47.45 per cent (8.52 lakhs) had been enrolled in standards 9-10. During the Sixth Five-Year Plan period (1980-85) as many as 421 High Schools were newly opened, including 110 High Schools opened in 1984-85.

Higher Secondary Education :

31.10 The strength in Higher Secondary standards in 1984-85 in the 1421 Higher Secondary Schools (excluding 53 CBSE Higher Secondary Schools) was as follows :—

TABLE 32—VI

<i>Courses.</i>	<i>Boys.</i>	<i>Girls.</i>	<i>Total.</i>
(1)	(2)	(3)	(4)
General Courses (1984-85)	1,57,905	1,12,165	2,70,070
Vocational Courses (1984-85) ..	40,695	20,807	61,502
Total ..	1,98,600	1,32,972	3,31,572

31.11 A scheme of nomination of Science Monitors for assisting Science Masters in Higher Secondary Standards of Higher Secondary Schools is being implemented from 1983-84.

Vocational Courses :

31.12 The achievements of Tamil Nadu in the field of vocational education at Higher Secondary level have been lauded at all India level. The number of Higher Secondary Schools offering vocational courses in 1984-85 was 969. They offered one or more vocational courses and the total number of such courses offered was 1,432. Out of the 3.32 lakhs of Higher Secondary students in 1984-85, 61,502 (i.e. about 19 per cent) were studying in Vocational Courses. Courses in Computer appreciation / education have been introduced during 1984-85 in 16 Higher Secondary Schools in the State.

Government Examinations :

31.13 Regional offices were formed at Madurai and Coimbatore in November, 1980, at Tiruchirapalli in July 1982 and at Madras in October 1984 as part of the scheme of Decentralisation of work of the Department. Under the scheme of the examination system, one Question bank for the S.S.L.C. Public Examination was set up during 1981-82, and three orientation training programmes were arranged for the paper setters and selected teachers.

Adult Education :

31.14 The total coverage so far made under various Adult Education programmes is as follows :—

TABLE 31-VII

<i>Programme.</i>	<i>Men.</i>	<i>Women.</i>	<i>Total.</i>	<i>Adiravidar and Scheduled Tribes included in the total.</i>
(1)	(2)	(3)	(4)	(5)
			(In lakhs)	
1. Rural Functional Literacy Project (July 1979—December 1984)	3.18	5.03	8.21	4.07
2. State Adult Education Programme (1980-81 to 1984-85)	3.89	7.83	11.72	6.43
3. Voluntary Agencies (1979-80 to 1984-85) ..	0.65	1.16	1.81	0.97
4. Nehru Youth Centres (1979-80 to 1984-85) ..	0.18	0.13	0.31	0.15
5. Colleges and Universities (1979-80 to 1984-85)	0.45	0.38	0.83	0.40
Total ..	8.35	14.53	22.88	12.02

31.15 The coverage of women, Adi-Dravidar and Scheduled Tribes under the programme has been very encouraging. The total number of Adult Education centres functioning at the end of 1984 was 18,365. The number of adults studying in all these centres is 5.85 lakhs, of whom as many as 5.02 lakhs are women. Again out of the 5.85 lakhs of adult learners, 2.91 lakhs belonged to Adi-dravidar and Scheduled Tribes.

31.16 The active efforts of the State Government in the field of Adult Literacy have won international recognition. The State Department of Adult and Non-Formal Education won from UNESCO, the prestigious Nadezda Krupskaya Literacy Award for 1982. Tamil Nadu has won an award of Rs. 25 lakhs for each year from Government of India for the excellent performance in enrolling women in Adult Education during 1982-83 and 1983-84.

Non-Formal Education :

31.17 The scheme of Non-Formal Education for the age group 6-14 is for the school drop outs and non-starters, who have no opportunity for formal schooling. This forms part of the scheme of universalisation of Primary Education. This scheme was introduced in the state during 1976-77. Three hundred and seventy four centres at the rate of one centre in each block were opened in 374 Panchayat Unions in 1977-78 and another two centres each in every Panchayat Union in 1978-79 and two more centres per Panchayat Union in 1979-80 were opened in all the 374 Panchayat Unions. These centres functioned for three years. Subsequently 240 centres were opened during the year 1981-82 and 50 centres were additionally opened in 1983-84. One hundred and fifty centres were functioning in 1984-85.

31.18 Thirty Non-formal Education centres were started during 1980-81 for the benefit of the children working in Match and Fire Works Factories in Sivakasi area. These centres completed the first phase of the programme in 1983 and they are now continued in different places with different sets of drop outs.

Traditional Tamil Arts :

31.19 The Directorate of Traditional Tamil Arts newly formed in 1981, is engaged in implementing many schemes for preserving and fostering traditional arts. It conducted exploration in Pothigaimalai area, reputed to be the abode of the Tamil saint Agasthya. The authentic information on rural arts and crafts collected from villages in the districts of Chengalpattu,

Madurai, Tirunelveli, Ramanathapuram and North Arcot has been sent for scrutiny by an expert committee. The work of publishing the songs of Bharathiar with musical notes is nearing completion.

31.20 Tamil Nadu has a rich heritage of folk arts intimately linked with the colourful life of the villagers and the highly cultured domestic tradition of the Tamil householder. There are multitude of folk forms including dance, dramas like Kuravanji, Kummi, Kolattam, Karagam and Kavadi and dummy horse dances, etc. Some of these arts have faded away for want of proper care and patronage. In order to preserve at least the existing folk arts from total extinction, Festival of Traditional Tamil Arts and Seminars are being conducted every year. A seminar on Traditional Arts and Culture in April 1983 and Festival of Traditional Tamil Arts and Culture in March 1984 were conducted.

Collegiate Education :

31.21 The qualitative improvement of the existing colleges was the chief feature of development in the Sixth Five-Year Plan. Any outlay was not made in the Sixth Plan for the opening of new arts and science colleges in the State. However, one Government Arts College was started at Chidambaram under non-plan side of the budget from the year 1982-83. Two aided colleges, (RDM College, Sivaganga and Alagappa Arts College, Karaikudi) were taken over by Government in the recent years. At present, there are 195 Arts Colleges (Government 54; Aided 133; and un-aided private 8) in the State. The students' strength which was 1.36 lakhs in these colleges at the beginning of the Sixth Plan, has increased to 1.92 lakhs in 1984-85. Similarly the strength of teachers has increased from 12,190 to 13,900 in the Sixth Plan. Besides, there are 23 colleges of Education and 21 other Colleges in Tamil Nadu.

University Education :

31.22 Campuses of about 1000 acres each have been provided to the Bharathiar and Bharathidasan Universities at Coimbatore and Tiruchirappalli respectively. The following new centres and schools have been established within the Bharathiar University.

- (i) Computer centre,
- (ii) School of Management and Entrepreneur Development,
- (iii) School of Languages,
- (iv) Educational Resources Centre,
- (v) Centre for Environment Studies, and
- (vi) Centre for Integrated Rural Development

31.23 As part of its larger policy of establishing centres of Excellence, the Bharathidasan University has, in collaboration with the Bharath Heavy Electricals Limited primarily and along with other public sector undertakings like the Neyveli Lignite Corporation, Tamil Nadu Electricity Board, etc., has established two schools of Excellence, viz.,

(i) The Bharathidasan Institute of Management and

(ii) The Bharathidasan School of Energy. All the colleges in the university area offer only the restructured courses from the academic year 1982-83.

31.24 The aims and objectives of Mother Teresa Women's University, Kodaikanal are unique. This university has a different task—viz., that of conducting research on women and women's welfare and to utilise the research reports to provide consultancy service for the various women's organisation, both in the Government and Private sector involved in Women's Welfare. The end product of the various researches conducted and consultancy services given should help women to develop the right type of attitude to achieve the cherished goal of "equal status for women". The Women's University has conducted a conference of the Principals of all women's voluntary organisations, and a seminar on women's education, all with a view to identify various areas requiring in depth study and research.

31.25 The University of Madras celebrated its Post-Centenary Silver Jubilee in 1983. The Post-Graduate centres established at Salem by the Madras University and Tirunelveli by the Madurai Kamaraj University will form the nuclei of New Universities to be established in due course at Salem and Tirunelveli. During the Sixth Plan period, the University Grants Commission has sanctioned Rs. 100.00 lakhs to each of the three universities of Madras, Madurai Kamaraj and Annamalai. The Government of Tamil Nadu have also sanctioned matching grants in this regard, besides accepting to take over the recurring liability on the staff sanctioned during the Sixth Plan period.

31.26 The Tamil University, Thanjavur was established in September, 1981, for serving as a high level research centre to discover the past of the Tamil language and to develop the language into a viable media for modern thought. The number of Professors and Research Scholars in the University was more than 50 during 1984-85. Twelve scholars are engaged in research leading to D.Litt.

Legal Studies :

31.27 The Five year Law degree course (five years after Higher Secondary) was introduced in all the four Law Colleges in Tamil Nadu from 1983-84. The second year classes commenced in 1984-85. The Five year Law Course and Three Year Law Course are now being conducted simultaneously. The Three year evening law course introduced in 1983-84 for the benefit of employed persons is being continued. Out of the total number of 3,975 students in all the four Law Colleges in the State in 1984-85, 470 were girls, as against 261 in the previous year.

Sports, Physical Education and Youth Welfare :

31.28 The Department of Sports and Youth Services was started in September 1979. Construction of sports complex in Nehru Park, Madras-84, has been started during the year 1980-81 and the work was completed. Youth clubs were started in various districts during 1981-82. Sports schools and sports hostels have been started during 1980-81 and sports schools for girls were started during 1982-83. Sports schools/hostels for Higher Secondary boys were also started in 1983-84. The Educational District Level Middle School Sports Meet and the Ten School Zonal Meets are being conducted from 1980-81. The 'Catch Them Very Young' Tournaments were started in 1982-83.

31.29 The scheme 'Award of Sports Scholarships to Talented Sportsmen' has been introduced in 1982-83. During 1980-81, provision was made for the construction of stadium at Thanjavur and Dharmapuri. The construction work of stadium at Periyar and Pudukkottai was started in 1981-82 and at Karaikudi in 1982-83. In all the places, construction works are in progress. Provision was made for construction of two swimming pools at Vellore in 1980-81, two swimming pools at Thanjavur and Dharmapuri in 1981-82 and one swimming pool at Ramana-thapuram in 1982-83. The preliminary arrangements for the construction of swimming pools are in progress. Financial assistance to private sport clubs is being given from 1982-83. There are now 19 District Sports Councils (including a second District Sports Council in each of the three big districts of Thanjavur, Tirunelveli and Madurai constituted in 1983-84). The Department's monthly journal "Thamizhar Vizhayattu Madal" is very popular and about 1,000 copies are distributed free to sportsmen and sports clubs.

Approach to the Plan 1985-90 :

31.30 'Education for Development' will be our new thrust. Towards this end, job orientation schemes for life oriented education will get priority. Over-riding priority will be given to universal elementary education for children in the age group 6-14 years. Mass media facilities and distant learning techniques will be used extensively for spreading and improving elementary education including teacher training. A more determined effort will be made to adopt suitable strategies using a combination of both formal and non-formal education at the secondary stage. High emphasis will be given for the improvement of quality at the secondary stage and higher education.

Plan Programmes for 1985-90 :

31.31 The outlay proposed under each programme of education is as below :

TABLE 32—VIII.

Serial number and Programme, (1)	Outlay for 1985-90, (2)
(RUPEES IN LAKHS.)	
1. Elementary Education	13,00.00
2. Chief Minister's Nutritious Meal Programme	25,00.00
3. Free Uniforms and Free Text Books	1,00,00.00
4. Chief Minister's Scheme of Life Oriented Education	1,000.00
5. Secondary Education	55,57.00
6. Higher Secondary Education	15,20.00
7. Government Examinations	54.00
8. Tamil Development and Traditional Tamil Arts	1,35.00
9. Non-Formal and Adult Education.	14,27.00
10. Collegiate Education	9,00.00
11. Grants to Universities for non-technical Education	25,00.00
12. Legal Education	1,00.00
13. Sports and Youth Services	10,07.00
	2,80,00.00
	or
Total—General Education	280.00 crores.

ELEMENTARY EDUCATION—MINIMUM NEEDS PROGRAMME.**Requirement of Teachers :**

31.32 The estimated school age population in 1989-90 under the age group 6-11 and 11-14 will be 77.86 lakhs and 35.04 lakhs respectively. Till 1984-85, 70.44 lakhs pupils in the age group 6-11 and 23.19 lakhs pupils in the age group 11-14 have been enrolled. Therefore, the additional enrolment to be made during the plan period will be 7.42 lakhs in the age group 6-11 and 11.85 lakhs in the age group 11-14, totalling about 19 lakhs. It may not be possible to enrol the additional 19 lakhs of pupils of age group 6-11 and 11-14 under the formal school system before 1990. It is proposed to enrol only about 12 lakhs pupils under the formal school system during the plan period. The constraints on resources may not permit the appointment of all the teachers required. Hence it is proposed to keep the requirements of additional secondary grade teachers to 5,000 only during the plan period at the rate of 1,000 teachers per year. A sum of Rs. 11,34.00 lakhs has been provided for the purpose.

31.33 Further it is necessary to provide additional posts of B.Ed., Grade Headmasters, Tamil Pandits, Physical Education Teachers and Full-Time Craft Teachers to the middle schools. For improving the professional attainments of elementary school teachers, training programme and refresher courses will be implemented. An outlay of Rs. 1,66.00 lakhs has been earmarked for these programmes.

INCENTIVE PROGRAMME.**(i) Chief Minister's Nutritious Meals Programme :**

31.34 The "Chief Minister's Nutritious Meals Programme" launched in 1982-83, is a total package of programmes with lofty, long range goals with educational and economic implications. It is also a potent incentive for improving enrolment and reducing the drop-outs. Now there are 28,105 pre-school centres and 37,447 other school centres benefitting around 80 lakh children all over the State. The scheme has also generated additional employment opportunities to 1.85 lakhs of persons, out of whom 1.58 lakhs are women particular preference being given among them to widows and destitutes. Under Education sector, an outlay of Rs. 25,00.00 lakhs has been provided for the Seventh Plan period.

(ii) Free Uniforms and Free Text Books :

31.35 The scheme of free supply of uniforms and free supply of text-books to all deserving poor children in Standards I—VIII will be implemented at a total cost of Rs. 1,00,00.00 lakhs during 1985—90.

CHIEF MINISTER'S SCHEME OF LIFE ORIENTED EDUCATION.

31.36 The present school curricula are mostly knowledge oriented and not much related to the actual needs and life situations of children. Further it does not take into account the needs of those children who drop out at various stages of the educational ladder. The Chief Minister's Scheme of Life Oriented Education envisages the vocationalisation of School Education at all levels. Education should provide the necessary skills for boys and girls so that they could find suitable vocation or self-employment. Children should be taught to respect the dignity of labour and attitudes towards this end should be nurtured. The gap between our education system and life should be narrowed down and children should be prepared and equipped to face life situations. This scheme involves a massive outlay. The scheme will be implemented during the Seventh Five-Year Plan period. Under Plan an outlay of Rs. 10,00.00 lakhs has been earmarked for the programme.

SECONDARY EDUCATION.**Expansion of facilities :**

31.37 Out of 17.95 lakhs of children in the age group 14—16 in 1984-85, 47.45 percent (8.52 lakhs) had been enrolled in standards 9—10. As per the projected school age population for age group 14—16 at the end of 1989-90, there will be 19.58 lakhs of pupils. Therefore, the additional enrolment to be made during the Plan period will be 11.06 lakhs. It may not be possible to enrol the additional 11 lakhs of pupils of age group 14—16 during the plan period. It is proposed to enrol additional 50,000 pupils per year. The constraints on resources may not permit the appointment of all the teachers required. Hence it is proposed to keep the requirements of additional B.Ed., Grade posts as 2,500 teachers during the plan period. An outlay of Rs. 7,40.00 lakhs has been provided for the purpose. Further a provision of Rs. 2,20.00 lakhs has been earmarked for opening of 125 new High schools during the Seventh Five-Year plan period.

High School Buildings :

31.38. A sum of Rs. 2,607.00 lakhs has been provided for the building programme of existing secondary schools and renovation of Government B Wing school buildings. An outlay of Rs. 437.00 lakhs has been earmarked towards construction of new buildings for 125 new High Schools to be opened during the plan period.

Science Laboratory for High Schools :

31.39. Under the scheme of equipping high schools with science laboratories, 1,119 high schools had been covered upto 1984-85. Laboratory equipments are purchased centrally and supplied to each beneficiary school by the Director of School Education. For Laboratory buildings Rs. 1.20 lakhs is spent for each Government High School and 60 percent of the cost of construction or Rs. 72,000 whichever is less is paid to each aided school as grant-in-aid. It is proposed to cover 750 more high schools at a cost of Rs. 1125.00 lakhs during the Seventh Five-Year Plan period.

Other Programmes :

31.40. An outlay of Rs. 170.00 lakhs has been provided for the In-Service Training Programmes to be conducted by the State Council of Educational Research and Training (SCERT) for teachers of high school standards. It is proposed to strengthen the administrative staff and ministerial staff of the School Education Department and to strengthen the statistical machinery of the Directorate. A sum of Rs. 258.00 lakhs has been provided for the purpose.

HIGHER SECONDARY EDUCATION.

31.41. The main purpose of higher secondary education is to vocationalise education at the plus two stage. Tamil Nadu adopted the 10+2+3 pattern of education from 1978-79 onwards. There are now about 1,474 higher secondary schools in Tamil Nadu. The number of higher secondary schools offering vocational courses in 1984-85 was 969. They offered one to more vocational courses and the total number of such courses offered was 1,432. Out of the 3.32 lakhs of Higher Secondary students in 1984-85, 61,502 were studying in vocational courses.

31.42. An outlay of Rs. 1520.00 lakhs has been earmarked in the plan for Higher Secondary Education. A sum of Rs. 623.00 lakhs is earmarked towards providing 1,340 posts of Ministerial Assistants for Higher Secondary Schools and Rs. 456.00 lakhs for

opening of 50 more Higher Secondary Schools with sufficient additional posts of teachers, furniture, laboratory buildings, equipments, science articles, etc. Sums of Rs. 101.00 lakhs and Rs. 99.00 lakhs respectively have been provided for 250 additional posts of Post-Graduate Teachers for existing schools and for 125 posts of Part-time Instructors. Provision of Rs. 81.00 lakhs has been made towards creation of 450 posts of Laboratory attenders during the plan period. The National Service Scheme now covers about 20,000 students in Higher Secondary standards of 400 Higher Secondary Schools. It is proposed to cover another 5,000 students in 100 more Higher Secondary Schools during the plan period at a cost of Rs. 57.00 lakhs. A sum of Rs. 101.00 lakhs is allotted towards the provision of furniture for 770 Higher Secondary Schools and additional grant for vocational equipments to 630 schools. For the inservice training of 800 higher secondary teachers, a sum of Rs. 2.00 lakhs has been provided.

GOVERNMENT EXAMINATIONS.

31.43. The Directorate of Government Examinations conducts as many as 41 Public Examinations. Of these Examinations, the S.S.L.C. Public Examination, Higher Secondary Examination, Anglo-Indian High School Examination, Matriculation Examination, Examination for Diploma in Teacher Education, Examination for Diploma in Homeopathy Medicine and Surgery are the major ones. Some of these examinations are conducted twice in a year. For the Higher Secondary Examination and S.S.L.C. Public Examination alone, about 8 lakhs of candidates appear and these examinations are held simultaneously, in more than 3,000 centres spread over throughout the State. Formation of three more Regional Offices at Tirunelveli, Salem and Thanjavur and other schemes to provide infrastructure facilities to cope up with the increasing work-load will be taken up during the plan period. A sum of Rs. 54.00 lakhs has been provided for these programmes.

TAMIL DEVELOPMENT AND TRADITIONAL TAMIL ARTS.

31.44. An outlay of Rs. 20.00 lakhs has been earmarked for grants to International Institute of Tamil Studies. The scheme now relates to the Department of Tamil Development.

31.45. The Directorate of Traditional Tamil Arts is implementing the following schemes to high-light the pre-eminence and pristine glory of the Tamil Traditional Arts and Culture to the general public as well as to the elite both in our country and abroad:—

- (i) Compilation of Cultural Profile ;
- (ii) Establishment of Tamil Culture Museum ;
- (iii) Production of Films on the munificence of early Tamil Kings ;
- (iv) Tamil Scholars Voice Preservation Scheme ;
- (v) Festival of Traditional Tamil Arts and Seminars on Folk Arts of Tamil Nadu.

31.46. The Scheme 'Grant of Financial assistance to the indigent Tamil Writers' is meant for the benefit and uplift of the poor and needy writers who have contributed to the growth and enrichment of Tamil language and Literature by their masterly work. For the continuance of the six on-going schemes, a sum of Rs. 55.00 lakhs has been provided during the plan period. With a view to focus and highlight the traditional art forms of Tamil Nadu and glory and grandeur of Tamil Culture and civilization with Tamils living in other States as well as to the local non-Tamil population, it is proposed to establish House of Tamil Culture in a Centrally located place of various State Headquarters. An outlay of Rs. 60.00 lakhs has been provided for the purpose.

NON-FORMAL AND ADULT EDUCATION.

Non-Formal Education :

31.47. The scheme of Non-Formal Education for the age-group 6-14 is for school drop-outs and non-starters who have had no opportunity for formal schooling and forms part of the scheme of Universalisation of Primary Education with emphasis on literacy and numeracy. 150 centres were functioning in 1984-85. Each centre functions for three years and conducts three courses each of 10 months duration with different sets of drop-out children. Each centre has about 30 learners. For the benefit of the child labourers working in factories such as match industries, fire works factories, beedi factories and other cottage industries, the scheme 'Non-Formal Education for the Child labourers' is being implemented. Now there are 100 centres functioning in Sivakasi, Sathur, Vembakottai areas in Kamaraj District and 10 centres in Gudiyatham in North

Arcot District. It is proposed to continue the existing number of centres during the Seventh Five-Year Plan period. An outlay of Rs. 53.95 lakhs has been provided for these programmes.

31.48 Under the programme of vocational Non-Formal Education for Urban Areas the vocational skill training is given in subjects like tailoring, embroidery, plastic wire bag making, paper flower making, electric wiring, pump-set repairing, etc. The literacy content, centres around the trade or skill imparted. The existing 66 vocational Non-Formal Education Centres will be continued with an outlay of Rs. 5.75 lakhs during the plan period.

Adult Education :

31.49 Out of a total population of 4.84 crores in Tamil Nadu as per the 1981 census, only 2.26 crores were literate. About 15 lakhs of illiterates in the age-group 15-35 have been made literate by the end of 1984-85. During the Seventh Five-Year Plan period, it is proposed to cover 50 lakhs of illiterate Adults through the existing 115 State Adult Education Programmes and by opening additional 40 new projects. A sum of Rs. 1,299.50 lakhs has been earmarked in this regard.

31.50 Post Literacy scheme is essential to prevent the neo-literates relapsing back to illiteracy and the scheme was introduced in the year 1981-82. The centres opened will run for a period of 12 months duration. Necessary reading materials for the neo-literates would be provided in the centres. It is proposed to open atleast 1,000 Post Literacy Centres for the first three years of Seventh Five-Year Plan period at the existing level, 1,300 centres during fourth year and 1,500 centres during the final year. An outlay of Rs. 58.00 lakhs has been made for the purpose. In order to strengthen the administrative structure of the Directorate, a sum of Rs. 9.80 lakhs has been provided.

COLLEGIATE EDUCATION:

31.51 The qualitative improvement in the existing colleges, is continued to be the chief feature of development in the Seventh Plan. The research facilities in Government Colleges will be developed simultaneously. Further, there is persistent demand from the public to start Arts and Science Colleges in educationally backward areas and separate Women Colleges in certain places like Dharmapuri and Chidambaram. Hence, a token outlay of Rs. 1.00 lakh has been included in the Seventh Plan for the opening of new Arts and Science Colleges in the State.

31.52 Sixty-five additional degree courses and 30 Post Graduate courses and 13 evening college degree courses were started in the existing Government Colleges in the last five years. In order to cope up with the rush for admission in colleges, the intake capacity of Government Colleges will continue to be stepped up gradually in the Seventh Plan. It is proposed to start 5 to 10 additional degree courses and 2 to 5 Post-Graduate Courses every year in the Government Colleges. Evening College Degree Courses were started in 13 Government Colleges in the Sixth Plan. About 5 more courses will be started in the Seventh Plan. A sum of Rs. 415.00 lakhs has been provided for the opening of additional courses in Government Colleges.

31.53 The building needs of the Government Colleges have increased considerably because of starting of additional Degree/Post-Graduate Courses every year. The building requirements are being met in a phased manner. The construction of additional class rooms in 14 Government Colleges, additional Laboratories in 3 Government Colleges, Hostel buildings in 5 Government Colleges, Compound wall facilities in 3 Government Colleges were undertaken in the Sixth Plan. Besides, the construction of permanent building for the newly started Government Arts College, Chidambaram is under execution. For meeting the building needs of Government colleges a provision of Rs. 250.00 lakhs is made in the Seventh Plan and this will be utilised for the construction of 100 more class rooms; 3 to 5 Laboratories and Office buildings for the Directorate/Regional Offices. A sum of Rs. 10.00 lakhs has also been provided as building grants to aided colleges for their building programmes.

31.54 In order to equip the Laboratories suitably to cope up with the restructuring of Degree/Post-Graduate Courses, it is proposed to give special grants to the extent of Rs. 10.00 lakhs to needy Government Colleges in the Plan period. Further, the laboratory facilities will be improved to the extent of Rs. 50.00 lakhs and play fields developed to the extent of Rs. 7.00 lakhs. A provision of Rs. 30.00 lakhs has been made for the purchase of furniture to the newly constructed class rooms/Laboratories in Government Colleges.

31.55 Other qualitative programmes include the deputation of Government College Professors/Assistant Professors for research work leading to Ph.D., conduct of Orientation Research Programme for the benefit of college teachers and improvement of college libraries. For these improvement programmes, a sum of Rs. 40.00 lakhs has been provided in the Seventh Plan. The administration

of the Directorate, Regional Offices and Government Colleges will be strengthened suitably by providing additional staff and vehicles to the Regional Offices. A sum of Rs. 50.00 lakhs has been included for this purpose. A development cell has been set up in the Directorate to plan the development of colleges. This cell is proposed to be strengthened during the Seventh Plan with an outlay of Rs. 6.00 lakhs, so that it can co-ordinate with college development councils in the Universities and get assistance from the University Grant Commission and other funding agencies for the development of colleges.

31.56. Some of the Government Colleges in the State like Presidency College, Madras, Government Arts College, Coimbatore, Government College (Men), Kumbakonam, etc., have reasonable infrastructure for the conduct of research by teachers. To utilise this facility, a separate scheme for the development of research facilities in Government Colleges has been included with a provision of Rs. 8.00 lakhs. Further, as a welfare measure to the college teachers, another scheme with a provision of Rs. 3.00 lakhs for identifying talents in college teachers like book-writing, translation of text books, etc., has been proposed in the Seventh Plan. For the scheme of Grants to Madras Institute of Development Studies, a sum of Rs. 20.00 lakhs has been provided.

GRANTS TO UNIVERSITIES FOR NON-TECHNICAL EDUCATION.

31.57 University Grants Commission assistance was of the order of Rs. 100.00 lakhs per university during the Sixth Five-Year Plan period. This assistance has been given to Madras, Madurai Kamaraj and Annamalai Universities. This assistance is given at 100 per cent grant for equipment and books and 50 per cent matching grant for buildings. The balance 50 per cent is to be met by University/State Government. In the case of grants for appointment of teaching staff, the recurring liability has to be borne by University/State Government, after the University Grant Commission's assistance ceases. Thus the State Government, besides giving 50 per cent matching grant for buildings during the plan period, takes over the entire liability on recurring expenditure on various schemes sanctioned to the Universities and funded by the University Grants Commission. During the Seventh Five-Year Plan period, a sum of Rs. 200.00 lakhs each as financial assistance was sanctioned as grant to the Universities of Madras, Annamalai and Madurai-Kamaraj and Rs. 150.00 lakhs each to the Universities of Tamil, Bharathiar and Bharathidasan.

31.58 The Mother Teresa Women's University was established at Kodaikanal in January 1984 with a view to furthering the advancement of learning and prosecution of research studies on Women's Welfare and for purpose of providing consultancy and monitoring services for welfare schemes relating to Women. In order to enable the University to qualify for University Grants Commission assistance, Rs. 450.00 lakhs has been included in the Seventh Five-Year Plan for grants to the Women's University.

31.59 For the constitution of an University at Karaikudi, a sum of Rs. 450.00 lakhs has been provided for the purpose. It is proposed to constitute new Universities at Tirunelveli and Salem with an outlay of Rs. 550.00 lakhs during the Seventh Five-Year Plan period.

LEGAL EDUCATION.

31.60 A sum of Rs. 100.00 lakhs has been earmarked towards the salaries of the teaching and non-teaching staff and the maintenance of the Law Colleges at Tiruchirappalli and Coimbatore and new programmes of existing four Law Colleges in the State.

SPORTS AND YOUTH SERVICES.

31.61 The Department of Sports and Youth Services was started in September 1979. With the coming into existence of the Department, the ongoing schemes drawn up from 1979 to 1985 under execution are strengthening of sports activities, promotion of Youth Welfare, encouraging the participation of college students in National Service Scheme, starting of sports hostels, conduct of sports meets, catch them very young to identify the sports talent, awarding of sports scholarship, construction of open air stadia and swimming pools, giving financial assistance to private sports clubs, establishment of second District Sports Councils in big Districts, etc.

32.62 During the Seventh Five-Year Plan period, apart from continuing the schemes started in the Sixth Five-Year Plan period, the schemes such as construction of galleries in the existing stadia, Flood-lighting of the play fields, construction of Indoor Stadium at District Headquarters, construction of Mini-Stadia in Municipal Towns, Scholarships to outstanding sportsmen, Astro Turf of Hockey fields in Madras, Cinder track provision in all the stadia, Extension of Sports Hostels to some Districts and formation of Tamil Nadu Sports Development Corporation are proposed. A sum of Rs. 1007.00 lakhs has been earmarked for these programmes.

CHAPTER 32.

ART AND CULTURE.

Review of the progress during 1980-81 to 1984-85.

32.0. The Tamil Nadu Iyal Isai Nataka Mandram, the State level counterpart of the Sangeeth Natak Academy is actively engaged in fostering Music, Dance, Drama, Folk Arts, etc., in accordance with Tamil Cultural traditions. The Silver Jubilee of the Mandram was celebrated in August, 1980. The Mandram has given awards till now to about 660 artists in the fields of Music, Dance, Drama, Film and Folk arts. About 1,616 artists in indigent circumstances receive monthly pension of Rs. 150 from Government. A cultural troupe from Tamil Nadu gave performances in Maharashtra during 1983-84. During 1984-85, troupes of artists from Rajasthan and Uttar Pradesh visited Tamil Nadu.

32.1. The Tamil Nadu Oviyam Nunkalai Kuzhu is an autonomous body in charge of fostering the development of the visual and plastic arts. It awards scholarships at Rs. 150 per mensem for 10 months to talented artists for this institutional study. About 280 Art masters have so far been benefitted by the scheme of orientation training in Art Education for drawing masters working in schools. Tamil Nadu Art Exhibitions were conducted at Jaipur (Rajasthan) and Bhubaneswar (Orissa) during 1981-82. In 1982-83 an Art Exhibition from Orissa was conducted at Madras. During 1983-84, the Kuzhu organised an Art Exhibition from Manipur at Madras, and during 1984-85, an Art Exhibition from Rajasthan was organised at Madras. The Kuzhu is publishing a half-yearly journal entitled "Nunkalai" and publish picture post cards of eminent artists of Tamil Nadu.

32.2. The Government colleges of Music at Madras and Madurai and the music wing of the Oriental College at Thiruvaiyaru, are conducting courses in Music and Bharatha Natyam. Four new courses have also been started in the subjects Kadam, Kanjira, Nuharsangam and Nattuvangam. The strength of the staff working in the Government Music College is 54. 520 students are studying in these colleges.

32.3. The Colleges of Arts and Crafts at Madras and Kumbakonam and Architecture and Sculpture College at Mamallapuram are under the control of the Director of Technical Education. The total intake of these institutions is 227 students,

annually. During the Sixth Plan period, Post Diploma courses in (i) Painting and (ii) Commercial Art were introduced at the Government College of Arts and Crafts, Kumbakonam. B.Sc degree course in (i) Temple Architecture, (ii) Wood sculptures, (iii) Stone Sculpture (iv) Sudhai Sculpture, and (v) Metal Sculpture have been introduced at the Government College of Architecture and Sculpture, Mamallapuram.

32.4. The Department of Tamil Development-Culture has been sanctioning grants to new production of drama, dance drama and assisting Tamil cultural organisations outside the State for conducting cultural programmes by sponsoring cultural troupes from Tamil Nadu to propagate Tamil culture. The department is also assisting these organisations for construction of auditoriums. Besides, the department sponsors Civil Servants drama troupe for the All India Civil Servants Drama Competition, every year.

32.5. The Tamil Nadu Archives at Madras possesses the richest collection of Government records in South Asia. A micro film unit was installed in 1982 for microfilming old records. District Record centres have been opened at Chidambaram, Madurai and Coimbatore in March, 1982. The Tamil Nadu Council of Historical Research is encouraging research in various aspects of life in the South by awarding Research fellowships. The Tamil Nadu Archives library is having about 2½ lakh books of historical value. So far 38 sessions of (15 days duration) training in Record management have been conducted and 647 persons have been trained by the Tamil Nadu Archives.

32.6. The Gazetteer unit for revising and re-writing the District Gazetteers is functioning under the control of the department of Archives and Historical Research. The Pudukkottai District Gazetteer (English edition) was published recently. The Tamil edition of that Gazetteer is being printed, work is on progress on the Tamil edition of the Ramanathapuram District Gazetteer and on the District Gazetteers for Dharmapuri, Tirunelveli and Kanyakumari.

32.7. The Government Museums at Madras, Pudukkottai, Salem, Madurai and Tiruchirappalli are functioning under the control of the Director

of Museums. The District Museums at Madurai and Tiruchirappalli were established during 1980-81 and 1981-82 respectively. The district museums sanctioned for Vellore, Erode and Coimbatore are being established. Improvement have been carried out to the mammals, philately and Economic Botony galleries in Madras Museum. A new Folk art gallery has been set up. The annexe to the National Art Gallery constructed at the campus of Madras Museum was opened. A new activity "Panorama of Tamil Culture" has been started and a series of programmes focussing attention on Tamil culture (with lectures and demonstrations) is being arranged every month at the museum theatre.

32.8. Special repairs and improvements for the monuments like Thanjavur Palace, and other sites have been taken up during 1981-82. A site museum is being established at Karur, the capital of the Cheras, and art objects are being collected. During 1981, the department of Archaeology undertook with the Co-operation of the National Institute of Oceanography, a survey of the sea-bed off the coast of Poompuhar by means of instruments carried on board a research vessel. The survey has established the existence of mounds under the sea, in the area. During 1983-84, training courses in epigraphy were conducted for 185 teachers in all at Thirukoilur, Papanasam, Mayiladuthurai, Salem and Kanchipuram, in order to equip teachers in schools and colleges to read and decipher inscriptions. The 1,000th year of the Coronation of Rajaraja, the Great was celebrated in a fitting manner in September 1984. A site museum on Rajaraja has been established at Thanjavur. Steps are being taken to celebrate in a fitting manner the 400th birthday of King Thirumalai. The department of Archaeology administers also the Oriental Manuscripts Library in the campus of the Madras University.

32.9. The Connemara Public Library, Madras which serves as the State Central Library has 3.82 lakhs of volumes in its shelves and has enrolled about 25,000 members. Mending and binding sections have been set up. During 1983-84 and 1984-85 Rs. 22.00 lakhs in all were sanctioned for the purpose of foreign books and periodicals for this library.

32.10. A photo copier has also been provided at this library for the convenience of the reading public. There are now 16 Local Library Authorities—one for each district and they are running in all, 16 District central libraries and 1,511 Branch libraries (including 20 newly opened

in 1984-85). In order to enable the financially weaker local library authorities to purchase books, the Government are paying them a special grant of Rs. 11.00 lakhs per annum with effect from 1984-85. Under the Local Library Authority, Madras, buildings for 6 circle libraries and 14 Branch libraries have so far been completed and work on buildings for 14 branch libraries is in progress. The Local Library Authorities in the districts are also executing programmes for construction of buildings for their branch libraries in a phased manner. Multi-storeyed buildings have been constructed at Tiruchirappalli and Coimbatore for the District Central Libraries.

THE PLAN FOR 1985-80.

The objectives:

32.11. Cultural, social and economic development activities are inter-related. The foundations of cultural and social life have to be strong to take the load of economic and cognate activities. The emphasis for the plan period 1985-90 will be on preservation and promotion of the cultural heritage, dissemination of culture, Identification of the local art forms and rural talents, preservation of monuments and repositories of manuscripts and art objects.

Plan Outlay :

32.12. The Plan outlay under "Art and Culture" for 1985-90 is of the order of Rs. 640.00 lakhs. The break-up for each head of activity is indicated below :—

Serial number and description of activity.	Outlay for 1985-90.
(1)	(2)
	(RUPEES IN LAKHS.)
1 Iyal Isai Nataka Manram, Oviyam Nunkalai Kuthu, promotion of cultural activities,	242.00
Inter State Exchange of cultural Troupes, extension of pension to indigent artists, etc.	
2 Public Libraries	163.00
3 Archaeology	100.00
4 Museums	80.00
5 Fine Arts and Education	30.00
6 Archives and Gazetteers	25.00
Total—Art and Culture	640.00
	or
	6.40
	Crores.

Programmes :

32.13. The Plan programmes are given below :

Promotion of Art and culture :

32.14. The various activities of the Iyal Isai Nataka Manram and Ovium Nunkalai Kuzhu are on-going in nature and wholly depending on the funds of the Government. An outlay of Rs. 120.60 lakhs has been earmarked for these programmes for serving the rural areas and preserving village arts. For conducting cultural programmes in Tamil Nadu as well as outside the State during important festivals and celebrations, an outlay of Rs. 25.00 lakhs has been made. The scheme 'Inter State Exchange of Cultural Troupes, delegation etc.' has to be implemented more effectively and enthusiastically during the VII Five-Year Plan period to strengthen the spirit of national integrity among the people of our country. A sum of Rs. 25.00 lakhs has been provided for the purpose. The provision of Rs. 68.00 lakhs has been made for the financial assistance to eminent artists and men of letters who are now in indigent circumstances. For continuing the scheme 'Scouting for new talents in traditional arts and encouragement to new artists' during 1985-90, a sum of Rs. 3.40 lakhs has been earmarked.

Public Libraries :

32.15. To improve the Connemara Public Library a computer will be provided. In order to modernise the library service in the State and to streamline the activities of the libraries additional posts will be created in the Directorate. The other programmes envisaged are for provision of financial assistance to local library authorities, construction of buildings for branch libraries and district Central Libraries, continuing the Institute of Library Science at Madras and Madurai, and other related programmes. An outlay of Rs. 163.00 lakhs has been provided.

Archaeology :

32.16. Special repair works to major monuments like Tanjore Palace, Tranquebar and Manora will be carried out during the plan period. Provision has been made for the improvements to site museums and epigraphy wing. An Epigraphy branch will be established at Ooty. With a view to improve the printing section with modern facilities it is proposed to purchase colour offset printing machines. It is proposed to provide an Assistant Director post in District Archaeology section with supporting staff to Co-ordinate the activities of the Archaeological Officers. For the

improvement of Government Oriental Manuscripts Library, a Xerox copying machine will be provided. The administrative machinery and departmental library will be strengthened. A sum of Rs. 100.00 lakhs has been provided for these programmes.

Museums :

32.17. The establishment of six district museums, construction of new building for Pudukkottai and Salem museum, Formation of a Botanical Garden in the Government museum, Madras, Repairing and enlarging the existing buildings in the Government Museum, Madras and Enlarging the activities of the museums including the educational activities are the main programmes. It is proposed to continue the scheme of reorganisation and modernisation of galleries to make them more attractive. Provision has been made also for the purchase of electronic typewriter with memory and Fibre Glass models of prehistoric animals and formation of recreation area for children behind the children's museum. An outlay of Rs. 80.00 lakhs has been provided for these programmes.

Fine Arts and Education :

32.18. Under the programme of diversification of courses, new courses are proposed to be introduced at the Government College of Arts and Crafts, Madras in the Seventh Plan period. A post Graduate Diploma Course in basic building amenities and services is proposed to be offered in the Government College of Architecture and Sculpture, Mamallapuram. As a further step towards promotion of traditional learning and training, a Post Graduate Course is also contemplated. A Research wing will be created for research on architectural and sculptural designs as well as academic research. A sum of Rs. 15.00 lakhs has been provided for the above purpose.

32.19. With the opening of a new Music College at Coimbatore in the year 1985-86, there are at present, 3 Government Music Colleges in the State. For the development of music colleges an outlay of Rs. 15.00 lakhs has been provided during the Seventh Plan period.

Archives and Gazetteers :

32.20. Regional Record centre at Tiruchirappalli and District Record Centre at Salem will be opened during the plan period. Provision has been made to meet the salaries component relating to District Gazetteers. A sum of Rs. 25.00 lakhs has been earmarked for the programmes.

CHAPTER 33.

TECHNICAL EDUCATION.

33.0 The Economic prosperity of a country is largely dependent on the general level of education that it provides to its masses. This dependence is even greater on 'Technical Education' without which the vast physical expansion that the country has witnessed in the past three decades would not have been possible. 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 craftsman training level to Post-graduate degree and Research level.

Review of Technical Education in Tamil Nadu ;

1. Financial progress :

33.1. For the implementation of the various programmes under Technical Education an outlay of Rs. 11.00 crores was provided in the Sixth Plan. The expenditure incurred in the Sixth Plan, however, is of the order of Rs. 20.96 crores or, 190.5 per cent of the Sixth Plan outlay.

2. Physical progress :

(i) Higher Secondary School (Vocational) :

33.2. At the end of 1984-85, there were 14 Higher Secondary School (Vocational) in the State with an annual in take capacity of 840 seats. The

teacher student ratio in Higher Secondary Schools (Vocational) in 1984-85 was 1 : 13 compared to 1 : 20 in the year 1979-80. The per capita expenditure on student for the entire course was Rs. 5,357 in 1984-85 as against Rs. 4,550 in 1979-80, recording an increase of 18 per cent.

(ii) Polytechnics :

33.3. At the end of the VI Plan there were 111 Polytechnics (including 10 women polytechnics and 8 Special Institutions) in the State as against 40 (Including 3 women polytechnics and 8 special institutions) in the year 1979-80. This significant increase in the number of polytechnics are due to the implementation of the self financing scheme to meet the large demand from students aspiring for polytechnic education, as also to meet the needs of local industry, taking into account the employment potential, backwardness of the areas, and special type of courses. During the last three years, 53 private polytechnics (self-financing) have been opened. Shift systems was also introduced in 7 polytechnics during the plan period. The polytechnics offers 51 Diploma courses 20 post-diploma courses and 17 certificate courses. The annual in-take capacity at the end of 1979-80 and 1984-85 are given below in, Table 33-I.

TABLE 33.1

	Full time.			Part Time.		
	1979-80	1984-85	Per cent increase.	1979-80	1984-85	Per cent increase.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Diploma	5,170	18,203	252.1	465	1,410	203.2
Post-Diploma courses	200	299	49.5	90	90	..
Certificate courses	130	100	(-) 23.1	216	230	6.5
Total ..	5,500	18,602	238.2	771	1,730	124.4

33.4. In 1984-85, the teacher student ratio in polytechnics was 1 : 12 compared to 1 : 13 in the year 1979-80. The per capita expenditure on student for the entire course increased by 40 per cent from Rs. 5,400 in 1979-80 to Rs. 7,568 in 1984-85. Four polytechnics have been made as community polytechnics to promote transfer of

technology to the rural community. To meet the needs of the local industries and to cope with the rapidly changing scene of the industrial sectors 6 new elective subjects 10 New diploma and post Diploma courses each, and 2 new degree courses were introduced in the polytechnics.

(iii) *Engineering Colleges :*

33.5. At the end of the sixth plan there were 25 Engineering Colleges in the State as against 13 Engineering Colleges at the end of 1979-80. These Engineering Colleges offer 20 Under Graduate courses. The Annual Intake capacity of the Engineering Colleges during the year 1984-85 was 5,675 as against 3,164 in the year 1979-80 registering an increase of 79 per cents. The number of student studying in the college also increased from 13,084 in 1979-80, to 16,295 at the end of the VI Plan recording an increase of 24.5 per cent. During 1984-85 the teacher-student ratio was 1 : 9 and the per capita expenditure on the student was Rs. 18,810 as against 1 : 10 and Rs. 15,900 respectively in the year 1979-80, the increase in the per capita expenditure on students being 18.3 percent. The following centres were established and Bio-Medical Engineering was introduced as elective in Engineering Colleges during the Sixth Plan Periods:—

1. Power system and Applied Electronics Lab.
2. Bio-Engineering Department.
3. Industrial Electronics Lab.
4. Production Engineering Lab.
5. Material Technology Department.
6. Electricals and Electronics Lab.
7. Computer Centres.

(iv) *Faculty Development, Industrial Training, Book Bank and placement sections :*

33.6. Under quality improvement programmes, teachers of Engineering Colleges are sent to Institutes of Higher learning to acquire Doctorate Degree. So far, 16 members have obtained Doctorate Degree, and out of 59 members who are undergoing studies, 38 have rejoined in their institutions after studies. 410 polytechnics teachers were also deputed to Technical Teacher Training Institute, Madras for training and 15 teachers are undergoing training.

33.7. Under the Industrial Training Scheme, 566 teachers of Engineering Colleges and Polytechnics have been trained by sending them to various industrial establishments for short term training so as to enable them to acquaint themselves with the latest practices obtaining in industries. Staff members of the technical institutions also undertake approved technical consultancy services for industry and private organisation.

33.8. To help the poor and needy students, Book Banks have been established in almost all the technical institutions. Book Bank exclusively for Scheduled Castes/Scheduled Tribes students have also been established in all the institutions. Placement sections have also been established in all the technical institutions to help the passed out students in securing employment.

(v) *Anna University :—*

33.9. The Anna University was established in 1978 at Madras as a unitary type university with a view to build up a centre of excellence in higher education in engineering and technology with the following constituent units:—

- (i) College of Engineering (CE)
- (ii) Madras Institute of Technology (MIT)
- (iii) Alagappa College of Technology (ACT)
- (iv) School of Architecture and Planning (SAP).

33.10. The university offers 20 Under Graduate 29 Post Graduate courses 11 New courses has been introduced during the Sixth Plan-period, The strength of the University is given in Table 33.II.

TABLE 33.II.
Student in take,
1984-85

Programmes.	Student in take, 1984-85			Enrolment, 1984-85		
	Full time.	Part time.	Total.	Full time.	Part time.	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Under Graduate	679	210	889	2,976	635	3,611
Post-Graduate	343	51	394	653	95	748
Post-Graduate Diploma	19	..	19	19	..	19
M. Phill	14	2	16	14	12	26
Ph. D.	12	24	36	59	145	204
Total ..	1,067	287	1,354	3,721	887	4,608

33.11. The following New centres of excellence has been established during the Sixth Plan period:-

1. New and Renewable Sources of Energy.
2. Centre for Human Settlement.
3. Centre for Bio-Technology.
4. Centre for crystal growth.
5. Institute of Remote Sensing.
6. Institute of Continuing and Development Education.
7. Curriculum and Education Media Education Development Centre.

33.12. The grants provided to Anna University under the plan during the Sixth Plan period was of the order of Rs. 113.44 lakhs.

Approach to the seventh Plan :

33.13. The approach to the VII Plan will be on consolidation of existing facilities, diversify the courses to meet the needs of modern industry, establish new engineering Colleges and polytechnics on a selective basis, modernisation of Laboratory/Department; improve the professional competency of the teachers under quality improvement programme, provide opportunities for continuing education, consultancy and research. All the new Engineering Colleges and Polytechnics established during the VI Plan period are generally designed with an eye on the future. Courses in emerging area identified by the Government of India will be introduced under the programme of diversification.

33.14. The schemes started in the VI Plan will be continued during the VII Plan period. Academic guidance to the staff and vocational guidance to the students will be provided. The Curriculum will take care of increasing the employability and usefulness of the students. New courses in emerging areas such as instrumentation, Product Development, Material Science and Technology, Remote sensing, Micro Electronics, Information Sciences, Optical communication and Fibre optics, Bioconversion Atmospheric Engineering, Reliability Engineering, Transportation Engineering, Energy Science and engineering are proposed to be introduced during the VII Plan period.

Outlay.

33.15. An outlay of Rs. 21.25 crores has been provided for the VII Plan. The details of outlay

earned for the departments/Institutions are as shown below :

		(RUPEES IN LAKHS.)
I. Department of Technical Education.		1,400.00
II. Anna University (Grants)		480.00
III. Tamil Nadu Science and Technology Centres (Grant).		245.00*
	Total ..	2,125.00

Programmes for the VIIth Plan :

A. Department of Technical Education :—

1. Consolidation of existing facilities:

33.16. Most of the Institutions started prior to 1979-80, have facilities created long ago. The existing facilities in these institutions will have to be consolidated by way of modification of existing laboratories, replacement of obsolete and unserviceable equipments, provision of student amenities, construction of additional hostel buildings, expansion of Library facilities, etc., to ensure the maintenance of proper standards. In view of the increase in the number of girl students seeking admission into Engineering Colleges and Polytechnics it has become necessary to provide separate hostel facilities for girls. For the above programmes a sum of Rs. 860.00 lakhs has been provided.

2. Diversification :

33.17. With the rapid change taking place in the scientific and technological fields, diversification of courses of studies has become important in many disciplines in order to incorporate new developments and meet the demand of the industries. It is, therefore proposed to introduce many new diversified courses at the post graduate, Under-Graduate, Post Diploma and diploma levels in emerging areas of Engineering and Technology. An outlay of Rs. 100.00 lakhs has been provided for the above programmes.

3. Selective Expansion :

33.18. The existing Engineering Colleges in the State are not adequate to meet the demand for admission into Engineering Colleges, in view of the fact that engineering Institutions are expected to function as a nucleus for the spread of Science and Technology, the need for establishment of some more engineering colleges has been felt. It is proposed to open One Government Engineering College, and two Self Financing Engineering Colleges.

* The details of the Schemes are shown in the chapter Scientific Services and Research'.

33.19. There is a great demand for middle level technicians in industries. Many industries are requiring technically trained personnel for various departments. In view of the above, it is necessary to establish some more polytechnics during the Seventh Plan period to provide the required technical manpower to Industries. It is, therefore, proposed to open four polytechnics under Self Financing Scheme. The cost of the above programmes will be Rs. 400.00 lakhs.

4. Faculty Development :

33.20. In order to enrich the professional competency of teachers, teachers are deputed under Quality Improvement Programme to pursue higher education in Universities and Institutions of higher learning in India. Besides, teachers are often exposed to periodical training, seminars, symposia, conferences, etc., organised in different parts of the country. Further, teachers are being deputed to undergo industrial training to acquaint themselves with the latest developments in industry and Technical Teacher Training Institute (T.T.T.I.), training to develop their pedagogical skill. An outlay of Rs. 25.00 lakhs has been provided for the above programme.

5. Continuing Education, Consultancy Services and Research :

33.21. The rapid advances in Science and Technology and the higher obsolescence rate in Engineering Design and Practice have focussed attention on the need of providing suitable opportunities for the continuing education of practising engineers. In order to prevent obsolescence, continuing education is a must throughout the professional career of engineers in Industry. The Engineering Colleges and Polytechnics are alive to this responsibility and are organising refresher and short courses depending on the local needs every year.

33.22. In the Engineering Colleges, consultancy services are offered to Industries and other establishments. Testing and certification facilities are also extended by the Engineering Colleges under the Scheme.

33.23. The need for research in the colleges has been long recognised. Educational institutions will become stale and static if they pursue mere assimilation and preservation of existing knowledge. New knowledge will have to be developed through research. Research activities will be pursued vigorously.

33.24. A sum of Rs. 15.00 lakhs has been provided for the above programmes.

Outlay:

33.35. The breakup of the Seventh Five Year Plan outlay for the different schemes under the Directorate of Technical Education are shown in Table 33. III.

TABLE 33. III.

OUTLAY FOR TECHNICAL EDUCATION DEPARTMENT

<i>Scheme.</i>	<i>Seventh Plan outlay.</i>
	(RUPEES IN LAKHS.)
1 Direction and Administration ..	8.00
2 Technical Schools .. ..	..
3 Polytechnics	700.00
4 Engineering Colleges and Institutions	656.50
5 Sanction of loan to non-Government Institution.	20.00
6 Book promotion	0.50
7 Research and Training	5.00
8 Other Expenditure	10.00
Total ..	1,400.00

B. Anna University :

33.26. During the past seven years there has been steady growth in the activities of this university with University Grants Commission recognition and funding and also State support. The development proposals of Anna University are based on project proposals received from individual divisions, departments, centres, institutes and faculties of the University. Such of those projects which satisfies the specifications of the Working Group of the Ministry of Education, New Delhi are chosen for Seventh Plan. Consolidation of existing facilities, creation of infrastructure in emerging areas, training of staff, advance research in socially relevant areas such as Water Resources, Environment, Educational Technology, Renewable Energy Resources, etc., have been earmarked for funding.

33.27. For the purpose of formulating plan proposals, the following units have been identified:

- (i) Alagappa College of Technology (ACT).
- (ii) Madras Institute of Technology (MIT).
- (iii) School of Architecture and Planning (S.A.P.).
- (iv) College of Engineering (C.E.)
- (v) Department of Science and Humanities (S. and H).
- (vi) Centres and Institutes (C. and I) and
- (vii) Central facilities for the University (U.N.I.V.)

33.28. Requirement of funds for the Seventh Plan period is given in Table 33.IV. and the programmes are discussed in the following paragraphs:—

TABLE 33.IV.

Serial number.	Head.	Outlay.
(1)	(2)	(3) (RUPEES IN LAKHS)
(i)	Consolidation, Modernisation and Development of facilities.	182.00
(ii)	Centres and Institutes ..	9.00
(iii)	Undergraduate Education ..	56.00
(iv)	Post-graduate Education ..	56.12
(v)	Continuing Education and Consultancy.	20.00
(vi)	Teacher Training	4.80
(vii)	Education Reforms and Preparation of Books.	4.80
(viii)	Industry—Institute Collaboration facilities.	84.00
(ix)	Research	63.28
	Total ..	<u>480.00</u>

1. Consolidation, Modernisation and Development of Facilities.

33.29. The following schemes are proposed for implementation under this programme:—

- (i) Strengthening and modernisation of laboratories.
- (ii) Building for Computer Centre.
- (iii) University Library.
- (iv) Improvement to placement and Training facilities.

107D-4-43A

(v) Hostels for students.

(vi) Medical Centre.

(vii) Improvement of Class Rooms and Auditorium facilities.

(viii) Development of facilities for Sports and Games.

(ix) Housing for staff.

(x) Improvement of roads, lighting, water supply and other services.

33.30. A few undergraduate and a number of post-graduate programmes have been introduced in this University during the VI Plan period. New laboratory facilities have to be provided for these programmes. Syllabus and curriculum for the laboratories require modernisation involving replacement of obsolete equipment, as well as acquiring new equipment in accordance with the requirement of modernised curriculum.

33.31. Proposals have been formulated for acquiring a modern computer system with assistance from various funding agencies. A building has to be provided for locating this facility.

33.32. The University Grants Commission has already approved in principle the construction of a Library at a cost of Rs. 75.00 lakhs. The matching share is to be borne by the state Government.

33.33. The strength of girls in the University has been steadily increasing and hostel accommodation has become a major constraint in their joining this University. The requirement of hostel is estimated for a strength around 720 in the various campuses of the constituent institutions. It is proposed to provide at least one hostel each for (i) girl students, (ii) undergraduate men students, (iii) the post-graduate men students. Facilities for dining and rest halls are to be provided for the day-scholars, particularly for girls.

33.34. As a national policy, significant augmentation of the quality and the extent of facilities for Sports is contemplated. The University will utilise the funds that may be made available in this regard.

33.35. A Medical Centre is a normal component of any University system. The need is all the more in a University where there is a large number of students and staff resident in the campus. Provision of a Medical Centre is also eligible for U.G.C.'s assistance subject to the matching share to be borne by the State Government.

33.36. As a part of its main objective greater emphasis for research and consultancy services is being given in the University. The promotion of this activity generally requires the University departments to work without strict adherence to the concept of fixed working hours as in an office. An academic environment is significantly promoted by the availability of the staff members at the campus at any time of a day. In addition a strong consensus is now seen among educationists that in order to make the profession of teaching more attractive, certain facilities like campus accommodation must be made available. The university will have to take up housing for teaching and non-teaching staff as one of its development activities.

33.37 A sum of Rs. 182.00 lakhs has been provided for the various schemes as per the details are shown in Table 33. V appended.

2. Centres and Institutes.

33.38 : The University has been carrying out research, consultancy and extension activities predominantly through the establishment of Centres of Advanced Studies and Institutes. The University has at present the following Centres/Institutes.—

- (i) Centre for Water Resources.
- (ii) Centre for Environmental Studies.
- (iii) Institute for Remote Sensing.
- (iv) Centre for Crystal Growth.
- (v) Centre for Human Settlements.
- (vi) Institute for continuing and Development Education.
- (vii) Data Centre for Institute for Ocean Management.
- (viii) Centre for Bio-technology.
- (ix) Centre for New and Renewable Sources of Energy.
- (x) Curriculam and Educational Media Development Centre.
- (xi) Centre for Appropriate Technology.

33.39. Efforts in the VII Plan must aim at developing these centres and enabling them to participate in a substantial way in the plan programmes of the Tamil Nadu Government. Their activities will also add relevance and practical orientation to the teaching and research programme of the University. The University will aim at attracting support from as many of the funding agencies as possible. The provision made under the State Plan is essentially for fulfilling certain minimum requirements in order to qualify

for assistance from other funding agencies. The contribution of the State Government may atmost be termed as the "Seed Money". A sum of Rs.9.00 lakhs has been provided for this scheme. Details are shown in Table 33. VI. appended.

3. Undergraduate Education :

33.40 : The existing courses viz. Industrial Engineering, Computer Science and Printing Technology which were introduced in the VI Plan are in different stages of development. Provision has been made for their further development and strengthening. During the VII Plan, the following new undergraduate programmes have been proposed, taking into account the felt man power requirement in the State and in the country :

1. Polymer Technology (with emphasis on plastics) in Alagappa College of Technology.

2. Rubber Technology at the post B.Sc. level in the Madras Institute of Technology.

3. Town and Country Planning in the School of Architecture and Planning.

33.41 : The proposals for introduction of these courses has been made taking into account the development trends in the industry and the importance that urban and rural housing will assume in the coming years. During the plan period, 34 posts of staff will be created under this scheme and 400 students will be enrolled in the above three courses.

33.42 : An outlay of Rs. 56.00 lakhs has been provided for these programme. Details are given in Table 33. VII. appended.

4. Post-Graduate Education :

33.43 : The University has been running 26 Post-graduate Degree and Diploma programmes. They need modernisation and consolidation of the 26, seven have been approved for funding by UGC only in 1984-85, though the courses have been in existence for long. It is proposed to strengthen the new courses introduced in the sixth plan.

33.44 The following new Post-graduate courses are also proposed to be introduced during the Seventh Plan :

- (i) Master of Architecture.
- (ii) Hydro-geology and Ground Water Resources Evaluation.
- (iii) Master of Technology in Bio-technology.

33.45. A master's programme in Architecture does not exist in any of the Southern States. It is only appropriate a master programme is established in Architecture in Anna University. Tamil Nadu consists predominantly of hard rock areas and, therefore, we need develop expertise and manpower for ground water evaluation and utilisation in hard rock formation. A fulfilled degree course in Hydrogeology and Ground Water Resources Evaluation is of great significance and of urgent need. Bio-technology is an emerging area and it is the national policy to promote in a substantial way education and research in the field. It is proposed to start a master's degree programme, from the academic year 1985-86 itself. Provision has been made for this new post-graduate course in the VII Plan.

33.46. The United State Agency for International Development has approved a massive programme for research and manpower development in the field of Irrigation and Water Management. The USAID assistance over a period of seven years starting from 1984-85 is of the order of Rs. 110 lakhs. The USAID stipulates that the University should provide Rs. 57 lakhs as matching grant. Of this, Rs. 25 lakhs come from Government of India under the assistance to emerging areas. The State Government have to meet atleast Rs. 10 lakhs as its matching share.

33.47. The ocean Data Centre which has been established during the Sixth Plan in Anna University as part of its major programme of setting up an Institute of Integrated Ocean Management will continue to be supported for development.

33.48. The M.B.A. Programme was started during the Academic year 1981-82. Since there is a keen demand for the course, the programme has to be further strengthened by way of employing adequate staff with necessary infrastructural facilities.

33.49. An outlay of Rs. 56.12 lakhs is provided for these programmes. Details are shown in Table 33. VIII appended.

5. Continuing Education and Consultancy—

33.50. The Institute for continuing and Development Education has already been established as an autonomous body within the university set up. Nearly 100 courses per year have to be co-ordinated by this Institute. A sum of Rs. 15.00 lakhs is provided for creating infrastructural facilities for continuing the present activities.

33.51. Tamil Nadu Government lays great emphasis on developmental programmes for the people below the poverty line. These programmes will have to be managed, monitored and reviewed. The Institute of Continuing and Development Education has been conceived to render such services as are expected to be very beneficial to the State Government for education and training of a large number of officers.

33.52. A Consultancy Centre will be established to co-ordinate the extensive consultancy projects now in progress and to augment further consultancy activities. This Centre is expected to transfer expert knowledge to the field programmes and promote Industry-Institute collaboration.

33.53. During the VI Plan period, a centre for continuing and Development Education has been established. This centre will be strengthened and additional facilities will be created. Eight new staff positions will be created during the plan period under this scheme.

33.54. An outlay of Rs. 20.00 lakhs is provided for these schemes. Details are shown in Table 33. IX appended.

6. Teacher Training—

33.55. There are large number of vacancies in teaching positions in several engineering colleges in the State and also at Anna University. Intelligent and motivated students are not taking up teaching as a profession for various reasons. There is thus the need to encourage fresh engineering graduate to take up to teaching as a profession, at least for some time. A Research Scholar/Teaching Assistant Scheme is already in vogue in this University and additional funds are not being contemplated under this scheme. A provision of Rs. 4.80 lakhs has been made for the VII Plan for the payment of salary to the substitute staff members who fulfil the functions of senior faculty who are deputed to other institutions with full salary under Quality Improvement Programme for higher studies and for those who will be on industrial training on full salary. During the plan period, about 10 graduates will be trained.

7. Educational Reform and Preparation of Books—

33.56. Measures of reform for the promotion of quality and relevance in Engineering Education are as follows :—

- (i) Curriculum Development.
- (ii) Examination Reform.

(iii) Use of Education Technology for Instruction.

(iv) Preparation of Instruction Material.

33.57. The Government of Tamil Nadu have decided to switch over to Tamil as an alternate medium of instruction in polytechnics to start with and in the engineering colleges later. The importance of text-books in Tamil, on Science and Technology, needs no emphasis. Anna University proposes to take up this work on a significant scale and help the process of change over to instruction in technical courses in Tamil medium. In addition to text-books, instructional manuals and Video-tapes, etc., will also be prepared in this scheme. Financial grants amounting to Rs. 7,500 for each of such projects, is provided for about 100 such proposals during the Seventh Plan. The total financial assistance during Seventh Plan will thus be Rs. 4.80 lakhs.

8. Industry-Institute Collaboration—

33.58. The Industry-institute collaboration is yet to take deep roots. The collaboration can start in every institution with provision of testing facilities. Except for High-Voltage testing facilities now, there is no major facility which industries can use, at Anna University. It is proposed to provide consultancy and refresher courses in the Seventh Plan.

33.59. Instrument Technology is an important area of interest to the industries. Therefore, Laboratory/testing facilities of the Instrument Technology available in the Madras Institute of Technology will be strengthened. Aid from the Federal Republic of Germany for process Control Laboratory is also being sought. Matching assistance will be provided from the State Government.

33.60. The Structural Engineering Department of the College of Engineering has a major test facility for Dynamic Testing of building and structural components. Data logging systems and Forced Vibration Response Studies now being proposed, will enhance its design and consultancy capabilities significantly and benefit the large number of industrial and Government users already in contact with the University.

33.61. The Central Workshop at College of Engineering has proposed purchase of new equipments to train engineers for advanced industrial processes and a modest outlay has been included.

33.62. The newly started programme in Printing Technology has potential for extensive industry-institute collaboration and their development proposal is also included in the Seventh Plan.

33.63. The High-Voltage testing laboratory is one of the few in South India and has extensive industry-institute collaboration. It is now proposed to add an ultra High Voltage facility.

33.64. The proposals under these programmes will entail an outlay of Rs. 84.00 lakhs for the Seventh Plan. The details are shown in Table 33 X. appended.

9. Research—

33.65. Anna University so far, has developed nearly 200 active research staff with high qualifications and expertise in applied and fundamental research which are of long-term relevance. Sponsored research and developmental research are also being carried out based on individual expertise. During the VII Plan the Madras Institute of Technology will be provided with research facilities for Avionics and Robotics which are emerging areas of industrial development. Further the Department of Electronics and Communications will be provided with Digital Signal processing, Digital and Data Communication and Optical Communication and Software Development Laboratories. This has also greater relevance in the national communication development. The Medical Physics, Laser and Electro-optical Laboratories and the laboratory in Applied Chemistry are to be strengthened in order to augment the research activities in this field. The Centre for Environmental Studies at College of Engineering of this University will be strengthened as also the Air Pollution Control Laboratory and new laboratories in the areas of Environmental Processes, Environmental Dynamics, Noise Pollution Control, Solid wastes and Environmental Virology are to be Established. Such a development is vital for the State of Tamil Nadu so as to take advantage of the expertise available in this centre. Thirteen new staff positions will be created under this scheme. Digital communication research, Robotics and Avionics research and advanced research facilities in Applied Physics and Chemistry will be strengthened. The details of the research proposals costing Rs. 63.28 lakhs are shown in the Table 33. XI appended.

TABLE 33.V.

OUTLAY PROPOSED FOR CONSOLIDATION, MODERNISATION AND DEVELOPMENT OF FACILITIES.

ANNA UNIVERSITY.								
Project.	Develop- ment.	Non-recurring.		Recurring.		Project Total.	Allocation.	
		Building.	Eqpt.	Staff.	Cont.		UGC	State
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(RUPEES IN LAKHS.)								
1. Modernisation and Strengthening of Existing Laboratories—								
(a) Engg./Tech. Depts. ..	ALL	..	75.00	..	..	75.00	75.00	..
(b) Science and Humanities Department.	S. & H	20.00	35.00	15.00	5.00	75.00	65.00	10.00
2. Central Academic Facilities :—								
(a) Construction of University Library.	UNIV	35.00	30.00	7.50	2.50	75.00	50.00	25.00
(b) Building for Computer Centre.	Do.	30.00	..	..	..	30.00	15.00	15.00
(c) Strengthening of Placement and Training Centre.	Do.	..	2.00	5.00	5.00	12.00	12.00	..
(d) Construction of University Book Store.	Do.	10.00	..	..	..	10.00	5.00	5.00
3. Other Central facilities—								
(a) Construction of hotels ..	Do.	90.00	..	..	..	90.00	53.00	37.00
(b) Residential accommodation for Staff (35 Nos.).	Do.	60.00	..	..	..	60.00	30.00	30.00
(c) Construction of University Medical Centre.	Do.	10.00	10.00	10.00	10.00	40.00	35.00	5.00
(d) Strengthening Campus security.	Do.	..	..	..	10.00	10.00	..	10.00
(e) Renewal of Electricity, Sanitary, water-supply and drainage facilities.	Do.	20.00	..	..	..	20.00	10.00	10.00
(f) Formation of new Roads and Street Lights.	Do.	10.00	..	..	..	10.00	..	10.00
(g) Sports facilities	Do.	10.00	..	..	..	10.00	..	10.00
(h) Construction of Gymnasium.	Do.	20.00	..	..	..	20.00	10.00	10.00
(i) Tree Planting in 200 hectares	Do.	..	..	..	5.00	5.00	..	5.00
Total ..		315.00	152.00	37.50	37.50	542.00	360.00	182.00

TABLE 33. VI.

OUTLAY PROPOSED FOR DEVELOPMENT OF CENTRES AND INSTITUTES.

ANNA UNIVERSITY.

Project.	Develop- ment.	Non-recurring.		Recurring.		Project Total.	Allocation.	
		Building	Eqpt.	Staff.	Cont.		UGC.	State.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Spillover from VI Plan for new and renewable Energy Centre including Development.	C & I	4.00	..	2.00	..	6.00	4.00	2.00
2. Development of Centre for Bio-Technology.	C & I	4.00	..	2.00	..	6.00	4.00	2.00
3. Centre for Crystal Growth..	C & I	4.00	2.00	3.00	..	9.00	7.00	2.00
4. Centre for Appropriate Techno-logy.	C & I	2.00	..	2.50	1.50	6.00	5.00	1.00
5. Centre for Human Settlements	C & I	4.00	..	2.00	..	6.00	4.00	2.00
Total	..	18.00	2.00	11.50	1.50	33.00	24.00	9.00

TABLE 33. VII.

OUTLAY PROPOSED FOR UNDERGRADUATE EDUCATION.

ANNA UNIVERSITY.

Project.	Develop- ment	Non-recurring.		Recurring.			Project Total	Allocation.	
		Building.	Eqpt.	Staff.	Cont.	Lib.		UGC.	State.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. B.E. Industrial Engg. including Spill over.	CE	..	..	10.00	5.00	..	15.00	..	15.00
2. B.E. Computer Science including Spill over.	CE	..	..	8.00	4.00	1.50	13.50	9.00	4.50
3. B.E. Printing Technology Spill over.	CE	..	..	12.50	2.50	2.00	17.00	..	17.00
4. B. Tech. in Rubber Technology.	MIT	12.00	8.00	7.50	1.00	0.50	29.00	23.00	6.00
5. Bachelor's degree in Town and Country Planning.	SAP	15.00	10.00	7.50	1.50	1.00	35.00	27.50	7.50
6. B. Tech. in Polymer Technology.	ACT	12.00	7.00	6.00	1.00	0.50	26.50	20.50	6.00
Total	..	39.00	25.00	51.50	15.00	5.50	136.00	80.00	56.00

TABLE 33—VIII.

OUTLAY PROPOSED FOR POST GRADUATE EDUCATION.
ANNA UNIVERSITY.

Projects.	Develop- ment.	Non- recurring.		Recurring.			Project Total.	Allocation.	
		Build- ing.	Equip- ment.	Staff.	Cont.	Lib.		UGC.	State.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1 M.E. Remote Sensing Spillover.	CE.	..	..	4.00	1.10	..	5.10	3.00	2.10
2 Six P.G. Programmes Spillover.	DO.	..	..	25.50	..	..	25.50	16.60	8.90
3 Post B.Sc., Computer Science Spillover.	Do.	..	..	4.00	1.00	0.75	5.75	3.45	2.30
4 M. C. A. Course Spillover.	Do.	..	..	9.25	0.75	0.75	10.75	8.75	2.00
5 New M.E. Course in Power Electronics.	Do.	..	5.00	5.00	2.50	..	12.50	12.50	..
6 Enhancement of stipends Rs. 400 each 70 stipends.	Do.	..	..	..	16.80	..	16.80	16.80	..
7 Thirty new stipends	Do.	..	..	..	21.60	..	21.60	21.60	..
8 M.E. Institute Technology Spillover.	MIT.	..	..	6.25	0.50	..	6.75	4.05	2.70
9 M.E. Automobile Engineering Spillover.	Do.	..	..	6.25	0.50	..	6.75	4.05	2.70
10 14 new stipends	.. Do.	..	..	..	10.00	..	10.00	10.00	..
11 M.Tech. in Bio-Tech.	ACT	..	5.50	10.00	5.00	..	20.50	20.50	..
12 Local cost for expert for Human settlements.	SAP.	..	..	..	1.20	..	1.20	..	1.20
13 New course M.Arch.	Do.	6.00	2.00	7.50	0.50	1.60	17.80	14.80	3.00
14 Strengthening P.G. Lab. in material Science Spillover.	S&H.	..	..	..	1.50	..	1.50	..	1.50
15 Modernisation of P.G. water management programme.	C&I.	7.00	..	7.50	2.50	..	17.00	13.50	3.50
16 New M.E. Programme on Hydrogeology and ground water resources evaluation.	Do.	5.00	1.00	7.50	1.50	..	15.00	12.50	2.50
17 Ocean Data centre spillover.	GI.	..	..	8.00	..	..	8.00	..	8.00
18 M.B.A. Course	.. CE.	0.70	5.00	8.00	0.75	1.25	15.72	..	15.72
Total	..	18.70	18.50	108.75	67.70	4.55	218.22	162.10	56.12

(RUPEES IN LAKHS.)

TABLE 33-IX.

OUTLAY PROPOSED FOR CONTINUING EDUCATION AND CONSULTANCY,

ANNA UNIVERSITY.

Projects.	Develop- ment.	Non- Recurring.		Recurring.			Project Total.	Allocation.	
		Bldg.	Eqpt.	Staff.	Cont.	Lib.		UGC.	State.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(RUPEES IN LAKHS.)									
1 Development of Institute for continuing education.	UNIV.	2.40	1.05	5.50	0.10	0.40	9.45	..	9.45
B. Development Education.	Do.	..	0.30	5.25	0.10	0.40	6.05	..	6.05
2 Establishment of a consultancy cell.	Do.	0.60	0.30	1.80	1.80	..	4.50	..	4.50
Total	..	3.00	1.65	12.55	2.00	0.80	20.00	..	20.00

TABLE 33-X.

OUTLAY PROPOSED FOR INDUSTRY | INSTITUTE COLLABORATION.

ANNA UNIVERSITY.

Projects.	Develop- ment.	Non- recurring.		Recurring.		Project Total.	Allocation.		
		Bldg.	Eqpt.	Staff.	Cont.		UGC.	State.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
(RUPEES IN LAKHS.)									
1 Data Logging System and force vibration studies.	CE.	3.00	12.00	7.50	2.50	25.00	12.00	13.00	
2 Modern Equipment for work-shops.	Do.	..	15.00	7.50	7.50	30.00	17.00	13.00	
3 Printing Technology equipment	Do.	..	15.00	7.50	7.50	30.00	17.00	13.00	
4 Construction of ultra high voltage laboratory.	Do.	..	15.00	..	3.00	18.00	..	18.00	
5 Process Control laboratory for instrument technology.	MIT.	8.00	10.00	13.00	..	31.00	15.50	15.50	
6 Establishment of other laboratories.	C&I.	..	10.00	11.00	2.00	23.00	11.50	11.50	
Total	..	11.00	77.00	46.50	22.50	157.00	73.00	84.00	

TABLE 33—XI.

OUTLAY PROPOSED FOR SPONSORED AND DEVELOPMENTAL RESEARCH.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
(RUPEES IN LAKHS.)									
1 Digital Control Laboratory.	Research CE.	..	20.00	10.00	..	30.00	20.00	10.00	
2 Digital Data and Comm. Lab.	Optical Do.	..	10.00	..	..	10.00	..	10.00
3 Robotics and Laboratory Development.	Avionics MIT.	..	8.50	..	..	8.50	..	8.50
4 Laser Optics, Medical Physics and Applied Chemistry Laboratory Development.	S&H.	7.48	10.80	2.50	0.50	21.28	..	21.28	
5 Strengthening Control Establishment of New Lab. for Noise Pollution Control, Solid Wastes, etc.	Airpollution C&I.	..	15.00	10.00	2.00	27.00	13.50	13.50	
Total ..			7.48	64.30	22.50	2.50	96.78	33.50	63.28

CHAPTER 34.

SCIENTIFIC SERVICES AND RESEARCH.

(a) SCIENCE AND TECHNOLOGY.

34.0. Recognising that Science and Technology have to be an integral part of the daily life of the masses, the Tamil Nadu Government have established a new department of Electronics, Science and Technology. This expedient will effectively nurture the development of the Electronics Industry and foster the application of Science and Technology to progressively eliminate backwardness, relieve Rural unemployment, banish poverty, accelerate economic development, encourage entrepreneurship and create a scientific awareness among the people.

Review of the VI Plan :

34.1. During the Sixth Plan period the following Institutions/Bodies have been established.

Tamil Nadu State Council for Science and Technology :

34.2. A high level institution called "the Tamil Nadu State Council for Science and Technology" has been established in 1984-85 with the responsibility of identifying and formulating programmes for the application for Science and Technology for the socio-economic development of the State. The council is headed by a renowned social scientist and has a membership of distinguished academicians, industrialists, scientists, and administrators incharge of specific development sectors. The council will also advice the Government on Science and Technology, Planning and Research and Development. The council had set up 10 sectoral panels for the preparation of the framework for the VII Five-Year Plan in key areas of development. The recommendations of the sectoral panels will be implemented during the seventh plan and integrated with the annual plans.

Institute of Remote Sensing ;

34.3. Remote sensing techniques are being resorted to in prospecting for and obtaining optimal utilisation of the natural resources in the Eco-development of the western Ghats, and in the most efficient and conjunctive management of ground water and tank irrigation. The Institute of Remote sensing has been established

in the Anna University to acquire an interactive image processing computing facility and other sophisticated modern equipments.

Tamil Nadu Science and Technology Centres :

34.4. For the popularisation of science, the Tamil Nadu Government have constituted an organisation known as 'The Tamil Nadu Science and Technology Centres'. This organisation is currently engaged in construction of a Science and Technology museum and a planetarium at Madras. The Science and Technology Centre will, in course of time, intensify its activities, in order to popularise science and usher-in a scientific way of life in the society at large

Approach to the Seventh Plan :

34.5. The objective of the Science and Technology plan is to set Science and Technology within the framework of national and State policies for the achievement of national goals, the most important of which are agricultural development, technological upgradation of Industry, non inflationary growth of Employment, integrated rural development, alleviation of poverty, maximum exploitation of energy resources with minimum environmental damage and affective delivery of health care and Education. The Science and Technology programmes, will be integrated with other activities for socio-economic development and improvement in the quality of life. Accordingly, the thrust areas during the plan period are considered to be food and agriculture, energy, education, environment, employment generation and removal of poverty with Science and Technology playing a significant role by being the instrument through which the identified goals are achieved. One of the objective for which the Tamil Nadu State Council for Science and Technology has been established is to assist the Government in the formulation of annual and five years Science and Technology plans.

34.6. Tamil Nadu has already established a society for Science and Technology Centres. Assistance will be provided to Tamil Nadu Science and Technology Centres to establish

a net work of Science and Technology Centres in the State. A Master Plan is to be prepared and implemented on a phased programme, during the Seventh Plan.

Programmes for the Seventh Five-Year Plan :

34.7. In the Seventh Plan, an outlay for Rs.450 lakhs is set apart for Science and Technology Programmes and Rs. 245 lakhs is earmarked for Tamil Nadu Science and Technology Centres. The following programmes will be taken up for implementation.

Grants to the State Council for Science and Technology :

34.8. The Tamil Nadu State Council for Science and Technology has set up ten sectoral panels on Agriculture, and allied subjects like Veterinary Science, Fisheries and Forestry, Medicine, Energy, Human settlements, Industrial Research, Basic Research, Educational Research and Training, Social Sciences, Water Resources and Irrigation and Environment. The panels consisting of active research workers, scientists, Industrialists and doctors, have proposed Science and Technology projects to be taken up for implementation during the Seventh Five-Year Plan. The main emphasis will be on utilisation of Science and Technology for improving the life style, living standards of the common man, providing new employment opportunities, raising productivity, removing backwardness, popularisation of Science among the people, utilisation of Science and Technology for removal of drudgery among women and providing them with gainful employment. It is proposed to construct a separate building for the council, as the council is now housed in a rented building with limited accommodation and facilities.

34.9. Grants will be provided to the State Council for Science and Technology to implement the Science and Technology Projects.

Encouragement to Young Scientists :

34.10. During the Seventh Plan period, encouragement will be given to young scientists to present papers of their research work at national and international seminars, training of these scientists in universities and Research and Development institutions so as to expose them to the latest developments in the areas of emerging technologies relevant to the national needs will be given special emphasis. Necessary provision has been made for this purpose.

Entrepreneurship Development :

34.11. During the Seventh Plan period entrepreneurship development programme will be conducted every year for Science and Technology graduates to proliferate self employment and the creation of new opportunities. A centre for entrepreneurship Development and Science and Technology Entrepreneurship parks will be set up during the Seventh Plan.

Remote Sensing :

34.12. During the Seventh plan period, Remote Sensing activities will receive a new thrust and programmes taken up for the identification of new natural resources and the optimal utilisation of both the existing and new resources of irrigation, forestry, fisheries, ocean development and environment. The infrastructure of the Institute of Remote sensing will be strengthened by the acquisition of an interactive image processing computing facility and sophisticated modern equipment through technical assistance from the Federal Republic of Germany. The remote sensing activities will be implemented in collaboration with the National Remote Sensing Agency and the Space Application Centre at Ahmedabad of the Department of space.

Tamil Nadu Science and Technology Centres :

34.13. The Principal objectives of the Tamil Nadu Science and Technology Centre, which is a Registered Autonomous Society are :—

(i) to make the students and the general public aware of the basic principals and developments in Science and Technology through exhibits in the galleries of Science and Technology Centres;

(ii) to popularise Science and Technology among the general public in the urban and rural areas;

(iii) to portray the growth of Science and Technology and their application to improve the human environment and living ;

(iv) to collect, restore and preserve important historical objects which represent land marks in the development of Science and Technology;

(v) to conduct research in the history of Science and Technology; and

(vi) to render assistance to industries for transfer of technology.

34.14. With the above objectives in view, the Government of Tamil Nadu have decided to set up three Science and Technology Centres

initially at Madras, Coimbatore and Tiruchirappalli along with a Planetarium at Madras. In 1984, the Government have sanctioned administrative approval for the establishment of the Periyar Science and Technology Centre and Planetarium at Madras at a cost of Rs. 3.85 crores and Rs. 1.59 crores respectively. The Planetarium will be established from the funds donated by Thiru C.K. Birla, a leading Industrialist of India. The building programme have been taken up for the Periyar Science and Technology Centre at Madras. The Pile foundation work for the main building for Periyar Science and Technology Centre is taken up for execution. After completion of the pile foundation, the superstructure is programmed to be taken up without any break in the construction activity. The estimated cost for the superstructure of the Centre building will be of the order of Rs. 150 lakhs. The Superstructure work has to be completed during 1985-87. The Central portion of the main workshop building is estimated to cost Rs. 6.50 lakhs. A sum of Rs. 132 lakhs is provided for the building works. The Periyar Science and Technology Centre will have 15 galleries each of 5,000 sq. ft. of carpet area on different themes of Science and Technology to fulfil the objectives of the Centre.

34.15. It is proposed to appoint technical staff viz., Curators, Exhibition Officer, Technical Officers, Senior Scientific Assistants and Artists for developing exhibits on 15 different themes on Science and Technology. On completion of this Science and Technology Centre, mainly exhibits, that are mostly of participatory push button types and permit interaction with the visitors will be displayed. Static models, prototypes and historic objects will be minimum in tune with the latest concept of Science Centres. Towards exhibits development, a sum of Rs.94.00 lakhs has been provided.

34.16. A provision of Rs. 2.00 lakhs is provided for the purchase of books for the Library including journals and periodicals relating to development of exhibits for Science Museums, Science and Technology Centres, design and arrangements of exhibits.

34.17. The exhibits that are to be displayed in the Galleries are designed and manufactured in the workshop attached to the Science and Technology Centre. For equipping the workshop, electronics gadgets, carpentry tools and machinery; Special machines, lathes, Milling machine, Grinder, etc., are to be purchased.

These are necessary to develop the exhibits mostly of participatory type. For this, a provision of Rs. 7.00 lakhs is made.

34.18. One of the main objectives of the Science and Technology Centres is to popularise and spread the message of Science and Technology among the rural population. For this, it is proposed to buy 3 mobile vans. Each van will be fitted with 24 exhibits on fundamentals of Science and Technology. The mobile vans with the exhibits will be taken to the villages of the State and the Instructor will explain the principles to the rural population. This programme will be continued, throughout the year. For this, a sum of Rs. 7.70 lakhs has been provided.

34.19. To popularise Science and Technology among the students, Science lectures, Quiz programme, etc. will be conducted. For this, a provision of Rs. 2.30 lakhs has been made.

34.20. It is also programmed to establish miniature Science Centres in each District Head Quarters and Taluk Head Quarters of Tamil Nadu in a phased manner. A master plan is to be prepared and implemented on a phased programme. Accordingly it is programmed to establish Science and Technology Centres in the following Districts. However, due to resource constraint a token provision is shown in the plan.

1. Tiruchirappalli.
2. Coimbatore.
3. Salem.
4. Thanjavur.
5. Nagercoil.

34.21. An outlay of Rs. 245.00 lakhs will be required for these programme for the Seventh Plan period, as per the details appended in Table 34.1.

Outlay :

34.22. An outlay of Rs. 450 lakhs has been earmarked for the Science and Technology programme for the Seventh Five Year Plan period. Out of the Rs. 450.00 lakhs, Rs. 380 lakhs will be provided to State Council for Science and Technology and Rs. 70.00 lakhs will be provided to Anna University for implementing Science and Technology projects. Besides, an outlay of Rs. 245.00 lakhs has also been provided to Tamil Nadu Science and Technology centres. The yearwise details of the outlay are given in Table 34.11. appended.

TABLE 34. I.

TAMIL NADU SCIENCE AND TECHNOLOGY CENTRES, MADRAS.
OUTLAYS PROPOSED FOR SEVENTH FIVE-YEAR PLAN.

(RUPEES IN LAKHS).

Serial number and Schemes.	Allocation in the Annual Plan.					Total.
	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. <i>Building—</i> Periyar Science and Technology Centre at Madras.	60.00	55.00	17.00	..	..	132.00
2. <i>Exhibit Developments—</i> Periyar Science and Technology Centre at Madras.	15.00	17.00	17.00	21.00	24.00	94.00
3. <i>Library—</i> Periyar Science and Technology Centre at Madras.	..	0.50	0.50	0.50	0.50	2.00
4. <i>Workshop Equipments and Machinery—</i> Periyar Science and Technology Centre at Madras.	..	3.00	3.00	1.00	..	7.00
5. <i>Mobile Science Exhibition—one unit in each Centre.—</i> Periyar Science and Technology Centre at Madras.	..	3.00	3.70	1.00	..	7.70
6. <i>Popular Science Lectures, Teacher Training Programme, Etc.—</i> Periyar Science and Technology Centre at Madras.	..	1.00	0.50	0.50	0.30	2.30
Total	75.00	79.50	41.70	24.00	24.80	245.00

TABLE 34. II.

SCIENCE AND TECHNOLOGY PROGRAMMES IN THE SEVENTH PLAN (1985-90).

Schemes.	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Grants to State Council for Science and Technology for Research and Development.	40.00	100.00	80.00	85.00	75.00	380.00
2. Grants to Anna University for Science and Technology Pro- grammes.	14.15	20.00	15.85	10.00	10.00	70.00
Total	54.15	120.00	95.85	95.00	85.00	450.00
3. Grants to Tamil Nadu Science and Technology Centres.	75.00	79.50	41.70	24.00	24.80	245.00

(b) ENVIRONMENTAL AND WATER POLLUTION PROGRAMMES.

Present Status :

34.23. The Tamil Nadu Pollution Control Board formed in February 1982, enforces the provisions of the Water (Prevention and control of pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 in the matter of control of Water and Air Pollution in the State. The Board undertakes the following functions :

1. To undertake a systematic study of the problems of pollution of water, Air and land on account of causes such as Industrial effluents, industrial gases, uses of chemical pesticides, human negligence, etc :

2. To monitor the treatment and disposal of effluent from the Industries and Local bodies and

3. To undertake a survey of water resources in the State to assess their quality.

Review of Sixth Plan :

35.24. To enforce the provisions of the Act through out the State of TamilNadu, the Board has formed initially three regional offices, one each at Madras, Madurai and Salem during 1982-83, and subsequently another three regional offices, one each at Vellore, Coimbatore and Tirunelveli during 1983-84.

34.25. The Board has enforced the provisions of the water and Air Pollution Control laws in the State. The Board gives consent for issue of licence by local bodies, existing industries and sites for new industries and in this function the Board's Officer's undertake spot inspection. For Strengthening the Board office and Regional offices, and for setting up of Board Laboratory and for provision of other facilities a sum of Rs. 19.87 lakhs and Rs. 35.00 lakhs respectively were provided in the last two years of the Sixth Plan period.

Programmes in the Seventh Plan :

34.26 The Seventh Plan envisages an outlay of Rs. 270 lakhs for Environmental programme and Rs. 170 lakhs for water pollution programme. The emphasis will be on strengthening the Board Office and the Board Laboratory at headquarters setting up of Laboratories in the regions, establishment of additional offices in the regions for effective control and supervision, providing necessary infrastructural facilities to the existing offices, undertaking pollution control studies, and control surveys, and funding of Research

Projects on treatment of industrial waste and effect of disposal of industrial waste on land and marine eco-systems.

34.27. In Tamil Nadu, a wide range of industries such as distillery, tannery, printing and dyeing, pulp and paper, Sago, petroleum refinery and sugar exist. These industries have to treat the effluents properly to satisfy the standards prescribed by the Board before disposal. Though the industries approach the consultants in the field to evolve suitable treatment methods, the Board proposes to form a Research and Development wing to evolve treatment methods for specific industries based on the conditions obtaining in Tamil Nadu. To start with, distillery, pulp and paper, dyeing and printing, and sago industries are proposed to be covered. The studies will cover characterisation of wastes and assessment of different treatment methods and formulation of suitable treatment methods.

34.28. The Tamil Nadu State Environmental Committee is an apex advisory body constituted by the Government. Development projects costing Rs. 50 lakhs and above have to be referred to the committee for review with reference to their impact on environment. At present the Tamil Nadu Pollution Control Board functions as the Secretariat for the Committee. Environmental appraisal of development projects is a multi-disciplinary field. To assist the Committee in the review of developmental projects, a separate cell with personnel representing the various disciplines is proposed to be constituted in the Board.

34.29 Accordingly programmes have been formulated for implementation during the Seventh Plan. The Programmes are as follows :—

(i) Setting up of Regional Laboratories :

34.30 The Tamil Nadu Pollution Control Board Laboratory undertakes the analysis of the samples of trade effluent and gaseous emissions and monitors the water and Air Pollution Control measures in the State. The existing laboratory has been catering to the requirements of the entire State of Tamil Nadu. With the Laboratory being set up at Madurai, needs of the southern districts will be met by the Madurai Regional Laboratory.

3.31 It is proposed to establish a laboratory at Vellore during the Seventh Plan period at a cost of Rs. 19.52 lakhs. This Laboratory will undertake analysis of samples of trade effluents and gaseous emissions from Industries. As the Industries have to furnish to the Board reports of analysis of trade effluent while applying for the consent of the Board, a large number of industries may refer samples of effluent to the Board laboratory for analysis. Further the Board will collect samples of effluent for analysis. The proposed laboratory at Vellore will meet the requirements of North Arcot and Dharmapuri. Besides purchase of equipments, the following staff are proposed for the laboratory.—

(a) Scientific Staff	..	..	11
(b) Supporting Staff	..	..	8
(c) Ministerial Staff	..	..	2
(d) Other Staff	..	..	4
			25
	Total	..	25

(ii) Strengthening of Board Office:

34.32 : The Board is assisted at the headquarters with four Environmental Engineers, Six Assistant Environmental Engineers, ministerial Staff and Regional Officers in the cadre of Assistant Environmental Engineers.

34.33 : The Tamil Nadu Pollution Control Board receives a large number of applications from Industries for consent of the Board under water and air pollution control laws, and local bodies for consent under water pollution control laws. Many applications are received at the letter of intent stages itself since the Govt. of India requires that the consent of the Board has to be produced for conversion of letter of intent into licence. These applications have to be cleared quickly. To process the applications for consent under water and air pollution control laws and to attend to complaints on pollution, referred to by the Tamil Nadu State Environmental Committee and Air-Field Environment Management Committee, sanction of additional post of Environmental Engineers, Assistant Environmental Engineers and Junior Environmental Engineers are proposed. To cope up with the increased work relating to establishment matters relating to Regional Offices, sanction of two Assistants, one Junior Assistant and one Typist has been proposed. The cost of the additional staff proposed will be Rs. 13.31 lakhs.

34.34 : The Board is at present functioning in a rented building. It is proposed that the Board should have its own building with adequate facilities. Therefore, a sum of Rs. 40 lakhs has been provided for construction of a building.

(iii) Setting up of Zonal Offices :

35.35 : It is proposed to take effective measures for quick issue of consent to local bodies and industries by setting up Zonal offices, on a selective basis by upgrading the existing regional offices. The zonal offices will be headed by an Environmental Engineer with supporting staff. For this purpose, a sum of Rs. 18.34 lakhs has been provided.

(iv) Pollution Control Studies :

34.36 : Pollution Control Studies, studies of major water resources, Eco-development and waste water management are proposed to be taken up during the Seventh Five-Year Plan, for which a provision of Rs. 20.00 lakhs has been earmarked.

(v) Air Pollution surveys and Environmental information System :

34.37 : It is proposed to undertake air pollution surveys, and introduce environmental information system during the Seventh Plan. The Board is responsible for preparation of information regarding quality of air and control of air pollution. This requires the monitoring and assessment of air quality in major cities, industrial firms and industrial complexes. The cost of undertaking these activities during the Seventh Plan will be Rs. 20.00 lakhs. The provision includes procurement of equipment for undertaking of analysis of gaseous and particulate samples and salary of staff employed for this purpose.

(vi) Research Projects :

34.38: In the Seventh Plan, it is proposed to initiate research projects in critical areas, and provide funds for such effort. The areas identified for this purpose are (i) treatment of Industrial waste through bio-technology and treatment and disposal of chemical sludge ; (ii) effects of waste water disposal on land and marine eco-systems for specific industries and (iii) eco-development camps. For funding of these projects a sum of Rs. 16.00 lakhs has been provided.

(vii) Water Pollution Surveys ;

34.39: During the plan it is proposed to undertake survey of the major rivers and its tributaries with a view to (i) identify the point and non-point sources of pollution and preparation of pollution load maps ; (ii) identify the existing water uses along the river and its tributaries and (iii) assess the existing water quality and formulate a action plan for control of pollution. A sum of Rs. 10.00 lakhs is proposed to meet the expenditure on a team of engineering and scientific personnel and analytical equipments.

Outlay ;

34.40 : The yearwise outlay for the programmes are given below :-

Year.	Outlay proposed.		
	Ongoing scheme.	New scheme.	Total.
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
1985-86	35.00	12.83	47.83
1986-87	47.83	20.00	67.83
1987-88	55.00	78.34	133.34
1988-89	60.00	20.00	80.00
1989-90	65.00	26.00	91.00
Total	<u>262.83</u>	<u>157.17</u>	<u>420.00</u>

CHAPTER 35.

MEDICAL, PUBLIC HEALTH AND SANITATION.

I REVIEW OF THE SIXTH FIVE-YEAR PLAN (1980—1985) :

35.0 The implementation of the various programmes of the Sixth Five-Year Plan resulted in substantial progress in the sphere of health indices in Tamil Nadu. The Sixth Plan aimed at providing primary health care services to the rural population by expanding the promotive, preventive and rehabilitative health care services, apart from curative services. Emphasis was laid on stepping up mother and child health care programmes, and other support services. Highest priority was given to prevention and control of endemic, communicable and non-communicable diseases. Attempts were made to upgrade the preventive and promotive aspects of health care in all the medical institutions which were only providing curative care services. Opening of primary health centres, mini-health centres, mobile health units, etc., were contemplated to ensure efficient health services in rural areas. Special attention was given to the development of Indigeneous systems of Medicine in the State.

35.1 In terms of expansion of the health infrastructure, 2,560 Health sub-centres, 53 Primary Health Centres and 30 Community Health Centres were opened. At present, 383 Rural Family Welfare Centres, 249 Urban Family Centres, 16 District Family Welfare Bureaus and 32 Post-partum Centres are functioning in the State. As a result of expansion of health infrastructure over the plan period, the mortality rate has declined from 12.8 per 1000 in 1978 to 10.2 per 1000 in 1982. In the same period, Infant mortality rate came down from 99.6 per 1000 live births in 1978 to 77.2 in 1982. And, due to effective implementation of Family Welfare Programmes, the Birth Rate has come down from 28.9 per 1000 in 1978 to 26.1 per 1000 in 1981.

35.2 For the Medical sub-sector, an outlay of Rs. 5,927.48 lakhs was earmarked for the Sixth Plan period. Against this, the anticipated expenditure at the end of the Sixth Plan period (1980-1985) would be of the order of Rs. 7,530.42 lakhs or 127.04 per cent.

35.3 For the Public Health and Sanitation sub-sector, a provision of Rs. 8,52.52 lakhs was made for the Sixth Plan. The anticipated expenditure will be of the order of Rs. 4,210.96 lakhs or 493.94 per cent.

35.4 As against a total provision of Rs. 6,780.00 lakhs for the entire "Medical and Public Health & Sanitation" sector, the actual expenditure for the Sixth Five-Year Plan (1980-85) was of the order of Rs. 11,602 lakhs.

II. APPROACH TO SEVENTH FIVE-YEAR PLAN (1985-1990)

35.5 The approach paper to the Seventh Five-Year Plan of the Planning Commission, Government of India has indicated the broad guidelines to be kept in view with regard to "Medical and Public Health and Family Welfare", for formulating the State's framework for the Seventh Five-Year Plan. The guidelines are given below:-

35.6 India is committed to attain the goal of "Health for All by 2000 A.D.", for developing the country's vast human resources and for accelerating and speeding up total socio-economic development and attaining an improved quality of life. For this, primary health care has been accepted as the main instrument of action. In the Seventh Plan this should continue and, in addition, emphasis should be laid on the preventive and promotive aspects, and on organising effective and efficient health service which are comprehensive in nature, easily and widely available and accessible to and affordable by the people.

35.7 The Minimum Needs Programme should be the sheet anchor for promotion of the primary health measures, with greater emphasis on improvement of the quality of services rendered, backed by adequately strengthened infrastructural facilities and establishing these where they are not available. Effective co-ordination and coupling of health and health related services and activities like nutrition, safe drinking water-supply and sanitation, housing, education, information and communication, and social welfare will have to be built-in. Without such inter-sectoral co-ordination and co-operation, the implementation of the health programmes will suffer considerably.

35.8 Qualitative improvements are required in Health and Family Planning services. Adequate provision of essential drugs, vaccines and sera needs special attention in terms of production, pricing and distribution to ensure universal accessibility, availability and affordability. Urban health services, school health services and mental and dental health services also need special efforts to ensure comprehensive coverage.

35.9 Achieving active community participation and involvement in Health and Health related programmes should also be part of the strategy. In particular active community participation and involvement of non-governmental organisations in a massive health education effort is urgently needed.

35.10 For control and eradication of communicable diseases, programme implementation at all levels needs strengthening with strict adherence to sharing of the costs of the programmes by State Governments. The National Goitre Control Programme is in a poor state and needs to be implemented with great care and caution as it has the potential of quick and complete success.

35.11 Cancer, coronary heart disease, hypertension, diabetes, accident, etc., are emerging as major health problems in the non-communicable diseases area. There is need to initiate appropriate action for their control and containment. Development of specialities and super-specialities will need to be built up with proper attention to regional distribution. Referrals and linkages in the health care delivery system need careful planning and programming.

35.12 Training and education of doctors and para-medical personnel needs thorough overhaul. Teaching and training must be related and relevant to the health problems of the people. Training must be need-based, problem-centred and community-based. Health manpower development has been a neglected field which needs urgent attention and action. Continuing education should be an essential part of teaching and training programmes. Health management support and supervision is an area that needs considerable strengthening by proper selection, training, placement promotion and posting policy. Health management experience, training and expertise for all categories of health managerial jobs will have to be ensured.

35.13 Medical research related to the common health problems of the people which is helpful in evolving cost-effective intervention technologies will require greater emphasis and priority. The

research findings need to be utilised fully for constantly modifying the health care delivery system in the country. Research efforts in the areas of immunological approach to fertility control, bio-medical and social research, operational research, development of bio-technology and effective utilisation of electronics and computers in the health programmes will need to be pursued. There is an urgent need for evolving an effective and efficient Management Information System for proper planning, implementation and evaluation of Health Services.

35.14 The Indian System of medicine lends itself to better standardisation, integration and wider application, particularly in the national health programmes. Teaching, training and research and service activities in the development of the Indian system of medicine would need to be pursued vigorously. Extension planning in this sector is essential.

Family Welfare and M.C.H.

35.15 For attaining the long-term goal of reaching a net reproduction rate of 1 by 2,000—with a target group of 120 million couples in the reproductive age group—both imaginative and innovative strategies will have to be adopted. A larger allocation of resources will be required for effective implementation.

35.16 Targets for family planning, particularly sterilisation, are being achieved by special drives and camps. There is a need to develop the programme on a sustained and continued basis. Laparoscopic sterilisation has become very popular and availability of laparoscopes and trained personal should be stepped up. Much greater effort will have to be mobilised for implementation of the programme of IUDS, oral pills and conventional contraceptive uses. Imaginative and innovative measures will have to be adopted for making conventional contraceptives and oral pills freely and widely available through an effective social marketing mechanism.

35.17 To achieve the long-term demographic goals, educating and enlightening people on the benefits of late marriage and its social enforcement will have to be greatly emphasised. Special programmes and incentives oriented towards target couples, particularly the younger age groups are needed. Continued incentives for attracting couples with two children and younger age-groups are also necessary.

35.18 Inter-sectoral co-ordination and co-operation and the involvement of voluntary agencies in the programme will be necessary in

this programme to an even greater extent than in Health. Community participation is essential for the voluntary acceptances of the family planning programme. Identification and active involvement of non-governmental organisations, of informal leaders in the community and the imparting to them of the necessary training to motivate them to participate in the programme will need attention and effort.

35.19 For the achievement of the 'two-child' norm it is essential that child survival rate in our country is enhanced and assured. The infant mortality rate of 114 per thousand is staggering and unacceptable. As more than half of these are in the neo-natal period, the Mother and Child Health Programme will have to be considerably strengthened. The MCH component of training of medical and para-medical personnel needs to be carefully planned and implemented. The associated areas of child immunisation, nutrition and control of communicable diseases in infancy will need special attention and strengthening. For immunisation, the cold chain still poses a big problem which needs to be solved. Diarrhoea is still among the major causes of infant mortality and, therefore, ORS therapy needs to be universalised in a more effective manner.

35.20 Vigorous steps will have to be taken to reduce maternal mortality. More than two-thirds of the women in the rural areas are still being attended to by untrained Dais and there is, therefore, need to augment the Dais Training Programme.

III. PRESENT STATUS OF THE SECTOR :

35.21 There are 9 Medical Colleges and one Dental College in the State of Tamil Nadu. Out of the 9 Medical Colleges 8 are run by the State Government and one by private Sector—Christian Medical Colleges, Vellore. Besides the Medical Colleges and the Dental College, there are 32 Medical Institutions and 8 Dispensaries under this Directorate.

1. Teaching Hospitals	..	..	..	19
2. Institutes	..	..	..	4
3. Peripheral Hospitals	..	..	..	3
4. Other Minor Medical Institutions.	..	..	..	6
5. Dispensaries	..	..	..	8

35.22 The Directorate of Medical Education looks after all matters pertaining to Medical and Dental Education, Teaching Hospitals, Nursing Services and Research in Teaching Medical institutions.

The Government have been striving to improve :

- (1) The quality of Medical Education ;
- (2) The quality of Medical Services ;
- (3) Facilities for specialised medical service in teaching hospitals, especially those in the Districts ;
- (4) To establish a Post-Graduate Centre of excellence in the City of Madras ; and
- (5) To establish the University of Health Sciences.

35.23 In the 8 Medical Colleges, altogether a total of 1,070 students are admitted every year. At present 6,958 students are studying in the 8 Medical Colleges in the State in the MBBS Course.

35.24 The Directorate of Medical Services and Family Welfare is in charge of the District, Taluk, Non Taluk Hospitals and Government Dispensaries and also incharge of T.B., Leprosy, and E.S.I. Schemes. There are 15 District Headquarters Hospitals, 123 Taluk Hospitals, 123 Non Taluk Hospitals and 195 Government Dispensaries functioning in the State. The total and bed strength now available in the above hospitals are as follows :

	TOTAL BED STRENGTH.
1. District	5,326
2. Taluk	6,519
3. Non Taluk	2,280
4. Government Dispensaries ..	224
(emergency beds).	
5. T.B. Beds	712
Total—Bed strength	<u>15,061</u>

35.25 Under Indian System of Medicine and Homeopathy, there are three teaching hospitals, fifteen District Hospitals, eighty-eight Siddha wings in Taluk level hospitals and non-taluk Hospitals, 220 Primary Health Centres and 21 Dispensaries in rural areas.

The Director of Primary Health Centres develops Health Care Services to the rural public by way of (i) Maintaining the existing Primary Health Centres ; (ii) Establishment of New Primary Health Centres ; (iii) Upgrading of Primary Health Centres ; (iv) Creation of Mini Health Centres with the assistance of Voluntary Agencies and (v) Setting up of Mobile Health Team. At the beginning of the Sixth Five-Year Plan, there were 383 Primary Health Centres functioning in the State has now been increased to 436 Primary Health Centres upto and inclusive of the Sixth Five-Year Plan. The Mobile Health Teams functioning in the State, at present are 274. Besides

251 Mini Health Centres run by the Voluntary agencies are also functioning in this State. The functions relating to the State component of the Primary Health Centres are under the control of this Directorate. The Primary Health Centres in the State as a whole render curative, preventive, promotive and also Family Welfare Services to the entire rural population. Out of the 436 Primary Health Centres functioning, 30 Primary Health Centres have been upgraded into that of Community Health Centres to be termed as a referral centre for the surrounding every four Primary Health Centres. Specialised treatment is provided to the rural public through these Community Health Centres by appointing Post Graduate qualified Doctors, Clinical and Pathological Laboratory Services X-Ray facilities, Blood-Bank, operation facilities, additional bed strength, etc. Each Primary Health Centre is provided with six beds with a provision of Rs. 20,000 per annum towards drugs. The Primary Health Centres which are attached to Mobile Health Team have an additional provision of Rs. 20,000 per annum for drugs. The Public Health and Preventive Medicine Directorate is in-charge of implementation of Primary Health Care Services to the rural population and was entrusted with the task of establishment of Health Sub-Centres at the rate of one for every 5000 population in the plains and one for every 3000 population in backward, tribal and hilly areas. Government of India have fixed a target of 2,343 additional sub-centres to be established during the Sixth Five-Year Plan. At present 5,860 sub-centres are functioning in the State.

35.26. The Drugs Control Administration in the State infuses a sense of confidence in the quality of drugs that are manufactured in the Country. Based on the recommendations of Hathi Committee and Task Force, a separate Department of Drugs Control Administration has been created in the State with effect from 26th November 1981. As per the norms of Task Force, there should be one Inspector for each 100 Sales concerns and one Inspector for each 25 manufacturing concerns. At present, there are 59 Drug Inspectors working under the control of the State Drugs Controller in the State.

35.27. The Tamil Nadu State Health Transport Department has been formed as a service Department to look after the repairs and maintenance of about 1,660 vehicles attached to Health and Family Welfare Department of Tamil Nadu. This Department is having three Regional Workshops at Madras, Madurai and Salem. One Central Workshop at Tiruchirappalli to look after major repairs and 11 district level repairs and

maintenance units to look after minor repairs of vehicles. In addition to this, minor repair units, 15 Mobile Maintenance Units are functioning for servicing the vehicles and periodical maintenance at nearest places, where the vehicles are being parked.

35.28. The Tamil Nadu Pollution Control Board formed in February, 1982, enforces the provisions of the water (Prevention and Control of Pollution) Act, 1974 (Central Act 6 of 1974) and the Air (Prevention and Control of Pollution) Act, 1981 (Central Act 14 of 1981), in the matter of control of water and air pollution in the State. The Board is assisted by environmental engineering and administrative staff at headquarters and six Regional Offices located in Madras, Vellore, Salem, Coimbatore, Madurai and Tirunelveli.

35.29. The Directorate of Family Welfare is essentially a welfare bureau and was designed to promote the health of the people particularly mothers and children. This programme is being implemented in Tamil Nadu through 32 Post Partum Centres, 383 Rural Family Welfare Centres, 249 Urban Family Welfare Centres and 16 District Family Welfare Bureaus. Under the National pattern of financing the Family Welfare Programme, prime responsibility of funding is ensured by the Government of India. However, State Government are bearing the expenditure on payment of additional incentives to the acceptors under sterilisation programme, towards payment of incentives to the staff-involved.

35.30. Under the national pattern of financing, Danida Project aims at bringing about "Health for All" with particular reference to the weak and under-privileged sections of the Community in Rural Areas of Salem and South Arcot Districts. The project supports the creation of infrastructural facilities, training of manpower development, streamlining logistics of drugs and equipments, supportive programmes such as Nutrition, Environmental Sanitation, and Community Projects innovations in the delivery of Health and Family Welfare Services and establishing an effective system of monitoring and evaluation of the programmes. There are 1300 Health Sub-Centres functioning in the above Project districts.

IV. BROAD THRUST DURING THE SEVENTH PLAN:

35.31. The main objective of Medical and Public Health Sector is to provide Health care facilities to all by 2000 A.D. Considering the increasing demands of the community, it is proposed to provide facilities like provision of

X-Ray Units, improvement of Laboratory facilities, Cancer and Diabetic clinics in the District Head Quarters Hospitals and opening of Special Departments in the Taluk Hospitals with specialists services. In the sphere of Medical Education, the Government have been striving to improve the quality of Medical Education and Medical Services, provide facilities for specialised and Medical Service in Teaching Hospitals, establish Post-Graduate centre of excellence, and establish a University of Health Sciences. In regard to Indian Medicine and Homeopathy sub-sector, importance is given to equip the existing colleges, hospitals and dispensaries by increasing bed strength, qualified medical personnel, etc. and to open new Medical Colleges in the Seventh Plan. In order to overcome the shortage of medicines, priority is given to mechanise the existing pharmacies. Programmes were enunciated, to procure rare and esoteric cudgeon leaves literatures, old manuscripts and rare printed books etc., and also to print them for future references is proposed in the plan.

35.32. The Directorate of Public Health and Preventive Department has proposed to organise a stepladder pattern of service from the peripheral level to the apex at the District or Region.

35.33. To meet the requirement of the entire rural population i.e. 22.67 lakhs in the State of Tamil Nadu the following measures have been taken by the Director of Primary Health Centres namely—(a) one sub-centre for 5,000 population (b) for every six sub-centres, one Additional Primary Health Centre for 30,000 population (All Dispensaries after conversion to be named as Additional Primary Health Centre instead of a subsidiary Health Centres, as decided by the Union Planning Commission) and (c) for every four Primary Health Centre, one community Health Centres (i.e. upgraded Primary Health Centre) for every 1,20,000 population.

35.34. During Seventh Plan the Drugs Control Administration will be strengthened to cope up with the anticipated growth of Pharmaceutical Industries. The value of formulation produced in the country are expected to be of the order of Rs. 3,800 crores. For monitoring the quality of drugs, the administration will have to be strengthened at various levels besides strengthening the testing facilities. The number of samples to be tested will be increased to 5000 per annum by the end of Seventh Plan. Intelligence wings are proposed to be created for tackling spurious drugs. At present Tamil Nadu State Health Transport Department being a service department looks after 1660 vehicles and it is expected that

at the end of the Seventh Plan, the total number of vehicles which will have to be looked after by this Department would be about 3400, attached to Health and Family Welfare Departments in the State. The Tamil Nadu Pollution Control Board enforces the provision in the matter of control of water and air pollution in the State. During the Seventh Plan it is proposed to strengthen Board Office, the Board Laboratory at Headquarters set up laboratories in the regions, establish additional regional staff, conduct pollution control studies of air pollution surveys. The outlay also provides for funding of research projects on treatment of industrial waste and effect of disposal of Industrial waste on land marine eco-system.

35.35. Under the Directorate of Family Welfare and is proposed to establish one Rural Family Welfare Centres for every Primary Health Centres both existing as well as the additional Primary Health Centres proposed to be established during the Seventh Five-Year Plan. It is proposed that each Primary Health Centre must have an operation theatre to perform tubectomy and vasectomy operations in the State.

V SHIFT IN EMPHASIS DURING SEVENTH PLAN :

35.36. A primary shift in emphasis will lie in emphasising that policy to provide Health Care facilities for all by 2000 A.D. and rural areas will get top priority during the Seventh Plan period with a start during the year 1985-86. Besides, the establishment of Primary Health Centres during 1985-86, it is also proposed to upgrade two Primary Health Centres into Community Health Centre with a total cost of Rs. 12.20 lakhs towards construction of additional buildings viz., 24 bedded ward including X-Ray and blood bank, etc., For the Department of Medical Education, it is proposed to accelerate the improvement in the quality of Medical Education. Two major schemes—New Medical College at Salem and Medical University are proposed in the Seventh Plan. It is proposed to strengthen the Medical Record Departments and creation of new departments calculated at the rate of one Medical record Department personnel for every 2000 discharges for a year in respect of non-teaching Institutions. It is also proposed to enhance the allocation for State Research Schemes from Rs. 1.00 lakh to Rs. 2.00 lakhs in order to promote research in the Teaching Institutions. The Family Welfare programme proposes to reach the Net Reproduction Rate of Unity by 1989-90 by bringing down the Birth rate to 21 per 1,000 population, Death rate to 9 per 1,000 population, Infant Mortality Rate

to 60 per 1,000 live birth and 60 per cent of the eligible couples have to be protected. For the Public Health and Preventive Medicine Department, it is proposed to organise a well organised pattern of service from the peripheral level to the apex at the District or Region. Provision of elementary Medical Care can be made available in the Health Sub-Centre already established and to be established during the Seventh Plan. Four Health sub-centres will be formed as a sector and each sector will be supervised by a pair of female and male multi-purpose Health Supervisors. The Health Sub-centres will also be provided with technical supervision and support facility by the Health Team at the Primary Health Centres which will be established at the rate of one Primary Health Centre for every 30,000 population. During the Seventh Plan period 2,978 additional Health Sub-Centres will be established. The Indian Systems of Medicine and Homeopathy

dept., gives importance to research with: particular reference to Siddha Wing. In the Seventh Plan, the following schemes on research is to be taken up (i) to evolve norms for standardisation of Siddha Medicines, (ii) to unearth various Siddha drugs and formulations kept secret by hereditary medical practitioners and (iii) to formulate the aim and pattern of research on scientific lines. It is also proposed to establish a Central Library consisting of all Medical books, journals, etc., in order to improve and spread Indigeneous Medical Science, Medical and Herbal Research.

VI. POLICIES AND PROGRAMMES :

35.37. An Outlay of Rs. 150.00 crores is provided for the "Medical and Public Health & Sanitation" sector for the Seventh Five-Year Plan. Department-wise break-up details of outlays proposed for the Seventh Five-Year Plan, is as follows ;—

ABSTRACT

OUTLAYS PROPOSED FOR "MEDICAL AND PUBLIC HEALTH & SANITATION" SEVENTH FIVE-YEAR PLAN (1985—90)

SERIAL NUMBER.	NAME OF THE DEPARTMENT.	SEVENTH FIVE-YEAR PLAN OUTLAY (1985—90).
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
(A) MEDICAL		
1.	DIRECTORATE OF MEDICAL EDUCATION	22,86.00
2.	DIRECTORATE OF MEDICAL SERVICES AND FAMILY WELFARE	32,65.00
3.	DIRECTORATE OF INDIAN MEDICINE AND HOMOEOPATHY ..	6,00.00
MEDICAL—Total—(A) ..		61,51.00
(B) PUBLIC HEALTH AND SANITATION.		
4.	DIRECTORATE OF PUBLIC HEALTH AND PREVENTIVE MEDICINE.	30,77.00
5.	DIRECTORATE OF PRIMARY HEALTH CENTRE	47,19.00
6.	DRUGS CONTROL	4,43.00
7.	STATE HEALTH TRANSPORT ORGANISATION	5,77.00
8.	TAMIL NADU POLLUTION CONTROL BOARD	@
9.	DIRECTORATE OF FAMILY WELFARE	33.00
PUBLIC HEALTH AND SANITATION—TOTAL (B)		88,49.00
TOTAL (A) + (B)—MEDICAL AND PUBLIC HEALTH & SANITATION		15,000.00

NOTE: The DANIDA assisted Tamil Nadu Area Project proposes an outlay of Rs. 7,90.80 lakhs for Seventh Five-Year Plan i.e., (from 1st April 1985 to 31st October 1986)—(World Bank Project).

@ An outlay of Rs. 4,20.00 lakhs is provided under the head, "Scientific Services and Research" for Pollution Control, for Seventh Five-Year Plan.

THE YEAR-WISE BREAK-UP DETAILS OF OUTLAYS PROPOSED BY THE HEALTH DEPARTMENT IS GIVEN BELOW :

SERIAL NUMBER.	NAME OF THE DEPARTMENT.	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	SEVENTH FIVE-YEAR PLAN—OUTLAY (1985-90)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(RUPEES IN LAKHS.)							
(A) MEDICAL.							
1	DIRECTORATE OF MEDICAL EDUCATION.	9,17.45	6,08.39	4,02.91	1,79.61	1,77.64	22,86.00
2	DIRECTORATE OF MEDICAL SERVICES AND FAMILY WELFARE.	4,42.84	3,79.47	7,13.90	8,65.20	8,63.59	32,65.00
3	DIRECTORATE OF INDIAN MEDICINE AND HOMOEOPATHY.	1,76.98	1,31.55	1,05.70	99.20	86.57	6,00.00
TOTAL—A. MEDICAL ..		15,37.27	11,19.41	12,22.51	11,44.01	11,27.80	61,51.00
(B) PUBLIC HEALTH AND SANITATION.							
4	DIRECTORATE OF PUBLIC HEALTH AND PREVENTIVE MEDICINE.	5,13.73	5,43.96	6,11.00	6,46.70	7,61.61	30,77.00
5	PRIMARY HEALTH CENTRES.	2,55.60	4,52.35	8,18.38	12,13.51	19,79.16	47,19.00
6	DIRECTORATE OF STATE HEALTH TRANSPORT ORGANISATION.	11.33	1,19.58	1,31.23	1,38.36	1,76.50	5,77.00
7	STATE DRUGS CONTROL	68.37	1,20.43	90.10	74.35	89.75	4,43.00
8	DIRECTORATE OF FAMILY WELFARE.	6.60	6.60	6.60	6.60	6.60	33.00
TOTAL—B. PUBLIC HEALTH AND SANITATION.		8,55.63	12,42.92	16,57.31	20,79.52	30,13.62	88,49.00
TOTAL—(A)+(B) MEDICAL AND PUBLIC HEALTH & SANITATION.		23,92.90	23,62.83	28,79.82	32,23.53	41,41.42	1,50,00.00

35.38. Department-wise Seventh Five-Year plan programmes is given below ;—

(1) Medical Education :

35.39. The Director of Medical Education has proposed the following schemes to be implemented during the Seventh Plan period. They are:

(a) New Medical College at Salem :

35.40. It is proposed to start a Medical College at Salem in the Seventh Five-Year Plan and deploy 25 seats each from three Medical Colleges (Madas Medical College, Stanley Medical College and Thanjavur Medical College) to Salem Medical College, in order to reduce the over-crowding in the above Colleges. Ultimately the proposed Salem Medical College will have an admission of 105 students per year. Out of the 105 students 75 will be those who are deployed from other Colleges and 30 will be new admissions.

(b) Medical University :

35.41. The Working Committee appointed by the Government to study the feasibility of creating a separate Medical University has already submitted its report to the Government. The Committee has recommended the creation of a University of Health Sciences which will moderate and supervise the conduct of all Medical, Para-Medical and related courses. Therefore provision has to be made in the Seventh Five-Year Plan for the establishment of a new Medical University.

(c) Central Medical Library :

35.42. It is proposed to construct a Central Medical Library with provision for a Book capacity of about 5 lakhs and a readers capacity of about 500 Post-Graduates and 100 Research workers at a time and also to accommodate 100 staff members. This will be taken up as a phased programme. Provision of Rs. 58.05 lakhs is suggested in the Seventh Five-Year Plan.

(d) MIPMER :

35.43. There are three Post-Graduate Institutes in the country at New Delhi, Chandigarh and Pondicherry. Post-Graduate Institutions are necessary to meet the rapidly developing needs in Medical Sciences in specialised subjects such as Cardiology, Cardio Thoracic Surgery, Neuro Surgery, Nephrology, etc. Under this scheme, it is proposed to construct a building for an upgraded Institute at Madras. It will have 800

to 900 beds ultimately. The emphasis will be on specialities and super specialities. It may be located in Taramani. Only a token provision has been made for 1985-86.

(e) Specialised Medical Services :

35.44. In order to improve the facilities for specialised Medical Service and also to correct the imbalance in the different teaching hospitals, it is proposed to open a new Orthopaedic hospital at K.K. Nagar, construct a speciality block at the Medical College Hospital, Chengalpattu and the Medical College Hospital, Tirumelveli and also strengthen or start new specialities as detailed below :—

Districts :

1. Plastic Surgery Unit at Coimbatore Medical College, Coimbatore.
2. Starting of I.C.C. Unit at Thanjavur Medical College Hospital, Thanjavur.
3. Vascular Surgery Unit at Government Rajaji Hospital, Madurai.
4. Gastro-Entrology at Government Rajaji Hospital, Madurai.
5. Nephrology Unit with Haemodialysis Unit at Thirunelveli Medical College Hospital, Tirunelveli.

City of Madras :

1. Starting of 24 hours Bio-chemistry Laboratory Service at Kasturba Gandhi Hospital for Women and Children and Kilpauk Medical College Hospital, Madras.
2. Improvement to Blood Bank facilities at Kilpauk Medical College Hospital, Madras.
3. Improvement to Paediatric Surgery (Surgery Department), Neuro Medicine and Urology Department at Government Staanly Hospital, Madras.

(f) Facilities for Women and Children :

35.45. It is proposed to construct new buildings to increase the accommodation and streamline the facilities for treatment of Women and Children at the following places ;

1. New Maternity Block at Coimbatore Medical College Hospital, Coimbatore.
2. New OP Block at Institute of Obstetrics and Gynaecology and Hospital for Women and Children, Madras.

3. Construction of Additional Floor over the Paediatric wing in Government Rajaji Hospital, Madurai for Paediatric Medical Unit and Paediatric Surgical Unit.

4. Construction of Paediatrics ward at T.B Hospital, Otteri.

(g) Hostel Facilities for Nurses :

36.46. The Government have approved a scheme for the construction of one floor above the Nurses Quarters at Government General Hospital in the Seventh Plan to improve the accommodation for Nursing students and staff.

(h) Research:—(i) Establishment of Medical Record Department :

35.47. During the Sixth Five-Year Plan, Medical Record Departments were established in Teaching Hospitals. At present Medical Record departments are available in all Teaching Medical Institutions except in the Institute of T.B. and Chest Diseases, Government Institute for Rehabilitation of Handicapped and Artificial Limb Centre, K.K. Nagar, Madras and Peripheral Hospitals. Even where there are Medical Record departments they cater only to in-patient records. The departments have to be expanded to include out-patient records also. The Health Records Conference held in September 1980 recommended that the staff required for Medical Record departments may be calculated at the rate of one Medical Record departments personnel for every 2000 discharges for a year in respect of Non-Teaching Institutions.

35.43. It is proposed to strengthen the Medical Record departments at Government General Hospital, Government Stanley Hospital, Kilpauk Medical College Hospital and Government Kasturba Gandhi Hospital for Women and Children, and to start a Medical Record department at Peripheral Hospital, K.K. Nagar.

(ii) Enhancement of Allocation for State Research Scheme :

35.49. The Government of Tamil Nadu have been sanctioning a block grant of Rs. 1.00 lakh to 2.00 lakhs for State Research Scheme to promote research in the Teaching Institutions. The amount is not adequate. A scheme for provision of Rs. 2.00 lakhs has been included in the Annual Plan for 1985-86.

(iii) Faculty Improvement Programme :

35.50. The basic Sciences and Non-clinical, subjects are the foundation for the discipline of medicine. A Neurology department of excellence requires the services of Neuro pathology department of the first magnitude. Though Medical Education in Tamil Nadu has developed and advanced commendably in the field of clinical Medicine, much headway has to be made in non-clinical and para clinical subjects. It is therefore very essential to provide avenues leading to high and signal distinction in non-clinical studies. Such prospects will incline students and Medical Officers, to take up joint non-clinical and para-clinical higher studies/departments. A scheme has been proposed in the Seventh Five-Year Plan to depute Medical Officers for doctoral and Post doctoral studies in India and abroad. A provision of Rs. 3.00 lakhs per year is required towards payment of stipend under this scheme.

(iv) MIPMER (Sophisticated Equipment) :

35.51. It is felt that sophisticated equipment like whole body scanner, Nuclear Magnetic Resonance, Gamma Camera, etc., which are essential for specialities and higher specialities has to be purchased from 1985-86 onwards under this scheme for Madras Medical College and Government General Hospital without waiting for the construction of buildings which will take time. A token provision has been made for 1985-86.

MEDICAL EDUCATION—ABSTRACT.

<i>S. No.</i>	<i>Head of Development.</i>	<i>Outlay for schemes of the Sixth Five-Year Plan continued in the Seventh Five-Year Plan.</i>	<i>Outlay for the new schemes proposed for the Seventh Five-Year Plan (1985—1990).</i>	<i>Total Outlay for Seventh Five-Year Plan (columns 3 + 4).</i>
(1)	(2)	(3)	(4)	(5)
(Rs. in Lakhs.)				
I.	Medical Education and	827.71	643.54	1,471.25
II.	Research]			
III.	Medical University .. .. .	..	50.02	50.02
IV.	Training	57.06	..	57.06
V.	Medical Relief	525.72	107.01	632.73
VI.	Public Health Laboratory—King Institute, Guindy, Madras.	15.70	20.53	36.23
VII.	Direction and Administration	15.42	6.22	21.64
VIII.	State share of Centrally shared scheme 50 per cent.	16.96	0.05	17.01
IX.	Schemes for 1987-88, 1988-89 and 1989-90.	..	0.06	0.06
Total—I to IX DIRECTORATE OF MEDICAL EDUCATION		1,458.57	827.43	2,286.00
Centrally Sponsored Scheme (100 per cent).		71.26	0.01	71.27

Centrally Sponsored Schemes :

35.52. In order to improve the facilities for treatment and rehabilitation of Leprosy patients, the following schemes are proposed for consideration under Centrally sponsored schemes ;

1. Re-constructive Surgery Unit at eight Medical Colleges.

2. Creation of Reader in Leprosy for eight Medical Colleges.

3. Twenty-Bedded Leprosy ward for Chengalpattu Medical College Hospital, Kilpauk Medical College Hospital, Madras and Government Rajaji Hospital, Madurai.

35.53. Further under National Programme for control of Blindness, the following schemes are proposed.

1. Central Mobile Ophthalmic Unit at Chengalpattu Medical College Hospital.

2. Upgrading of Ophthalmic Department at Chengalpattu Medical College Hospital.

3. Provision of Additional 20 beds in Ophthalmic Department of Government Stanley Hospital.

4. Upgrading of Government Ophthalmic Hospital, Madras into a Regional Institute of Ophthalmology.

35.54. As approval has not yet been received, only token provision has been made in the Seventh Five-Year Plan.

Blood Bank Facilities :

35.55. It is proposed to improve the blood bank facilities in the State by establishing a Regional Blood Transfusion Centre at the King Institute, Guindy as a Centrally sponsored scheme. This proposal, is in correspondence with the Government of India. Only a token provision has been made.

2. MEDICAL SERVICES AND FAMILY WELFARE.

35.56. The Director of Medical Services and Family Welfare has proposed the following Schemes to be implemented during the plan period namely: —

I. Improvement to District Headquarters Hospitals in the State :

35.57. At present there are 17 District Headquarters hospitals in the State, after the formation of the new districts. Consequent on the formation of new districts, it has been proposed to upgrade the existing Taluk hospitals at Virudh-nagar and Sivaganga into those of District Headquarters hospitals by increasing the bed-strength during the Seventh Five-Year Plan. Provision has also made to the tune of Rs. 30.00 lakhs for the above purpose. It is also proposed to increase the bed strength of nine district headquarters hospitals in the Seventh Plan by making provision of Rs. 2,54.00 lakhs. In order to give training facilities to House Surgeons in six district headquarters hospitals, a lumpsum provision of Rs. 1.35 lakhs has been made during Seventh Five-Year Plan. It has also been proposed establish libraries in 12 District Headquarters hospitals in the State, for which a provision of Rs. 13.17 lakhs has been made in the Seventh Five-Year Plan.

35.58. It has also been proposed to create Medical Record department in six District Headquarters hospitals during the Seventh Five-Year Plan by making provision of Rs. 16.00 lakhs. Cancer Detection Clinics for nine hospitals and diabetic detection clinics for six hospitals have also been suggested in the Seventh Five-Year Plan with a provision of Rs. 17.50 lakhs and 11.50 lakhs, respectively.

35.59. Provision of Air-Conditioning of Operation Theatres in eight District Headquarters hospitals, cold-storage facilities to the mortuaries to six places, steam laundry in two places, H.T. power supply to seven institutions, centralised sterilisation system in six Institutions, portable Generators for four Hospitals and Laboratory

facilities in five District Headquarters hospitals have also been suggested in the Seventh Five-Year Plan and a provision of Rs. 3,55.00 lakhs has been proposed in the budget accordingly. It has also been proposed to construct eight District Medical Officers quarters at a cost of Rs. 24.80 lakhs.

Improvements to Taluk Headquarters Hospitals :

35.60. The Government have proposed to increase the bed strength in 13 taluk Headquarters Hospitals which are now functioning with less than 50 beds by making provision of Rs. 1,59.50 lakhs during Seventh Five-Year Plan period. In addition, the construction of operation theatres, out-patient blocks, X-Ray blocks, clinical Laboratories, Modern Kitchen and I.C. Units has been suggested to the tune of Rs. 1,89.72 lakhs.

Improvements to Non-Taluk Hospitals :

35.61. In the Seventh Plan, it has been proposed to increase the bed strength in Non-Taluk Hospitals involving a total outlay of Rs. 1,15.50 lakhs. It is also proposed to construct X-Ray Blocks, dispensary buildings, at a cost of Rs. 63.72 lakhs.

Opening of Special Departments :

35.62. With a view to extend specialist services in rural areas, it has been proposed to establish Blood Banks in seven Taluk Hospitals, Ophthalmic clinics in 17 Taluk hospitals, Dental clinics in 13 Taluk hospitals, Orthopaedic clinics in six Taluk hospitals, STD clinics in 18 Taluk hospitals, ENT clinics in 10 Taluk hospitals, Diabetic clinics in six hospitals and also the extension of Accident and Emergency service units in seven hospitals at a cost of Rs. 3,90.27 lakhs.

Man-Power Requirements :

35.63. Creation of new posts of specialists, and non-technical posts in various hospitals have been suggested to the tune of Rs. 69.96 lakhs in the Seventh Plan.

MEDICAL SERVICES AND FAMILY WELFARE.

<i>Serial number and schemes.</i>	1935-86.	1936-87.	1937-83.	1938-39.	1939-90.	<i>Seventh Five-Year Plan outlay—Total. (1985-90)</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS)						
I. Improvements to District Headquarters Hospitals.	55.17	108.04	2,60.45	2,60.45	2,54.50	938.61
II. Improvements to Taluk Headquarters Hospitals.	36.17	55.50	1,07.25	1,29.00	91.50	4,19.42
III. Improvements to Non-taluk Hospitals.	42.72	25.00	64.50	82.00	33.50	2,47.72
IV. Special Departments ..	64.45	1,07.93	91.95	1,10.00	1,47.50	5,21.33
V. Manpower Requirements ..	..	..	35.75	34.20	..	69.95
VI. Provision for on-going Schemes and .. } schemes of the previous } plan. }	2,44.33	83.00	1,54.00	2,49.55	3,36.59	10,67.47
MEDICAL SERVICES AND FAMILY WELFARE. TOTAL—(I To VI) }	4,42.84	3,79.47	7,13.90	8,65.20	8,63.59	32,65.00

3. INDIAN MEDICINE AND HOMOEOPATHY.

35.64. There are three Indian Medicines and Homoeopathy Colleges and One Teaching Institutions in Tamil Nadu. In order to improve the Indian system of Medicare and to teach Siddha subjects in a scientific way, the teaching institutions have been equipped with modern facilities during Sixth Plan. As the Siddha system of Medicine can provide effective medical and health care to the rural mass, the Government have been attaching greater importance to the development and spreading of the Siddha system in all its aspects. Emphasis was also laid on stepping up of the other traditional systems of Medicine, namely, Ayurveda, Unani, Naturopathy and Yoga. During the Seventh Five-Year Plan, it is proposed to accelerate further, the development

and dissemination of these systems of medicine by providing the requisite infrastructure by way of hospital and dispensary facilities, trained man-power, additional coverage of the rural areas and research facilities.

During Seventh Plan, it is proposed to open Homoeopathy Dispensaries in 15 Taluk Hospitals, increase bed strength in Homoeopathy college and start Degree course by converting the Diploma course at Homoeopathy Medical College at Madurai district.

35.65. An outlay of Rs. 6,00.00 lakhs has been provided for the development, acceleration and diffusion of traditional systems of medicine in Tamil Nadu. The outlay proposed for the various programmes of Indian Medicine and Homoeopathy is given below :—

INDIAN MEDICINE AND HOMOEOPATHY.

Serial number.	Name of the schemes.	Seventh Five-Year Plan Outlay 1985—1990. (RUPEES IN LAKHS). (3)
(1)	(2)	(3)
1	Providing Training and Employment to Hereditary Medical Practitioners in Siddha.	1.20
2	Opening of 20 Government Siddha Rural Dispensaries	4.80
3	Siddha Wings in Primary Health Centres : Opening of Siddha Wings in 20 Primary Health Centres	7.20
4	Opening of Siddha Wing for Non-Taluk Hospitals	7.20
5	Opening of Siddha Wing in the 20 Taluk Hospitals ^a	7.20
6	Provision of Jeep to all 17 District Siddha Medical Officers	27.20
7	Construction of separate building for Siddha Ward with 25 beds and C.P. at six District Headquarters Hospitals :	
	(a) Buildings	59.00
	(b) Staff and Equipments	9.90
8	Constructions of 15 bedded ward in four Taluk Hospitals	24.00
9	Opening of Special Clinics viz., Skil Thokkanam in 16 District Headquarters Hospitals.	6.40
10	Construction and opening of special clinics and wards with 10 beds for Thokkanam etc.	
	(a) Buildings	2.50
	(b) Staff and Equipments	0.61
11	Construction of opening of Multi-Purposes :	
	(a) Building	12.75
	(b) Clinical room for maternity, Staff, etc.	0.35
12	Provision of Mobile Medical Units to cater to the needs of Urban population around Madras City (two units).	4.00
13	Increase in Bed Strength by construction of separate 100 beds and O.P. Block for Siddha at Arignar Anna Government Hospital of Indian Medicine, Madras :	
	(a) Building	35.00
	(b) Staff and Furniture	4.50
14	Opening of Siddha Dispensary at Foreshore Estate	
15	(a) Strengthening of Pharmacy at Arignar Anna Government Hospital of Indian Medicine—Construction of building.	5.00
	(b, Hospital attached to Government Siddha Medical College, Palayankottai .	..
16	Provision of Mobile Medical Unit to cater the need of rural population in the nearest villages of Government Siddha Medical College, Palayankottai.	2.00
17	Creation of Medical Record Section at Government Siddha Medical College, Palayankottai.	1.00

Serial number.	Name of the schemes.	Seventh Five-Year Plan Outlay (1985-90).
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
18	Increase of 68 Bed strength (viz.) from 232 to 300 beds at Government Siddha Medical College, Palayamkottai as per the Central Council of Indian Medicine.	
	(a) Construction of Buildings	25.00
	(b) Furniture and Staff etc.	5.00
19	Creation of Administration Officer at Government Siddha Medical College ..	1.10
<i>State General Hospital.</i>		
20	(a) <i>New Hospitals :</i>	
	(i) Opening of Siddha Medicine Hospitals one each at Madurai and Coimbatore cities with 10 beds each :	
	(a) Buildings	10.00
	(b) Staff, Furniture, Equipments, etc.	2.10
21	Improvement of Indian Medicine Department :	
	(i) Formation of Drug Controller for Indian Medicine Department ..	3.00
22	Construction of Second Floor over the Administrative Block for the Directorate.	5.00
23	Augmenting staff of the Directorate	4.10
24	Provision of one jeep to Assistant Director of Indian Medicine	1.54
<i>Siddha Medical Board.</i>		
25	Establishment of Siddha Research Unit	5.00
26	Printing and Publishing Unit	25.00
27	Central Library-cum-Book Sales Unit :	
	(a) Building	13.00
	(b) Staff and Furniture	4.00
	(c) Purchase of Books	2.00
<i>Medical Education.</i>		
29	(a) opening of New Colleges :	
	(i) opening of one Siddha Medical College	
	(a) Buildings	25.00
	(b) Staff and Furniture	16.00
30	Improvement of existing College Government Siddha Medical college, palayamkottai: Creation of additional posts and departments of Government Siddha Medical College, Palayamkottai to meet the requirements of Central Council of Indian Medicine.	6.39
31	Construction of lecture hall for the subject Gunapadam, Practical work over the first floor of the existing pharmacy at Government Siddha Medical College, Palayamkottai.	6.00

Serial number.	Name of the Schemes.	Seventh Five-Year Plan Outlay (1985—90)
(1)	(2)	(3)
		(RUPEES IN LAKHS.)
32	Starting of B-Pharmacy (Siddha) Course	3.20
33	Construction of third floor over the second of the Ladies Hostel at Government Siddha Medical College, Palayamkottai.	7.00
34	Improvement of the College due to increased work load with regard to Hospital and College. <i>Government Medical College, Unani, Madras.</i>	2.00
35	Construction of Buildings for Government Unani Medical College, Madras .	20.00
36	Establishment of New Departments and creation of additional posts to meet the requirement of C.C.I.M. at Government Unani Medical College, Madras. <i>Yoga and Naturopathy.</i>	7.00
37	Opening of 10 bedded ward for Naturopathy Hospital at Muttukkadu, Chengalpattu district :	
	(a) Building	4.70
	(b) Staff and Equipments	3.00
38	Opening of Yoga clinic at Arignar Anna Government Hospital of Indian Medicine, Government Medical College, Palayamkottai and eight District Headquarters Hospital. <i>Homoeopathy.</i>	5.00
39	Opening of Homoeopathy Dispensary in 15 Taluk Hospitals	6.00
40	Increase in Bed strength at Homoeopathy College (15)	
	(a) Building	9.00
	(b) Staff and equipment	3.00
41	Starting of Degree Course by converting the Diploma Course at Homoeopathy Medical College, Thirumangalam, Madurai district.	3.00
	TOTAL OF STATE SCHEME	486.18
	@ CENTRALLY SPONSORED SCHEMES	15.60
	TOTAL OF ONGOING SCHEMES	98.22
	INDIAN MEDICINE AND HOMOEOPATHY—SEVENTH FIVE-YEAR PLAN OUTLAY (1985-1990)	6,00.00

@ CENTRALLY SPONSORED SCHEMES

(100 PER CENT ASSISTANCE)

- | | | |
|-----|--|-------|
| (1) | Establishment of two post-graduate Department : | |
| | (i) Sirappu Maruthuvam and }
(ii) Balar Maruthuvam. } | 2.60 |
| (2) | Establishment of Microbiology Laboratory for Past Graduate Education . | 3.00 |
| (3) | Opening of District Pharmacies | 10.00 |

Centrally Sponsored Schemes—Total — (1 to 3) 15.60

4) PUBLIC HEALTH AND PREVENTIVE MEDICINE :

35.66 During the Sixth Five-Year Plan, importance was given to the implementation of primary health care services to the rural population by opening of health sub-centres at the rate of one for every 5,000 population in the plains and one for every 3000 population in backward, tribal and hilly areas. Government of India have fixed a target of 2,343 additional Health Sub-Centres to be established during the Sixth Plan period. Now, 5,860 sub-centres have been functioning at the end of the Sixth Five-Year Plan period. During the Seventh Plan period 2,978 additional Health Sub-Centres are proposed to be established.

Construction of buildings for Health Sub-Centres.

35.67 Now 1,761 Health Sub-Centres are functioning in rented buildings. During the Seventh Plan, it is proposed to construct buildings for 500 Health Sub-Centres.

Provision of equipment to Panchayat Union Sub-Centres.

35.68 Most of the Panchayat Union Sub-centres require either replacement or provision of equipment/furniture and as such a token provision has been made during the Seventh Five-Year Plan.

35.69 During the Seventh Five-Year Plan, it is also proposed to construct building for the Central Malaria Laboratory at the Directorate at a total cost of Rs. 25.48 lakhs.

Re-organisation of existing Filaria Units and Establishment of Additional Filaria Control Units :

35.70 The National Filaria Control Programme is implemented in the State from 1957 onwards. Initially, the units were started in the endemic districts of Chengalpattu, North Arcot, South Arcot and Thanjavur. The main units are stationed at Chengalpattu, Vellore, Chidambaram and Kumbakonam.

35.71 Now during Seventh Five-Year Plan, it is proposed to establish 12 control units and 33 Night Clinics in high endemic areas which are expected to cover 26 lakhs of population. Necessary provision to the tune of Rs. 117.10 lakhs is made in the Seventh Plan.

School Medical Inspection:

35.72 School Health Programme is implemented in all Primary Health Centres and in 30 Municipalities. Health appraisal of School Children

in the age group 6 to 11 years is done by a team of Medical Officers and Health Visitors. During Seventh Five-Year Plan Period, it is proposed to extend School Health Services to 25 Municipalities in the State, at a cost of Rs. 200.00 lakhs.

Training of Multipurpose Health Workers :

35.73 Implementation of the scheme of Multipurpose Health Workers has been sanctioned in 1982. This scheme envisages the appointment of one pair of male and female Multipurpose Health Workers to carry out all the Public Health activities, including Maternity and Child Health Education and Family Welfare in an area with a population of 5,000 in the plains and a population of 3,000 in the hill and tribal areas. During Seventh Five-Year Plan, it is proposed to train 600 candidates of Multipurpose Health Workers for the above purpose, with an outlay of Rs. 13.00 lakhs.

Expansion of Water Analysis Laboratory :

35.74 In order to ensure the hygienic quality of the Water used for drinking purposes, it is proposed to establish a Water Analysis Laboratory at Madurai, at a cost of Rs. 15.00 lakhs during the Seventh Plan.

Strengthening of Health Education Training Programme:

35.75 The Primary Health Care concept envisages active participation of the Public in understanding their Health Problems and for taking active steps to improve their health status by themselves. In order to provide this facility, it has been proposed to establish one Teacher Training Unit at Coimbatore at a cost of Rs. 10.00 lakhs, during Seventh Five-Year Plan.

OUTLAY

35.76 An outlay of Rs. 3,077.00 lakhs is provided in the budget for the programmes contemplated by the Director of Public Health and Preventive Medicine for the Seventh Five-Year Plan Period. The details of Plan schemes proposed are as follows ;—

PUBLIC HEALTH AND PREVENTIVE
MEDICINE.

S. No.	Name of the Scheme.	Seventh Five-Year Plan Outlay (1985-90)	
		(RUPEES IN LAKHS.)	
(A) Control of Communicable Diseases :			
1	Small-Pox Eradication Programme	197.37	
2	Cholera Control Programme ..	27.90	
3	Immunisation	154.75	
4	Vector Control Laboratory ..	45.96	
5	Additional Posts of Laboratory Assistants.	38.44	
6	Construction of Building for Central Malaria Laboratory.	25.48	
7	Filaria Control	117.10	
Control of Communicable Diseases			
—Total (A)		607.00	
(B) Other Health Programmes :			
1.	Direction and Administration ..	100.00	
2.	School Medical Inspection ..	200.00	
3.	Opening of sub-centres in Tribal areas	17.09	
4.	Food Analysis Laboratory, Madurai and Thanjavur.	14.00	
5.	Mobile Medical Unit, Kalrayan.	10.00	
6.	Food Analysis Laboratory, Palayamkottai and Salem.	12.00	
7.	Strengthening of P. F. A. ..	10.00	
8.	Micro Biology Laboratory ..	5.00	
9.	Training Centres for Multi-purpose Health workers.	13.00	
10.	Bacteriological Wing	5.00	
11.	Nutrition Training Programme.	0.91	
12.	Sub-Centres upto 31st March 1981.	29.00	
13.	Surveillance unit for E & I ..	4.00	
14.	V. S. Registration	6.00	
15.	Health Information System ..	20.00	
16.	Strengthening of Media Units ..	5.00	
17.	Public Health Laboratory Services.	11.00	
18.	Water Analysis Laboratory, Madurai.	15.00	

19.	Tamil Nadu Integrated Nutrition Programme.	705.00
20.	Training in Nutrition	125.00
21.	Equipments for Panchayat Union sub-centres taken over by Government.	1.00
22.	Establishment of Teachers Training Unit at Coimbatore.	10.30

Other Health Programmes—Total (B) 1318.00

(C) Minimum Needs Programme @

(a)	Spillover construction work ..	50.00
(b)	Construction of buildings for sub-centres @ Rs. 1 lakh each.	500.00
(c)	Employment of Male Multi-purpose Health Workers.	75.00

Minimum Need Programme—Total (C). 625.00

SEVENTH FIVE-YEAR PLAN.

Physical Target—Minimum Needs Programme. 500 Health sub-centres.

(D) Centrally-Sponsored Schemes (50 : 50 share).

State commitment of Centrally-Sponsored Schemes. 527.00

Total—(D) C. S. S. .. 527.00

PUBLIC HEALTH AND PREVENTIVE
MEDICINE.

Abstract.

Serial number and name of the Programme.	Seventh Five-Year Plan outlay. (1985-90)
(RUPEES IN LAKHS).	
(A) Control of Communicable Diseases.	607.00
(B) Other Health Programmes ..	1318.00
(C) Minimum Needs Programme ..	625.00
(D) State commitment of Centrally-Sponsored Schemes (50 : 50).	527.00
Directorate of Public Health and Preventive Medicine—Seventh Five-Year Plan outlay—	3077.00
Total—(A) to (D).	

5. PRIMARY HEALTH CARE :

(i) Primary Health Centres :

35.77. At the beginning of the Sixth Five-Year Plan, there were 383 Primary Health Centres functioning in the State. This has been increased to 436 centres upto and inclusive of the Sixth-plan period. Now, there are 436 Primary Health Centres functioning in the State. Out of the 436 Primary Health Centres, 275 Primary Health Centres are functioning in their own building. In order to provide additional facilities and specialised treatment to the rural public it is proposed to open one referral centre for every 4 surrounding Primary Health Centres. To meet the requirements of the entire rural population, following measures for implementing the schemes have been suggested by the Government of India during Seventh Plan period, namely—(a) One sub-centre for 5,000 population ; (b) for every 6 sub-centre, one Additional Primary Health Centre (i.e. for 30,000 population); (c) all dispensaries after conversion to be named as Additional Primary Health Centre instead of subsidiary Health Centres ; (d) for every four surrounding Primary Health Centres, one Community Health Centre (i.e. upgraded Primary Health Centre, for every 1,20,000 population). During Seventh Plan Period, it has been proposed to establish 238 additional subsidiary health centres, and 82 Community Health Centres in the State of Tamil Nadu.

(ii) Mini-Primary Health Centres :

35.78. The scheme of establishment of Mini-Primary Health Centres was introduced with the object of encouraging voluntary agencies to deliver comprehensive Health Care services to the rural population in the remotest part of the villages in a co-operative manner.

35.79. The voluntary agency has to organise the delivery of comprehensive Health Services for the population of 5,000 on a total expenditure of Rs. 27,000 per Mini-Health Centre per annum. Two-thirds of the total expenditure, subject to maximum of Rs. 18,000 per year is given by the State Government as well as Central Government, as Grant-in-aid. The voluntary agency will have to meet the remaining expenditure of Rs. 9,000 by raising funds either through donation or collection from the beneficiaries. 264 Mini-Health Centres have been sanctioned and 251 are functioning in the State. This scheme will be continued in the Seventh Plan period.

(iii) Health Services in Rural Areas :

35.80. The scheme of Mobile Health Services in rural areas was introduced in 124 P.H.C.s. during Fifth Plan Period and subsequently it was extended to 100 more P.H.Cs. at the end of V Plan period. During Sixth Plan, 50 more P.H.C.s have been additionally covered with these services. At present, a total of 274 P.H.C.s do have Mobile Teams functioning in the State. This scheme will be continued in the Seventh Five-Year Plan period also.

(iv) Upgrading of Primary Health Centres :

35.81. With a view to achieve the object of the Government of India norm and to adopt a uniform pattern of providing quality medi-care services and to treat complicated cases in the rural areas, one P.H.C. for every surrounding 4 P.H.C.s are to be upgraded into that of a Community Health Centre (i.e., referral centre). The upgraded Primary Health Centres (C.H.C.s) will be provided with X-ray facilities, Blood Bank, Biological and Pathological Laboratory services, Operation Theatres, and 24 bedded wards, etc. Specialised treatment will also be provided to the rural public. It is reported that, during the Sixth Plan period 30 P.H.C.s were upgraded into that of Community Health Centres. This scheme will be continued during Seventh Plan period also.

(v) Prevention and Control of Visual Impairment.

35.82. Under this scheme, 45 P.H.C.s were identified during the Fifth Plan period for the prevention and control of visual impairment services to the public. 87 Doctors out of 135 Doctors working in P.H.Cs. were trained in the field of ophthalmology Equipment, namely, "Vision Testing Drums and Trial Sets"; worth about Rs. 3,000 per P.H.C. supplied by the Government of India. During the Sixth Plan period, 30 more P.H.C.s. were identified for the Control of visual impairment. The Government of India have recently supplied equipments for these P.H.C.s. The scheme will be continued during Seventh Plan also.

OUTLAY

35.83. An outlay of Rs. 4,719.00 lakhs has been provided for implementation of the above schemes during Seventh Five-Year Plan period, (1985-1990). The proposals are briefly as follows ;—

Serial number.	Name of the Scheme.	Seventh Five-Year Plan Outlay (1985-90). (3) (RS. IN LAKHS).
(1)	(2)	(3)
I.	<u>1985-86-</u> Establishment of 20 subsidiary Health Centres; Conversion of 200 Government Rural Dispensaries into that of S.H.C.; and creation of 2 additional sections at Head-quarters, etc.	2,55.60
II.	<u>1986-87-</u> Conversion of 41 more Government Rural Dispensaries as S.H.C. by providing necessary staff, equipments, etc.; conversion of non-taluk Hospitals as C.H.C.s; creation of 2 sections at Headquarters for maintaining the 120 C.H.Cs. ; being converted from non-Taluk Hospitals of Director of Medical Services and Family Welfare into C.H.Cs. to Director of P.H.Cs.	4,52.35
III.	<u>1987-88-</u> Establishment of 79 units of subsidiary Health Centres and 2 sections at Head-quarters; construction of 24 bedded ward for 15 non-Taluk Hospitals; provision of staff for the 30 C.H.Cs.; capital cost for the construction of 22 C.H.Cs. and 1 section at Head-quarters, etc. ..	8,18.38
IV.	<u>1988-89-</u> Establishment of 79 subsidiary Health Centres and 2 sections at Head-quarters; Establishment of 20 C.H.Cs. and 1 section; capital cost for 20 C.H.Cs. etc.	12,13.51
V.	<u>1989-90-</u> Establishment of 80 subsidiary Health Centres and 2 sections at Head-quarters; Establishment of 20 C.H.Cs., Cost of Construction of 20 C.H.Cs. etc.	19,79.16
PRIMARY HEALTH CENTRE—SEVENTH FIVE-YEAR PLAN OUTLAY, 1985-90 } —Total (I) to (V) }		47,19.00

6. DRUGS CONTROL:

35.84. The Drug Control Administration comes under the category of other schemes. The Drug Control Administration in Tamil Nadu is functioning as a separate department with the State Drugs Controller as the head of department and Controlling Authority. The State Drugs Controller is the licensing authority for manufacturing allopathic drugs. During Seventh Five-Year Plan, it is proposed to promote the growth of the pharmaceutical industry, expedite manufacturing licences, control and channelise properly the sale of drugs, strengthen the legal-cum-intelligence wing and take stringent action against all those who contravene the existing Drug Laws.

35.85. Some of the important schemes which are proposed to be implemented during Seventh Five-Year Plan, are as follows. They are:—
(i) Creation of Biological Wing; (ii) Provision

of Staff for enforcing Dangerous Drugs Act (iii) Strengthening of Headquarters administration with supporting staff; (iv) Strengthening of the Zonal Offices by providing one section to each Zonal Offices; (v) Creation of one post of Senior Drugs Inspector for each Zone; (vi) Creation of post of two Technical Officers in the Grade of Senior Drugs Inspector; (vii) Strengthening of Drugs Testing Laboratory and Chemical Analysis facilities; (viii) Provision of history in the Drug Testing Laboratory; (ix) formation of Training Institute with supporting staff; and (x) Provision of a Statistical Cell.

OUTLAY:

35.86. An outlay of Rs. 443.00 lakhs has been provided for the programmes contemplated during Seventh Five-Year Plan, 1985-90. The details of schemes with proposed outlay is as follows:—

<i>Serial number.</i>	<i>Name of the Scheme.</i>	<i>Seventh Five-Year Plan Outlay. (1985-90).</i>
(1)	(2)	(3)
(RS IN LAKHS)		
DRUGS CONTROL.		
(A) 1985-86—		
1	Provision of Biological Wing	6.71
2	Creation of Indigenous and Dangerous Drugs	7.25
3	Creation of one Office Assistant... .. .	0.39
4	Creation of one Superintendent.. .. .	0.75
5	Creation of the post of Ministerial Staff in the Zonal Offices	25.50
6	Creation of the post of Senior Drugs Inspectors and Drugs Inspectors	5.85
7	Creation of post of two Technical Officers	2.10
8	Creation of Deputy State Drugs Controller (Enforcement) with supportive staff	9.84
(B) 1986-87—		
1	Provision of one Section to Drugs Testing Laboratory	3.35
2	Strengthening of the Chemical Analysis facilities	16.98
3	Construction of one more floor	10.00
4	Strengthening of Administration (Accounts)	3.60
5	Creation of one Audit Party	2.95
6	Creation of one post of Joint State Drugs Controller	1.00
7	Creation of one post of Deputy State Drugs Control (Administration)	4.00
8	Strengthening of Zonal Offices	57.35
9	Provision of Library in the Drugs Testing Laboratory	6.38
10	Provision of Telephone facilities to Headquarters and Zonal Offices	2.20
11	Provision of Telephone facilities to Drugs Testing Laboratory	1.60
(C) 1987-88—		
1	Formation of Training Institute with one Deputy State Drugs Controller with supportive staff	6.10
2	Creation of Mobile Squad at Madurai	7.20
3	Provision of Refrigerators for Drugs Inspectors	3.75
4	Strengthening of Zonal Offices.. .. .	41.30
5	Creation of one Senior Drugs Inspector for each District	13.05
6	Strengthening of Biological Wing in the Drugs Testing Laboratory	6.50

Serial number.	Name of the Scheme.	Seventh Five-Year Plan Outlay.
(1)	(2)	(3)
		(RS. IN LAKHS)
DRUG CONTROL—cont.		
(D) 1988-89—		
1	Provision of a Statistical Cell	4.75
2	Provision of Reference books	0.25
3	Strengthening of Zonal Offices	27.20
4	Provision of Steel Almirahs	2.50
5	Doubling of Biological testing facility	6.15
6	Provision of Sophisticated equipment	5.00
7	Provision of one more floor to accommodate Research and Development Wing..	15.00
(E) 1989-90 ;—		
1	Creation of one Mobile Squad at Coimbatore	2.30
2	Strengthening of Zonal Offices	14.00
3	Creation of Research Cell	2.50
4	Construction of building for 8 Zonal at a cost of Rs. 7 lakhs for each Zone. ..	56.00
I. Drugs Control—Seventh Five-Year Plan Schemes Total (A) to (E)		381.35
II. For on-going schemes		61.65
DRUGS CONTROL—SEVENTH PLAN OUTLAY—TOTAL (I) + (II)		443.00

(7) TAMIL NADU STATE HEALTH TRANSPORT ORGANISATION.

35.86. The Tamil Nadu State Health Transport organisation is entrusted with the task of maintenance and servicing of the vehicles of Health and Family Welfare department for ensuing maximum fleet availability. For this purpose, it has three Regional Workshops each at Madras, Madurai and Salem. One Central Workshop at Tiruchirapalli, 15 Mobile work shops located at various District Headquarters and 11 District level repair and maintenance units are under the control of this Department.

Replacement of old Vehicles:—

35.87. At present this department looks after 1,739 vehicles of Health and Family Welfare department. Among these 1,072 vehicles are more than 10 years old. However in view of paucity of funds, during Seventh Plan, it is proposed to replace 223 vehicles at a total cost of Rs. 223 lakhs.

Workshops :—

35.88. At the end of the Seventh Plan period, the fleet strength of various departments under the control of this department is expected to be roughly 3,479 vehicles. To look after the repairs and periodical maintenance of the vehicles, it has been proposed to purchase equipment at a cost of Rs. 10.85 lakhs, and also employment of additional man-power at a total cost of Rs. 172.65 lakhs. It is also proposed to construct buildings for Regional Workshops at Coimbatore, Tirunelveli and Vellore, at a total cost of Rs. 40.25 lakhs and also District Workshops at Ootacamund, Cuddalore, Nagercoil, Dharmapuri, Erode, Coimbatore, Pudukkottai and Virudhunagai, at a cost of Rs. 90.00 lakhs.

OUTLAY:—

35.89. An outlay of Rs. 577.00 lakhs has been set apart for strengthening of the State Health Transport Organisation during the Seventh Five Year Plan. The details of schemes proposed are as follows ;—

STATE HEALTH TRANSPORT ORGANISATION.

Serial number.	Name of the Scheme.	Seventh First-Year Plan Outlay. (1985-90)
(1)	(2)	(3)
		(RS. IN LAKHS)
I. 1985-86—		
1	Security Staff for 11 District, Workshops	0.52
2	Additional Staff for V.A.C., MM and Stores sections	0.31
3	Additional staff or Cost Intimation	0.58
4	Additional staff for Regional and Central Workshops	3.14
5	Formation of 5 Additional Mobile Mtc. Units	0.96
6	Formation of R.C. and Body Repair Unit, Madras	2.29
7	Formation of Regional Workshop, Coimbatore	2.28
	Sub-Total	10.73
	ADD: Part I On-going	0.60
Total Requirement for 1985-86		11.33
II. 1986-87		
1	Replacement of 20 years Old Vehicles.. .. .	44.00
2	Additional staff for Audit	1.47
3	Additional 3 sections to Headquarters	3.27
4	Building for RC. and Body Repair Unit, Madras	10.00
5	Building for Regional Workshop, Coimbatore	10.00
6	Building for 1 District workshop	10.00
7	Upgradation of District Workshop, Tirunelveli into Regional workshop	18.85
8	Upgradation of District Workshop, Vellore into Regional Workshop	3.85
	Sub-Total	101.44
	ADD—Part I —On-going	18.14
Total Requirement for 1986-87		119.58

Serial number.	Name of the Scheme.	Seventh Plan Outlay. 1985-90.
(1)	(2)	(3)
		(RUPEES IN LAKHS).
III. 1987-88—		
1	Replacement of 20 Years old Vehicles	50.00
2	Additional staff for District Workshops (33)	4.21
3	Building to Regional Workshop, Vellore	15.00
4	Building to 3 district workshops	30.00
5	Additional Staff to Regional Workshop, Coimbatore	1.60
	Sub. Total	100.81
	Add—Part I On going	30.42
	Total requirement for 1987-88.	131.23
IV. 1988-89—		
1	Replacement of 20 years old vehicles	79.00
2	Building to district workshops (2)	20.00
	Sub-Total	99.00
	Add—Part I On-going	39.36
	Total requirement for 1988-89	138.36
V. 1989-90—		
1	Replacement of 20 years old vehicles	50.00
2	Formation of 5 Additional Mobile Mtc. Units	8.18
3	Formation of Central Workshop, Madurai	22.58
4	Formation of RC Unit and Body Repair unit, Madras	22.58
5	Building to 3 district workshops	30.00
	Sub-Total	133.34
	Add Part I—On going	43.16
	Total requirement for 1989-90	176.50
STATE HEALTH TRANSPORT ORGANISATION—SEVENTH— FIVE YEAR PLAN 1985-90—TOTAL (I to V)		577.00

8. FAMILY WELFARE:

35.90. Family Welfare Programme is essentially a welfare programme designed to promote the health of the people particularly mothers and children. The Family Welfare Programme is being implemented in Tamil Nadu very successfully since the inception of the programme. The vital rates indicate that birth-rate had declined during 1951-1981 from 39.9 to 26.1 per 1,000 population. The death-rate had declined from 27.4 to 10.9 per 1,000 population in the above period. During Seventh Plan period, it is proposed to continue to intensify the propoganda and motivation programmes through Mass Media activities and to achieve the targets to be fixed by the Government of India from year to year towards sterilisation and other methods like I.U.D., oral pills, C. C. and Laproscopic sterilisation. The incentives to the acceptors will be continued. As the present trend is towards tubectomy, it is proposed to increase the bed strength in District and Taluk Headquarters Hospitals, besides providing Post Partum facilities in Primary Health Centre. The objective of the State Government is to reach the net reproduction rate of unity by the end of Seventh Five Year Plan. For achieving this, the State Government have to bring down the birth rate to 21 per 1000 population, death rate to 9 per 1,000 population, infant mortality rate to 60 per 1000 live births in the State. Efforts are being made to achieve this goal during Seveth Plan Period.

PHYSICAL TARGET UNDER THE FAMILY WELFARE PROGRAMME.

Serial number.	Programme.	Seventh Five-Year Plan, 1985-90 Physical Target.
(1)	Sterilisation.. ..	25,75,000
(2)	I.U.D.	10,16,000
(3)	Oral Pills Users	5,96,000
(4)	C.C. Users	12,02,000

35.91. For implementing the above programmes, the State Government is meeting the expenditure on payment of additional incentives to the acceptors, motivators, etc., over and above the amount provided by Government of India. These additional incentives are being met by the State Government. It is worth mentioning that, the Family Welfare Programme is a Centrally sponsored scheme being implemented with 100 percent financial assistance from Government of India subject to the pattern prescribed by the Government of India.

OUTLAY:

35.92. An outlay of Rs. 33.00 lakhs has been earmarked for Family Welfare programmes contemplated during Seventh Five-year Plan, 1985-1990.

CHAPTER 36.

SEWERAGE AND WATER SUPPLY.

36.0 Of the total population of Tamil Nadu, 16.20 million live in urban areas which include Town Panchayats and the remaining 28.90 million live in rural areas. The urban and town population of 16.20 million is distributed in 728 towns comprising 2 Corporations excluding Madras Corporation, 98 Municipalities, 8 Municipal Townships, 13 Panchayat Townships and 607 Town Panchayats.

36.1 It is the objective of the Government of Tamil Nadu to cover all the local bodies other than Village Panchayats with water supply schemes which would assure protected water supply throughout the year and which are made remunerative through the distribution system to enable houses to take individual connections by paying for the water. For Village Panchayats, the objective is to provide protected, perennial and potable water supply system in every habitation of each Village through a public distribution system with stand posts or through hand pumps.

36.2 As against the Sixth Plan outlay of Rs. 49,575.00 lakhs, an amount of Rs. 30,288.00 lakhs was spent under Sewerage and Water Supply sector. Physical programmes are discussed hereunder.

TAMIL NADU WATER SUPPLY AND DRAINAGE BOARD.

36.3 Provision of Water Supply and Sewerage facilities for the entire State of Tamil Nadu except the metropolitan area of Madras is the function of Tamil Nadu Water Supply and Drainage Board. The present status of coverage under Water Supply and Sewerage is detailed hereunder.

RURAL WATER SUPPLY:

36.4 From the time of pre-independence till the year 1979-80, an amount of Rs. 70.97 crores has been spent for provision of water supply to rural population.

36.5 According to a scientific survey conducted in 1976-77, 18,167 habitations classified into six categories, as detailed in Annexure-I were found to be problem habitations suffering from inadequate water supply. A beginning was made in 1977-78. Out of 5,618 (Category 1 and 2) habitations, 3,465 habitations having a population of 14.19 lakhs were completed up to 31st March 1980 at a cost of Rs. 25.97 crores.

Sixth Plan Performance :

36.6 At the beginning of Sixth Plan, there were 14,702 problem habitations in 6,649 problem villages left uncovered. It was the objective of Sixth Plan to cover all the problem habitations in all the problem villages.

36.7 During Sixth Plan, the massive Self-Sufficiency Scheme was launched from the year 1980-81 and the principal component of the scheme was provision of "Protected Water Supply". Concerted efforts were made to provide safe drinking water to all the problem habitations in the State within a time frame. Owing to prevalence of continuous drought conditions in some areas of the State, situation in some non-problem habitations deteriorated warranting reclassification as problem habitations and water supply was provided to these habitations also under Self-Sufficiency Scheme at a total cost of Rs. 89.84 crores.

36.8 During this period Rs. 24.79 crores has been spent under Drought Relief Programme and a total number of 21,992 bore wells were drilled.

36.9 Upto the end of the Sixth Plan, 7,226 problem (census) villages (18,167 problem habitations) have been covered (1,689 problem villages covered partially) at a total cost of Rs. 103.19 crores utilising Rs. 63 crores from State Funds and Rs. 45.19 crores from Central Grants under Accelerated Rural Water Supply Programme.

36.10 During the Sixth Plan period the performance under Rural Sector is as follows :

	<i>Provision. Expenditure.</i>	
	(RUPEES IN CRORES)	
Minimum Needs Programme	50.00	63.00
Self Sufficiency Programme.	..	89.84
Drought	..	24.79
	Total ..	50.00 177.63
Accelerated Rural Water Supply Programme (Centrally Sponsored Scheme)	26.67	45.19

Thus as against the plan provision of Rs. 50.00 crores a total sum of Rs. 177.63 crores has been spent.

Seventh Five-Year Plan Programme:

36.11 As on 1st April 1985, i.e., at the beginning of the Seventh Plan about 3,088 problem habitations and 9,935 reclassified and new habitations remain to be provided with water supply. Changes in the water level in the habitations mainly due to drought conditions have necessitated need for reclassification of the status of habitations. In addition, new habitations that have sprung up have also to be catered to. These factors lead to fluctuating situation in the status of habitations.

The number of non-problem habitations which need improvements to the existing water supply system will be 16,420.

6.14 The status at the end of the VI Plan period is as below:

Rural Water Supply.

AT A GLANCE.

	Details. (1)	Villages. (2)	Habitations. (3)	Reclassified habitations. (4)
Tamil Nadu .. Total		15,735	47,075	..
Problem Areas		7,226	18,167	14,826
V Plan coverage		577	3,465	..
Balance remaining at the beginning of Sixth Plan ..		6,649	14,702	14,826
VI Plan coverage		6,649*	11,614	4,891
Balance remaining at the beginning of Seventh Plan	3,088	9,935

* 1689 problem villages partially covered.

36.15 Rural Water Supply under Minimum Needs Programme.

	(Rupees in lakhs).
(i) Works	14,636.00
(ii) Operation and Maintenance ..	
(iii) Other Rural Water Supply Schemes :	
(a) EEC aided Scheme 1,450.00	2,864.00
(b) World Bank aided Scheme 1,414.00	
Total ..	17,500.00

Concerted efforts will be made in the direction of realising the International Decade of Drinking Water Supply and Sanitation objective of providing safe and adequate water supply to 100 per cent of the rural population by March 1991.

36.16 The year-wise break up details towards the requirement of funds is as follows:

Year.	Minimum Needs Programme.	Other RWS Programme.	Population to be covered. (in lakhs)	Number of habitations to be benefited.
(1)	(2)	(3)	(4)	(5)
(RUPEES IN LAKHS).				
1985-86	3,126.00	839.32	25.00	2,000
1986-87	3,000.00	763.63	27.00	2,225
1987-88	3,000.00	695.45	27.00	2,225
1988-89	3,000.00	282.80	27.00	2,225
1989-90	2,510.00	282.80	27.00	2,225
Total ..	14,636.00	2,864.00	133.00	10,900

It is proposed to obtain financial assistance from Government, Life Insurance Corporation, European Economic Community and World Bank.

REHABILITATION OF NON-FUNCTIONING SYSTEM :

36.17 (c) It is estimated that a sum of Rs. 199.41 crores has been spent till the end of Sixth Plan period from the beginning of rural water supply era. It is rather very important and urgent to protect and maintain all the Rural Water Supply Systems so far installed so that the capital investment made is fully brought to beneficial use. Past experience has shown that Rural Water Supply Systems had failed mostly due to the failure of sources like silting of bores, drying of borewells, due to ground water level going down every year, collapse of borewells due to corrosion of casing pipes, and steel tanks, pipeline breakages etc., To restore and bring these schemes to beneficial use again, a substantial amount has to be spent, which the local bodies cannot afford. Hence it is proposed during the Seventh Plan period to restore Rural Water Supply Systems which are not functioning now.

Rejuvenation of Hand Pumps :

36.17. (b) To increase the operational efficiency of hand pumps, a rejuvenation programme, with the assistance of DANIDA and UNICEF has been undertaken since 1982-83 for replacing the old type hand pumps with India Mark II hand pumps.

DANIDA has supplied 2,500 hand pumps under the rejuvenation programme in Salem and South Arcot Districts. The rejuvenation of all the old hand pumps in Salem and South Arcot Districts had already been completed. The balance hand pumps available numbering 250 are being utilised in Chengalpattu District. UNICEF has agreed to supply 7,050 India Mark II hand pumps for the rejuvenation programme in other Districts. It is proposed to replace all the old type hand pumps. The programme is now in progress in the following ten districts :

- 1) Ramanathapuram (before bifurcation).
- 2) Pudukottai.
- 3) Thanjavur.
- 4) North Arcot.
- 5) Dharmapuri.
- 6) Tiruchirappalli.
- 7) Periyar.
- 8) Coimbatore.
- 9) Kanniyakumari.
- 10) Tirunelveli.

This programme is likely to be extended to Madurai District during the Seventh Plan period.

Maintenance of Rural Water Supply.

36.17. (c) To ensure better maintenance by involving local participation, the maintenance of hand pumps and power pumps has been entrusted to the Panchayat Unions by Tamil Nadu Water Supply and Drainage Board with effect from 23rd July 1981 and 29th November 1982 respectively. A three tier system has been evolved. At Panchayat Union level there is one mechanic-cum-fitter who will attend to minor repairs. He will report all major defects to the mobile team which is functioning at Divisional level. At District level a monitoring cell is functioning under the direct control of the Collector.

Hand pump caretakers are appointed to take care of all hand pumps. They report the defects and repairs to the Panchayat Union Commissioner through post cards supplied to them.

There are 74,815 hand pumps and 16,028 power pumps in Panchayat Unions and 12,366 hand pumps and 1,961 power pumps in the Town Panchayat areas. These massive community assets created under Rural Water Supply should be put to continued beneficial use by proper maintenance. Till December, 1985, only a grant of Rs. 20.70 lakhs was allotted in the State Budget for this vital aspect of Rural Water Supply. This provision was too meagre to maintain the pumps which has increased in number manifold. This grant was increased to Rs. 50 lakhs in the current year. Even this increase was also inadequate. The Working Group on Water Supply and Sanitation sector has also recommended that a maximum of 10% of the Plan Funds under Minimum Needs Programme may be provided for the operation and maintenance of Rural Water Supply Schemes. It has been decided therefore to spend a portion of Minimum Needs Programme funds for maintenance expenditure in the Seventh Plan. A grant of Rs. 150 lakhs has been sanctioned for the maintenance of hand pumps and power pumps in the Panchayats and Rs. 50 lakhs for maintenance of hand pumps and power pumps in the Town Panchayats during the year 1985-86.

EUROPEAN ECONOMIC COMMUNITY.

ASSISTED WATER SUPPLY SCHEMES

European Economic Community Project

36.18 The Villages where drinking water sources have excess flourides were surveyed. It is seen that flouride content varies in districts, and the most affected districts are Coimbatore and Periyar

36.19 There are 726 habitations with a population of about 4 lakhs in these two affected districts of Coimbatore and Periyar where the water sources have more than 1.5 mg./lit of fluoride and such concentration has detrimental effects on the consumers. As a first phase, these two districts have been selected by virtue of having more number of excess fluoride affected habitations which will be followed by similar works in other districts in a phased manner.

The object aimed at the project is to provide drinking water of standard quality to 726 habitations where the fluoride content is above 1.5 mg./lit.

36.20 European Economic Community came forward to assist the implementation of the project on 100 per cent aid after appraisal of the project by their expert consultants at a cost of Rs. 15.20 crores. The project is expected to be completed within a period of 2½ years.

36.21 The proposals contemplated in agreement for providing protected water supply to 726 affected habitations of Coimbatore and Periyar Districts are :

(i) to tap ground water from deep aquifers having fluoride content within the permissible standards.

(ii) to tap surface water from the rivers.

(iii) to tap sub-surface water from the river beds.

(iv) to treat ground water by installing one defluoridation plant on an experimental basis.

According to the presence of excess fluoride content in the water sources, the project habitations have been classified as under.

Serial number.	Number of habitations.	Water Sources.	Number of Sub-project.
(1)	(2)	(3)	(4)
1	199	Borewell	85
2	331	Surface sources ..	14
3	195	Sub-surface sources ..	8
4	1	Defluoridation plant	1
Total	726		108

(a) Coimbatore District.

36.22 Out of the 726 habitations proposed to be covered under this project 199 habitations come under Coimbatore District which spread over 17 Unions.

(b) Periyar District.

The total number of habitations affected by excess fluoride content in this district is 527 spread over all the 20 Unions. The major rivers flowing through this district are Cauvery, Amara-vathi and Bhavani. Hence most of the habitations will be covered with Comprehensive water-supply scheme utilising these rivers as sources.

36.23. The approximate estimated cost for the works in Coimbatore district is Rs. 6.50 crores and that in Periyar District Rs. 9.00 crores. The approximate population that will be benefited in Coimbatore and Periyar Districts is 1.50 lakhs and 2.50 lakhs respectively.

An amount of Rs. 1450.00 lakhs has been provided in the Seventh Plan.

World Bank Assistance :

36.24. During the Seventh Plan period, the World Bank has come up to assist Rural Water Supply Programme to a tune of Rs. 14.14 crores. This amount has also been included in the overall provision made in the Seventh Plan provision.

URBAN WATER SUPPLY AND SEWERAGE. Sixth Plan Performance.

36.25. As against the Sixth Plan allocation of Rs. 7,500.00 lakhs for Urban Water Supply, an expenditure of Rs. 7,920.00 lakhs was incurred.

36.26. The position at present (as on 31st March 1985) regarding urban water supply and sewerage schemes in the State is as follows:—

Out of 762 towns in the State Water Supply Schemes are in operation in all the two Corporate Cities (excluding Madras City) 93 Municipalities, 5 Municipal Townships, 7 Panchayat Townships and 182 Town Panchayats (vide Annexure-II). Sewerage Schemes are in operation in all the 2 Corporate Cities, 12 Municipalities, 1 Municipal Township and 1 Panchayat Township (vide Annexure III). It has to be noted that in the case of most of the water supply schemes, the supply has become inadequate for the present population. In the case of all the sewerage schemes, only limited areas are covered. Water Supply Schemes are now under construction in 2 Municipalities, 1 Municipal Township, 2 Panchayat Townships and 49 Town Panchayats.

36.27 Out of the total population of 164.48 lakhs the population served by water supply and sewerage schemes at present are 11.58 million and 2.94 million respectively representing 70.4 per cent and 17.86 per cent of the urban population of the State excluding Madras City.

The present status of coverage of urban water supply and sewerage schemes as on 31-3-85 is given in Annexures II and III.

36.28. Summing up the past progress, the current status may be indicated as under :—

In the areas, other than Village Panchayats 74.70 per cent of the population is provided with water supply facilities, 99 per cent of large towns and 36 per cent of town panchayats enjoy this facility. Regarding sewerage 20.47 per cent of the population is covered. The figures furnished for the coverage of water supply and sewerage schemes include those which are in progress. However, the coverage mentioned above does not imply adequate facilities at present.

Seventh Plan Programmes.

36.29. During the Seventh Plan period, the following Urban Water Supply and Sewerage Schemes have been proposed for execution.

A. Water Supply :

	(RUPEES IN LAKHS).
(i) Completion of Spill-over new Water Supply Schemes in 43 towns	850.00
(ii) Implementation of World Bank Aided Schemes (New Schemes 75 and Improvement Schemes 3)	12,639.00
(iii) Augmentation of Water Supply in Major towns	3,972.00
(iv) Sivuvani Project	289.00
Total	17,750.00

(RUPEES
IN LAKHS).

B. Sewerage

(i) Completion of Spill-over work in 2 towns (Salem and Coimbatore)	1,540.00
(ii) Low cost Sanitation for 14 towns	710.00
Total	2,250.00

36.30 The year-wise breakup details towards the requirement of financial assistance are as follows :

Year.	Water Supply.	(RUPEES IN LAKHS.)	
		Sewerage.	Low Cost Sanitation.
1985-86 ..	1,650.00	100.00	100.00
1986-87 ..	3,750.00	250.00	100.00
1987-88 ..	3,900.00	350.00	100.00
1988-89 ..	4,100.00	400.00	150.00
1989-90 ..	4,350.00	440.00	260.00
Total	17,750.00	1,540.00	710.00

The finance is proposed to be obtained from the Government of Tamil Nadu, L.I.C. of India and the World Bank.

EXTERNALLY AIDED WATER SUPPLY SCHEMES

A. World Bank Assisted Water Supply and Low Cost Sanitation Projects :

36.31 A major project to provide water supply to the 3 major towns of Coimbatore, Madurai and Salem, 75 other medium towns and 740 en route and problem rural habitations and also low cost sanitation to 14 towns is under implementation with the assistance from the World Bank. The main features of the Project are :—

(a) To provide additional supply of 125 mld. of water from Bhavani River to Coimbatore City, 20 other towns and 476 en route rural habitations within Coimbatore District.

(b) To provide a total supply of 90 mld. of water to Madurai City from Vaigai Dam.

(c) To provide an additional 85 mld. of water to Salem Municipality, 11 other towns and en route 264 rural habitations from Cauvery River.

(d) Supply of sufficient amount of drinking water to 44 towns (which have no reliable source) by providing tube-wells, open-wells and infiltration galleries.

(e) To provide Low Cost Sanitation facilities to 14 towns as a pilot programme.

(f) To carry out certain water resources management studies and training programmes for the personnel.

36.32 The estimated cost of the World Bank Project is Rs. 149.42 crores of which the proportionate cost for 740 rural habitations is Rs. 14.14 crores. A total population of 38.90 lakhs will be benefited from the Project.

The estimated costs of the scheme for Coimbatore Corporation, Madurai Corporation and Salem Municipality are Rs. 21.24 crores, Rs. 32.51 crores and 16.23 crores respectively. The scheme for Coimbatore will be financed on 100 per cent loan basis, while that for Madurai Corporation as 20 per cent grant and 80 per cent loan, and for Salem Municipality as 80 per cent grant and 20 per cent loan. The Schemes for 20 town Panchayats in Coimbatore District will be financed on 75 per cent grant and 25 per cent loan basis. 100 per cent grant will be given to 11 Town

Panchayats in Salem District. The Schemes for 44 other Towns will be financed on 75 per cent grant and 25 per cent loan. The schemes for the 740 rural habitations will be on 100 per cent grant basis. The implementation of the Schemes is expected to commence from 1985-86 and completed within a period of 5 years. The details of the main towns with population and cost of the sub-projects under various groups are given in the Annexure-IV.

36.33. The project will be implemented with the funds to be received from the World Bank and Government of Tamil Nadu.

The phasing of the proposed IDA project of Rs. 149.42 crores and the pattern of financing will be as follows :—

Year.	Annual outlay.
(1)	(2)
Sixth Five-Year Plan	
1984-85	200
Seventh Five-Year Plan	
1985-86	2,200
1986-87	2,950
1987-88	3,700
1988-89	2,950
1989-90	2,942
Total	14,942

Hogenakkal Water Supply Project :

36.34. Apart from the above IDA project a Project envisaging provision of drinking water supply to about 3,352 habitations covering 13 Panchayat Unions (out of total 18 Panchayat Unions) in Dharmapuri District and for 13 Town Panchayats and 2 Municipal Towns will also be taken up with external assistance during this plan period. The project will provide water supply to an ultimate rural population of 16,73,900 at the rate of 40 litres per day; for a population of 1,78,000 in town panchayats at the rate of 70 litres per day and for a population of 1,83,000 in Municipal towns at the rate of 90 lpcd. The project estimated at a cost of Rs. 94 crores is designed to supply 100 million litres of water per day by drawing the supply from the perennial River Cauvery

near Hogenakkal. This project includes treating and pumping the water upto Pennagaram for a distance of 12.9 k.m. and gravitating the supply to maximum number of villages and pumping to certain high level pockets. The scope of the project is to supply 100 MLD as summarised below :

	MLD.
1. Rural Areas	67.13
2. Town Panchayats	12.46
3. Dharmapuri and Krishnagiri Municipalities	16.92
4. Industrial Demand	3.49
Total	100.00

The project is being proposed to the World Bank for offering assistance.

MADRAS METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD.

36.35. In addition to the City of Madras, the Madras Metropolitan Area contains four smaller municipalities, 5 townships, 19 town panchayats and 230 villages which are grouped into several village panchayats. The Madras Metropolitan area covers an area of 1,170 sq. km. with a population of 4.60 millions (1981 census), while the city covers an area of 173 sq. km. with a population of 3.27 millions. The projected population of this area will be over 4.6 million in 2000 A.D. Within the Madras Metropolitan Area the responsibility of providing Water Supply and Sewerage is vested in Madras Metropolitan Water Supply and Sewerage Board constituted in 1978.

Madras City Water Supply System—Present Status :

36.36. The Water Supply and Sewerage Systems in Madras City were completed in 1874, and it continues to remain in existence even today.

36.37. Madras City now gets 220 mld. of protected water supply, in years of normal rain-fall. This is supplemented by an additional supply of 40 mld. from ground water sources. Even then the total supply would be barely 70 lpcd. which is totally inadequate to a Metropolitan City like Madras. For comparison purposes, the per capita supplies in Delhi, Bombay, Calcutta and Bangalore are respectively 218, 155, 191 and 122 litres.

36.38. The existing Poondi-Cholavaram-Red Hills system which is fed from Kortaliar River and depends on the highly erratic North-East Monsoon is capable of developing a safe yield of only 142 mld. with 95 per cent dependability. In the absence of adequate sources the present drawal of over 220 mld. has the risk of causing shortage in case of scanty rainfall.

Madras City Sewerage System—Present Status:

36.39. The sewerage system covers a length of 1,277 kms. in the city. The system is punctuated with as much as 61 pumping stations in view of the fact, that the city is fairly flat and high water table does not permit laying deep sewers. Relay system of pumping conveying to the North, wherein the raw sewerage was disposed into the sea was in vogue till 1958. Thereafter, the system was regionalized into five zones.

Each zone has been provided with a treatment plant to treat the sewage and use it for cultivation of fodder grass in the adjoining sewage farm. Three treatment plants are functioning while two more are under construction.

Sixth Five-Year Plan—Performance

36.40. During the Sixth Plan, the Madras Metropolitan Water Supply and Sewerage Board carried out works for a total value of Rs. 3553 lakhs which comprised schemes costing Rs. 1542 lakhs under water supply and Rs. 2011 lakhs under sewerage.

36.41. The major achievements under the Sixth Plan are as follows :—

Water-Supply :

(i) Water-Supply was provided by laying distribution mains and erecting public fountains in 73 slums spread all over the Madras City benefitting a total population of one lakh.

(ii) Since the quantity of water available for the city from Red Hills source is not adequate a 750 mm. cast iron water main was laid to a length of 8 kms. for bringing upto 36 mld. of ground water from Tamaraiakkam well fields to improve the water supply to North Madras. This has benefited a population of 4 lakhs.

(iii) The capacity of the water supply head works at Anna Poonga in Royapuram was more than doubled by construction of ground level reservoirs of 14 million litres capacity and installation of suitable pumpsets to cope up with the increased supply of water.

(iv) Water-supply distribution systems are being provided to the 12 Panchayats added to the Madras Corporation in 1978 with a population of about 3 lakhs. The works are in various stages of progress and the scheme for Thiruvanniyur has been commissioned.

(v) The old and choked up distribution mains have been renewed for a length of 30 kms. during the Sixth Plan.

(vi) Water mains are provided in unserved areas. Similarly the distribution system is being strengthened by laying feeder mains wherever water supply is not satisfactory due to low pressure.

(vii) As a short term measure the Metro Water tapped the local ground water sources in and around Madras City. Accordingly during Sixth Plan Metro Water was able to augment the city water supply by about 40 mld. Consequently the city supply has been increased to 260 mld.

(viii) With assistance from the United Nations Development Programme, Madras Metropolitan Water Supply and Sewerage Board has taken up Hydrogeological and artificial recharge studies for the conjunctive use of surface and ground water in the Arani-Kortaliar river basin. Investigations have been completed and the final report is expected shortly. These studies have identified short term sources, which can be developed to augment the city water supply to a limited extent.

(viii) A training centre has been set up at Kilpauk Water Works to impart job oriented training to the staff of Madras Metropolitan Water Supply and Sewerage Board at various levels from officers to skilled workmen. This is the first of its kind in South East Asia. Besides imparting training to Metro water staff, it is conducting training courses for Public Health Engineers on request from other States.

Drought Relief Works

36.42. Madras City faced severe drought conditions due to failure of monsoon for three years in succession. Drought in 1983 was the worst in recent years. The Government provided a sum of Rs. 10.31 crores for the unprecedented drought relief works. The major works carried out under the drought relief programme are as follows :

(i) Canal was excavated across the ridges inside Poondi reservoir.

(ii) Cast iron pipe line was laid to convey water from Tamaraiakkam to the conduit leading to the city of Red Hills.

(iii) 15 new deep bore wells were sunk in the well field and electrical pumpsets provided with standby diesel generators.

(iv) Within Madras City, ground water was tapped to the maximum extent by sinking over 8,700 tube wells and 1,204 India Mark II hand pumps.

(v) Over 2,870 steel tanks erected at various places in the city and

(vi) 280 lorries and 101 tractors were engaged to supply drinking water in problem areas during the peak period.

Sewerage

36.43. As a result of studies undertaken by the Consultants, 15 out of 59 sewage pumping stations were identified as critical ones requiring immediate replacement and expansion to deal with the increased flow of sewage. This work was taken up as a World Bank aided project M.U.D.P.I. and this has helped to reduce the flow of sewage into the water courses in the city.

(ii) Modern sewer cleaning equipments including jetting and suction unit, bucket machines and rodding machines were procured to maintain the sewers in good condition and reduce the sewer overflows due to obstructions. This has also helped to reduce the necessity for workmen to go down into sewers to clean them.

(iii) A sewerage system including laying underground sewers, two pumping stations and forcemains had been provided for Guindy area, South of Adyar river near Raj Bhavan. Similar scheme has been completed for the Arumbakkam, Aminjukurai area including laying of underground sewers and constructions of pumping stations.

(iv) The existing old and inadequate sewers in 21 streets in George Town area had been relaid with higher sizes wherever necessary, bringing welcome relief from sewer overflows to about 47,000 people, living in George Town area.

(v) No sewage treatment plants were functioning before the formation of the Board. One plant at Nesappakkam with capacity of 22.5 mld. was commissioned to treat the sewage from Saidapet and Kodambakkam area. Besides, during the Sixth Plan, two more Treatment Plants at Perungudi and Koyambedu with capacities of 45 mld and 34 mld respectively were commissioned to treat the sewage from Zone V (Triplicane, Mylapore and Adyar) and Zone III (T. Nagar, Anna Nagar and Kodambakkam) respectively. A sewage treatment plant with capacity of 80 mld. to treat the sewage from Zone II including Egmore, Purasawalkam, Choolai, Perambur, Sembium, Vyasarpadi etc., is nearing completion at Kodungaiyur.

(vi) The existing sewage pumping stations Perambur, Ice House, North Mylapore and Gandhi Nagar were remodelled with higher capacity pumps and new pumping stations were provided at Erukkanchery and Nandanam.

(vii) The capacity has been augmented to 230 mld. from 190 mld.

Seventh Plan Programmes :

Water-Supply Schemes

Replacing the old 48" Steel pumping main from Kilpauk to shaft with new 80" dia. main.

(Estimated Cost Rs. 120 lakhs.)

36.44. The existing 48" steel pumping main from Kilpauk Water Works to shaft is more than 60 to 70 years old and it has been proposed to replace it with 60" dia. steel pumping main for a length of 1 km. This main, when completed, will serve to supply higher pressure in the distribution system by reducing frictional loss.

Strengthening the existing distribution system Phase II :

(Estimated Cost Rs. 75 lakhs.)

36.45. In order to improve the supply in the distribution system due to increase in population, the existing mains are strengthened by laying higher sizes dia. pipes besides various feeder mains.

Works in four batches have been taken up for execution.

Distribution system to unserved areas in the City - Phase II :

(Estimated cost Rs. 50.00 lakhs.)

36.46. The city has a large backlog of unserved areas, i.e., streets and layouts without water mains. A scheme for providing water mains in various parts of the city, which are not previously provided with water supply mains has been approved. In order to reduce the backlog of unserved areas a scheme for providing water supply to some more streets and layouts of unserved areas has been proposed.

Distribution system to unserved areas in City limits.

(Estimated cost Rs. 175.00 lakhs)

36.47. A tentative scheme for providing water mains in various parts of the city, which are not previously provided with water supply mains, has been taken up for implementation. The work is taken up in various convenient batches. Works in 8 batches have been completed and 6 batches are in progress. Some more batches will be taken up later on.

Provision of Water Supply in extended areas:

(Estimated Cost Rs. 2,06.00 lakhs.)

36.48. For extending water supply to the newly added 12 Panchayats, schemes have been taken up and works in Thiruvanmiyur have been completed and works in Saligramam, Virugambakkam, Velachery, Kanagam-Taramani, Erukkancheri and Kodungaiyur are under various stages of progress. The works in the remaining Panchayats Kolattur, Thirumangalam, Koyambedu, Kodambakkam and Villivakkam will be taken up in due course.

Construction of an additional 90 MLD (20 mgd) Water supply treatment plant at Kilpauk.

(Estimated cost Rs. 295 lakhs.)

36.49. At present Metrowater is having 40 mgd rapid mechanical filters at Kilpauk Water Works besides slow sand filters. In order to dispense with slow sand filters in stages the Metrowater has proposed one 20 mg. water treatment plant which has been sanctioned. The scheme, when completed, would fulfil the long overdue need to improve water treatment facilities in Kilpauk for improving the quality of water and permitting the entire raw water from Red Hills to be treated to the same standard.

Enlargement and replacing of pumping capacity at Kilpauk Pumping Station

(Estimated cost Rs. 1,75.00 lakhs.)

36.50. The existing 3 HT pumpsets at Kilpauk Water Works have served their life-time and are more than 60 to 70 years old which require replacement in order to prevent any break down resulting in interruption of city water supply. The scheme for replacement and enlargement of pumping units at Kilpauk Water Works will be taken up for implementation during Seventh Plan.

Extraction of ground water from coastal aquifers South of Thiruvamiyur and transmission to the city—Phase II.

(Estimated Cost Rs. 2,20.00 lakhs.)

36.51. In order to improve the water supply to South Madras, viz., Indira Nagar, Sastri Nagar and also to provide water supply to Velachery and Kanagam-Taramani a proposal to tap ground water sources along the coastal aquifers South of Thiruvanmiyur had been sanctioned. Work has been completed at a cost of Rs. 90 lakhs. During Seventh Plan, Phase II costing Rs. 2,20 lakhs has been proposed for implementation.

Conveying of water from Kilpauk Water Works to the areas of Villivakkam, Kolathur and Thiru-mangalam.

(Estimated Cost Rs. 2,20.00 lakhs.)

36.52. The Government have sanctioned a Scheme for providing water supply to the newly added 12 Panchayats by tapping the local sources of the respective areas. The works in Thiruvanmiyur have been completed and works in Saligramam, Virugambakkam are in progress. The laying of distribution mains in Velachery, Kangam-Taramani, Kodungaiyur and Erukkanchery, are under various stages of progress. For the areas of Kodungaiyur, Erukkanchery, Villivakkam, Kolathur, and Thirumangalam there are no local sources available and hence water from distant sources has to be conveyed. It has been decided to divert Tamarai-pakkam ground water at Madhavaram Booster for the areas of Kodungaiyur and Erukkanchery and convey water from Kilpauk Water Works to the other three areas above.

Immediate short-term augmentation Scheme :**Conjunctive Use Project :**

36.53. Since there is no possibility of developing the existing surface sources, ground water sources were thought of. Metrowater is currently engaged in a UNDP-aided study of the conjunctive use of ground and surface waters and artificial recharge for the Arani-Kortaliar basin and the Palar Basin. The studies in the first stage of the project which have been completed have established the availability of additional ground water sources in the Arani-Kortaliar Basin. The studies which are in second stage of investigation will identify the actual locations for extraction of ground water and indicate the probable quantities of water available. This II Stage is in progress and the report is likely to be available shortly. However, investigations in the first stage have established the possibility of extracting ground water from three sites in the Arani-Kortaliar basin namely Poondi aquifer, Tamarai-pakkam flood plains and Kannigaiper. The quantity available will be known definitely only by the next year.

36.54. It is proposed to (1) construct artificial recharge basin to sustain the present extraction and the proposed additional extraction, and (2) to link Arani river with Kortaliar river above Tamarai-pakkam anicut to divert flood waters.

Augmentation of Water Supply to Madras City (Ground Water).

36.55. In order to augment the water supply potential even before the completion of the Krishna Water Supply a short-term solution has been identified. The recently completed ground water studies with U.N.D.P. assistance have identified three new aquifers at Poondi, Kortalar flood plains and Kannigaipper Well fields. It will be possible to extract about 12 mgd. of ground water from these new sources. The Metro water has prepared a scheme costing Rs. 98 crores for constructing new tube wells and erecting pumpsets, laying conveying mains for bringing water to Madras City including minor improvements to the existing distribution system. This programme is proposed to be taken up with assistance from World Bank.

Krishna Water Supply Project :

36.56. On the initiative of the former Prime Minister of India, that three State Governments of Maharashtra, Karnataka and Andhra Pradesh have agreed to spare 5 TMC each from their share of the Krishna Water to meet the drinking water needs of Madras City. As a first step, the two State Governments of Andhra Pradesh and Tamil Nadu have signed an agreement during April 1984. As per the agreement, 12 TMC of water (excluding 3 TMC of transmission losses) from the Krishna River will be delivered at the border of Tamil Nadu which would be conveyed into Poondi Reservoir through an open canal, and thence to the various other surface storages.

36.57. Under this project, provision of drinking water for the whole of the Madras Metropolitan Area has been contemplated. The projected population of Madras Metropolitan Area in the year 2002 will be about 7 millions spread over an extent of 1,170 sq. km. against the present population of about 4.6 millions. An estimated quantity of 1294 mld. of water will be required for this population at a supply rate of 145 lpcd. in addition to supply of water for industrial needs.

36.58. The overall cost estimate of the project works out to Rs. 1907 crores at 1983 price level including the Tamil Nadu share of cost of work components in Andhra Pradesh limits. In view of the huge amount involved in the project and as it would be difficult for the State or Central Governments to provide finance for the project, it has been decided to split the project proposals into two to be executed in two stages. In the I stage the area to be served is within Madras Metropolitan Area consisting of Madras City, the urbanised areas adjoining it, and a few more distant urbanised areas. Accordingly the project proposals have been formulated.

I Stage proposals :

Chief Engineer (Irrigation)

Works to be carried out by Tamil Nadu Public Works Department :

36.59. In the I stage, the Krishna Canal will be continued from the Tamil Nadu border upto its entry into Poondi Reservoir to a length of 25 km. with a carrying capacity of 1,000 c/s. The full tank levels of Poondi, Red Hills and Chembrambakkam reservoirs will be raised. A link canal will also be excavated from Poondi reservoir to Chembrambakkam Tank to a length of 24.50 km. with a capacity of 1,000 c/s.

36.60. The cost of the first stage of the Project, excluding the treatment, transmission and distribution system which will be executed by M.M.W.-S.S.B, comes to Rs. 237 crores based on the detailed estimates now prepared.

36.61. Both the States have started the works in their respective territories. The works in Tamil Nadu limits were inaugurated by the Prime Minister on 25th May 1983 and the work of excavation of Canal from Tamil Nadu Border to Poondi Reservoir which has been taken up for execution is in good progress.

36.62. Physical and Financial Progress

(a) Works in Andhra Pradesh Limits :

Execution of works has already been taken up in Andhra Pradesh limits.

An advance payment of Rs. 30.00 crores was made to Andhra Pradesh in May 1983 as the first instalment of Tamil Nadu share of the cost of components in Andhra Pradesh limits. Payment of next instalments will be made in due course.

(b) Works in Tamil Nadu Limits :

Execution of the canal from the Tamil Nadu border to Poondi in the first instance has been taken up and the other works will be taken up after substantially completing this work.

(c) Land Acquisition for the entire stretch of canal from the State Border to Poondi Reservoir has been finalised and consent letters from the land owners for entering upon the lands for starting the works have been obtained for the entire stretch.

(d) Against the total length of 25.275 km. of this canal, excavation is in progress in various reaches between 0 and 19.0 km. A number of Cross Masonry works have also been taken up for execution.

(e) An amount of Rs. 10,000.00 lakhs has been provided in the Seventh Plan for this project to be operated by Public Works Department for payments to Andhra Pradesh Government and for their share of the project.

Works to be carried out by M.M.W.S.S. Board

Within M.M.A. Limits.

36.63. Madras Metropolitan Water Supply and Sewerage Board will undertake the off-take works at Chembarambakkam such as intake tower, raw water pumping station and conveying main, treatment works, transmission and distribution of water including trunk mains, pumping stations, ground level and elevated reservoirs and waste water collection, transmission, treatment and disposal.

In the first stage 400 mld. of water would be drawn from the Chembarambakkam lake in addition to the existing surface and sub surface sources.

Transmission Mains :

36.64. Conveyance of water from the treatment works to the Southern Head Works within the city will be by gravity, using large diameter pipes with intermediate delivery points at Poonamallee, Porur, Virugambakkam (K. K. Nagar Head Works) and Southern Head Works.

Water Supply Distribution :

36.65. In the first phase of the Krishna Water Supply Project, the distribution system has to handle 650 mld. based on per capita rate of (i) 93 lpcd., for prime residential areas for old city and added areas and (ii) 70 lpcd. for prime residential areas in adjacent urbanised and distant urbanised area. The proposed distribution system will be covering an areal extent of about 315 sq. km. including the present city in the first stage and later will be extended to cover a total area of about 700 sq. km. covering most of the urbanised areas within Madras Metropolitan Area limits.

Sewerage System:

36.66. The scope of waste water management system in the I stage is restricted to improvements to the old city and a new system in added areas covering a total area of about 170 sq. km. This

project does not contemplate provision of waste water management system in any area outside the old city and added areas. As far as the added areas are concerned the proposals for collection system have already been sanctioned for two panchayats namely Thiruvanniyur and Villivakkam.

36.67. Based on the above proposals the cost of the I stage pertaining to M.M.W.S.S. Board works out to Rs. 410 crores inclusive of price escalation during construction period of six years at 1983 price levels. Considering the magnitude and the resources needed, this major scheme is likely to spillover to Eighth Five-Year Plan also.

Physical aspects :

36.68. The physical aspects of Madras Metropolitan Water Supply and Sewerage at the end of Sixth Plan and the programme for Seventh Plan are furnished below :

Sector	Base Year 1979-80.	Achievement 1984-85.	Programme 1985-90.
(1)	(2)	(3)	(4)
Water Supply			
Coverage of population.	85 per cent.	89 per cent.	94 per cent coverage within old city with minimum water supply improvements in added areas.
Capacity in mld.	220	260	650
Sewerage			
Coverage of population.	75 per cent.	79 per cent.	84 per cent coverage within old city only with partial coverage to selected areas in added areas.
Coverage in mld.	192	230	300

Sewerage Schemes :

Mambalam Tank Bund Sewerage Scheme :

(Estimated Cost ; Rs. 60.00 lakhs.)

36.69. This area is being developed by TNSCB and TNHB for the economically weaker sections. For providing sewerage system in these areas a separate pumping station and a force main have been proposed. The site for the pumping station has been formally taken over and the laying of force main has been taken up.

Providing Sewerage System for unsewered areas in the City limits :

(Estimated Cost ; Rs. 1,00.00 lakhs.)

36.70. The unsewered areas in the city are being taken up in stages for provision of sewerage system. Accordingly the areas of Melpattadai and Kottur-Pallipattu have been taken up for implementation. The collection system forcemain and pumping stations will be provided in these areas.

The works in Melpattadai are in progress. The pumping main has been completed and the collection system is under progress. The works in Kottur-Pallipattu has to be taken up after the site is acquired by Metrowater.

Providing Sewerage system for unsewered areas in the city limits—Phase II

(Estimated cost Rs, 2,50.00 lakhs.)

36.71. The Metrowater has sent proposals for providing sewerage facilities for the areas so far not sewerd viz., Melpattadai, Pallipattu and Kottur for Rs. 2,00 lakhs. Works are under progress in Melpattadai. For providing sewerage system in Pallipattu and Kottur which are fast developing areas, provision has been made in the Seventh Plan as Phase II of the scheme.

Providing Sewerage system for extended areas Thiruvanniyur and Villivakkam :

(Estimated Cost : Rs. 5,00.00 lakhs.)

36.72. Villivakkam and Thiruvanniyur are two areas added to the city recently. In Villivakkam there is no sewerage system and sewage water is conveyed only through the drains and these drains run very close to the raw water conduits from Red Hills to Kilpauk Water Works. The system has to be connected to the city disposal by providing sewerage system in Villivakkam.

Similarly Thiruvanniyur is a coastal area which is developing fast and also very near to water supply sources and hence, the sewerage system has been proposed. The sewerage system comprises laying of street sewers, construction of pumping station and pumping mains to convey sewage to disposal locations.

Villivakkam and Thiruvanniyur area are designed for a projected population of 85,000 and 42,000 respectively in 2002. The scheme will spill over to Seventh Plan.

Strengthening of Sewage Transmission System in the City :

(Estimated cost ; Rs. 800 lakhs.)

36.73. The city is divided into 5 Zones for collection, conveyance and disposal of sewage. Each Zone is provided with a number of pumping

stations, pumping mains and gravity mains for conveying the collected sewage for treatment to disposal locations. Some of the conveying grids were laid long back, which require strengthening replacement and re-routing.

The stretch of the existing main from Napier Park pumping station to North Madras will be re-routed near the cooling water pond of the Basin Bridge Power House. In order to discontinue the present ocean discharge of sewage, as per the master plan, the forcemain from Royapuram Pumping Station has to be rerouted and connected to the existing pumping main leading to Kodungaiyur at the junction of Vaidhiyanatha Mudali street. Further the existing pumping main from Shenoy Nagar to Kilpauk Pumping Station is also proposed for strengthening. Similarly various pumping mains in the city have to be replaced and rerouted in a phased manner. Works for replacing three forcemains have been taken up. This scheme will spill over to Seventh Plan period.

Treatment Plant for Zone I and II :

(Estimated cost : Rs. 9,48.00 lakhs.)

36.74. Under the Zonal improvements, improvements to pumping stations, construction of sewers, etc., have been carried out in Zone I and II. For treating the sewage in Zone I and II Treatment Plants in Kodungayur have to be provided. The construction of Treatment Plant for Zone II has been taken up and is under progress. The work in Zone I is under progress.

Renovation of sewage pumping station : Phase II :

(Estimated cost : Rs. 1,043.00 lakhs.)

36.75. Against the existing 61 sewage pumping stations in Madras City, 15 pumping stations have been taken up for modification and the 17 more pumping stations have been identified for modifications and increasing the efficiency of these pumping stations with sewage level controller, higher capacity pumps, etc. An outline proposal has been prepared and works will be taken up after the receipt of sanction.

Supply of Sewer Cleaning Equipments.

(Estimated cost : Rs. 48.00 lakhs.)

36.76. Under IDA assistance the Metrowater has procured modern sewer cleaning equipments and already brought them to use for cleaning of sewers. One major equipment, viz., Vector Jet Rodder will be useful only for cleaning of sewer in wider roads. Hence, it has been proposed to procure smaller units and other equipments which are capable of being moved for cleaning of sewers in the narrow streets. Action has been taken for procurement.

Special Component Plan For Scheduled Castes :

37.77 Metro water is concerned with the implementation of Special Component Plan for Scheduled Castes. About 1/3 of the city population is estimated to live in slums which are spread throughout the entire city and most of the slum dwellers are scheduled castes.

While certain schemes implemented by the Board directly aim at the uplift of slum dwellers and can be taken as full flow benefit of Scheduled Castes, the other schemes will benefit 33 1/3 percent of the scheduled castes.

An amount of Rs. 41.67 crores is expected as flow to Special Component Plan, out of Rs. 125 crores allocated to Metro Water Board.

FINANCING :

Serial number.	Scheme.	Outlay.
(1)	(2)	(3)
		(RS. IN LAKHS)
1	Rural Water-Supply under M N P :	
	(i) Works	
	(ii) Operation and Maintenance	
	(iii) Other Rural Water-Supply Schemes (E.E.C. aided and World Bank aided).. }	17,500.00
2	Urban Water Supply (Other than Madras)	17,750.00
3	Urban Sanitation : (Other than Madras)—	
	(i) Sewerage/Drainage.. .. .	1,540.00
	(ii) Low Cost Sanitation	710.00
MADRAS :		
4	Urban Water Supply	7,340.00
5	Augmentation Schemes (Ground Water)	1,500.00
6	Krishna Water-Supply Project (Public Works Department)	10,000.00
7	Urban Sanitation	3,660.00
	Total	60,000.00

ANNEXURE I.

Classification/ Definition.	Number of habitations.	Total Population in lakhs as per 1981 Census.
(1)	(2)	(3)
Type 1 Habitations with no source within the habitations	3,567	10.19
Type 2 Habitations where the source yield only non-potable water	2,051	10.72
Type 3 Habitations where water is potable, but source is not perennial	6,487	22.96
Type 4 Habitations where water is potable and perennial but the source is either privately owned or unprotected	4,955	21.85
Type 5 Habitations where there is no good source within the habitations, but an alternative good source is available within 1 km.	1,107	3.63
Type 6 Habitations where there is a good source available	28,908	201.25
	47,075	270.60

- 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.

ANNEXURE II.

Status of Urban Water Supply Schemes (as on 31-3-85)

(Excluding Madras Metropolitan Area.)

(POPULATION IN MILLIONS.)

Grade.	Number.	Popula- tion (1981) million.	Covered or in progress.			Not yet covered.		
			Number.	Popula- tion (million).	Percen- tage.	Number.	Popula- tion (million).	Percen- tage.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Corporation	2	1.518	2	1.518	100	..	..	..
Municipality	98	6.836	95	6.770	99	3	0.066	1.0
Municipal Township	8	0.382	6	0.313	82	2	0.069	18.00
Panchayat Township	13	0.329	9	0.275	83	4	0.054	7.00
Town Panchayat	641	7.383	231	3.424	46	410	3.959	54.00
Total	762	16.448	343	12.30	74.70	419	4.148	25.30

ANNEXURE III.

Status of Urban Sewerage Schemes. (as on 31-3-85)

(Excluding Madras Metropolitan Area.)

(POPULATION IN MILLION.)

Grade.	Number.	Popula- tion (1981) (million).	Covered or in progress.			Not yet covered.		
			Number.	Popula- tion (million).	Percen- tage.	Number.	Popula- tion (million).	Percen- tage.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Corporation	2	1.518	2	1.518	100.0	..	..	..
Municipality	98	6.836	14	1.808	26	84	5.028	74.00
Municipal Township	8	0.382	1	0.038	10.0	7	0.344	90.00
Panchayat Township	13	0.329	1	0.003	8.0	12	0.326	92.00
Town Panchayats	641	7.383	1	0.001	0.01	640	7.382	99.99
Total	762	16.448	19	3.368	20.47	743	13.080	79.53

ANNEXURE IV.

Tamil Nadu Water Supply and Sanitation Project with World Bank Loan Assistance.

<i>Serial number.</i>	<i>Description.</i>	<i>1981 Population.</i>	<i>Cost.</i>
(1)	(2)	(3)	(4)
			(RUPEES IN LAKHS.)
1	Group I Coimbatore and 20 Towns	8,76,536	3,683.55
2	Group II Madurai	8,17,562	3,251.48
3	Group III Salem and 11 Towns	5,28,547	3,302.03
4	Group IV 44 Towns	4,69,888	2,131.79
5	Group V Low Cost Sanitation in 14 Towns	6,22,140	709.55
6	Rural Habitations 740 numbers (under Group I and III) ..	5,73,401	1,413.51
	Total ..	<u>38,88,074</u>	<u>14,491.91</u>
7	Group VI Training, Consultancy and Equipment ..	..	350.00
8	Group VII Revolving Fund for metering in Coimbatore ..	..	100.00
			<u>14,941.91</u> or Rs. 149.42 Crores.

CHAPTER 37.

HOUSING.

37.0 Housing is considered as one of the basic needs alongwith food and clothing. It is important to development in both economic and welfare terms. In India at the beginning of 1980, the total shortage of housing has been estimated to be of the order of 20.1 million units-5 million in urban areas and 15.1 million units in rural areas (N.B.O., New Delhi, 1980).

37.1 In Tamil Nadu alone, the total shortage of housing was estimated to be 9.17 lakhs during 1981 and 10.72 lakhs in 1990, for an estimated population of 47.30 million and 53.01 for the corresponding period.

37.2 In working out the above projection it was assumed that 5 persons constitute a family; that 52.80 per cent of houses in urban and 14.65 per cent in rural areas are in pucca condition and that structures above 60 years of age would require replacement. It was, therefore, estimated that upto 1990 an additional 10.72 lakhs dwelling units will be required to accommodate the population—2.96 lakhs in rural and 7.76 lakhs in urban areas.

Strategy adopted during the Plan periods :

37.3 Goals and objectives adopted for development on earlier Five-Year Plans of the Government of India and Government of Tamil Nadu have undergone number of changes in the last three decades. The problem of housing has been tackled in multipronged strategy i. e. (1) by increasing the housing stock in the urban areas for all income groups, (2) by taking special care to provide better environment and shelter to economically weaker sections, (3) manufacture, encourage manufacture and make available building materials and (4) encourage use of local building materials and do necessary research to create and utilise local materials and methods.

37.4 As a solution to the problem of housing, it was also suggested self-sufficiency programmes for village panchayats under Community Development Programme combined with N.R.E.P. for provision of employment methods to reduce migration to metropolitan and major towns by undertaking integrated urban development schemes in small and medium towns.

37.5 The organisations which are listed below have helped the Government to implement most of the schemes identified in the Five-Year Plans.

(1) Tamil Nadu Housing Board ;

(2) Tamil Nadu Slum Clearance Board ;

(3) THADCO ;

(4) Housing Co-operative Societies ;

(5) Madras Metropolitan Development Authority.

The various types of schemes undertaken by the above organisations, their financial and physical achievement during the Sixth Five-Year Plan are indicated in the Table I.

Seventh five year plan:

37.6 As a first step towards formulating a strategy to improve housing conditions during the Seventh Five-Year Plan, the problem faced by the housing sector has been studied taking into account the goals and objectives, the needs of the target group, socio-economic conditions of the people, etc. and the approach to the Seventh Five-Year Plan has been evolved.

37.7 The major Seventh Five-Year Plan Programmes of the various Departments dealing with the Housing sector are as follows :

Public Works Department :

Housing for Government Staff.

37.8 In the State, the housing programme for Government staff is mainly executed by the Public Works Department and the funds available for Housing is always limited. Priority is given for those Government officials who are directly in need of housing accommodation especially in districts.

Residential Buildings for P.W.D. Officials.

37.9 The State Public Works Department is a vast Organisation executing different types of works. This department has its lowest level offices in very remote areas, apart from the taluk headquarters. The field staff find it extremely difficult to get suitable accommodation while working in rural and remote areas. It is considered essential that priority should be given and they are provided with housing accommodation in places nearest to their workspot.

37.10 Hence it is proposed to construct quarters for Superintending Engineers (2 numbers), Executive Engineers (4 numbers), Assistant Executive Engineers (20 numbers), Assistant Engineer/Junior Engineers (50 numbers), Assistants (60 numbers), Basic Servants (60 numbers) and for Drivers (50 numbers). Totally an outlay of Rs. 201.10 lakhs has been proposed for Residential Buildings for P. W. D. officials.

TABLE I

Physical achievements made by the organisations during the Sixth-Five Year Plan Under Housing.

<i>Serial number and Organisation.</i>	<i>Scheme.</i>	<i>Physical achievements.</i>	<i>Financial</i>
(1)	(2)	(3)	(4)
1 TNSCB	MUDP-I	32,500 persons.	(RS. IN LAKHS.) 129.35
	MUDP-II	24,2505 persons.	938.09
	ASIS	1,62,440 persons.	261.69
	EIS	34,324 persons.	55.62
	EWS	11,006 Tenements.	1,083.73
	HIL	251,46 Families.	477.98
	2 TNHB*	LIG	10,891 Units.	1,687.78
MIG		11,917 Units.	5,272.89
TNGRHS		4,723 Units.	2,165.14
SLUM		4,576 Units.	465.24
SIHS		636 Units.	88.90
EWS		21,656 Units.	272.10
Police		2,479 Units.	N.A.
Industrial Housing ..		1,078 Units.	25.79
Land acquisition and development ..		530 Hectares.	1,477.00
3 Housing Co-operative Societies.		Construction of houses under Rural Housing Scheme	1,86,523 Houses.	5,155.59
4 Tamil Nadu Adi-Dravidar Housing Development Corporation.	Houses for Adi-Dravidar, Fishermen Tribals, etc. ..	5,579 Upto 1983.	N.A.
5 MMDA	Satellite Town ..	191 Acres } 534 Units.}	Upto 1982 - 83. 427.03
	Urban Nodes ..	30 Acres } 767 Units.}	Upto 1982 - 83. 193.50

Source : Compiled from various reports of the Agencies.

* Figures indicate total achievement inclusive of State, Hudco, etc., assisted schemes.

Residential Buildings for Revenue Officials.

37.11. Construction of residential accommodation for the staff of Revenue Administration in various districts is an urgent need, since the Revenue Administration is the vital organ of administration of the districts. In the Sixth Plan period a certain headway has already been made in the construction of quarters and it is proposed to continue the effort further. The total number of quarters proposed for Seventh Plan period for each category of Revenue Staff are (1) two numbers of R.D.Os. quarters, (2) six numbers of D.D.Os. quarters, (3) 7 numbers of Tahsildars quarters, (4) 56 numbers of Deputy Tahsildars quarters and 30 numbers of Revenue Inspectors quarters with a total cost of Rs. 109.70 lakhs.

37.12 For every year 10 per cent probable escalation in cost will be added from 1986-87 onwards and the total amount works out to Rs. 380.05 lakhs as follows :—

Cost of construction of residential Buildings: —			
(RUPEES IN LAKHS).			
(1) 1985-86	..	..	62.16
(2) 1986-87	..	..	68.37
(3) 1987-88	..	..	75.20
(4) 1988-89	..	..	82.72
(5) 1989-90	..	..	91.60
Total			380.05

37.13. Besides this a provision is made for Rs. 21.28 lakhs for the spill over works raising the total requirement of works to Rs. 401.33 lakhs. A sum of Rs. 400.00 lakhs has been allotted for this work under this plan.

COMMISSIONER OF LABOUR.

Subsidised Industrial Housing Scheme (Private Employers, Project).

37.14 The subsidised Industrial Housing Scheme aims at extending financial assistance in the form of Loan and Subsidy to the private employers to construct houses on subsidised rent for the use of industrial workers employed in their respective factories. From the inception

of the Scheme, 1,346 standard houses have been constructed in the Private sector availing financial assistance to the tune of Rs. 54.32 lakhs.

37.15. The Subsidised Industrial Housing Scheme otherwise known as Integrated Subsidised Housing Scheme for industrial workers has been discontinued. So the formulation of a new scheme has become imperative. Adequate provisions for fixation of ceiling cost of construction and for a flexible financial pattern so as to ensure a substantial coverage of the scheme will be made in the new scheme.

Plantation Labour Housing Scheme (Centrally Sponsored).

37.16. The existing Plantation Labour Housing Scheme (Centrally Sponsored) will be continued during the Seventh Plan also. From the inception of the scheme, 1,073 houses have been constructed availing financial assistance to the tune of Rs. 28.09 lakhs.

37.17 A total outlay of Rs. 9.00 lakhs under the Subsidised Industrial Housing Scheme (Private Employers Project) and another outlay of Rs. 18.57 lakhs under the Plantations Labour Housing Scheme has been made for the Seventh Plan.

TAMIL NADU HOUSING BOARD.

37.18. The Tamil Nadu Housing Board is taking up schemes to meet the requirement of people in various urban areas and Panchayat Towns in the State. The Board, plans and coordinates Urban Housing activities and ensures the increase in housing stock in Tamil Nadu by implementing various social housing schemes for various categories of people from the economically weaker section of the community to the higher income groups. The total outlay of Tamil Nadu Housing Board has been stepped upto about Rs. 7,600 lakhs to complete 27,137 units during Seventh Plan period (1985-90) with the loans and grants given by Government. The Break-up details are given below :—

	Numbers.
(1) E. W. S.	13,959
(2) Slum Clearance Scheme	2,913
(3) Low Income Group	2,760
(4) M. I. G. and H. I. G.	825
(5) TNGSRHS	6,680
Total ..	<u>27,137</u>

Low Income Group Housing Scheme :

37.19. The Tamil Nadu Housing Board formulates Low Income Group Housing Scheme for the benefit of those whose monthly income is Rs. 351 to Rs. 600. The present ceiling cost under this category is Rs. 20,000. Payment term provides 25 per cent of the cost of the houses as initial payment. The balance cost will be collected in 15 years in monthly instalments. The Housing Board has constructed 3,320 units with State assistance only under this scheme during Sixth Five-Year Plan at a cost of Rs. 1,960 lakhs. During Seventh Five-Year Plan period (1985-90), it is proposed to construct 2,760 units with Government assistance of Rs. 800 lakhs.

Middle Income Group Housing Scheme :

37.20. The Middle Income Group Housing Scheme is for those whose monthly income is between Rs. 601 and Rs. 1,500. A Ceiling cost of Rs. 30,000 for first category and Rs. 50,000 for the second category has been fixed for each unit. Thirty per cent of the total cost is collected as initial deposit and the balance in monthly instalments spread over a period of 12 years.

Higher Income Group Housing Scheme :

37.21 This scheme is intended for providing Housing accommodation to those whose monthly income is above Rs. 1,500. The payment term provide for 30 per cent of the cost of the house as initial payment and the balance will be collected in 8 years in monthly instalments.

37.22 The Board has constructed 11,917 units during Sixth Plan period (1980-85) under MJG/HIG schemes and it is proposed to construct 855 units during Seventh Plan period and a sum of Rs. 500 lakhs has been provided as assistance from Government.

Land Acquisition and Development :

37.23 The Land Acquisition and Development Scheme aims at large scale acquisition of land in advance with a view to prevent speculation and to peg down and prices so as to make land available for housing at reasonable cost and also to ease congestion in growing towns. Approximately Rs. 620 lakhs has been spent on land acquisition and development by Tamil Nadu Housing Board during Sixth Plan period (1980-85) for acquiring 530 hectares of land.

37.24. A provision of Rs. 1,000 lakhs has been made in the Seventh Plan period for acquiring and developing 1,086 hectares during 1985-90 which will be given as loan to the Housing Board by Government.

Panchayat Town Housing Scheme :

37.25 Housing Board has proposed to take up Housing in 70 Panchayat towns close to major urban centres as well as in Towns (out of 120 towns) having population ranging from 20,000 to 50,000. These locations have been suggested as lands in these towns will be comparatively cheap and will have sufficient demand. Based on survey conducted by the Board, the Board has initiated land acquisition in such of those towns wherever there is sufficient demand for Housing. The actual Housing Development will take place in the coming years after acquisition of land in the Panchayat towns. It is proposed to implement these schemes during Seventh Five-Year Plan.

Tamil Nadu Government Servants' Rental Housing Scheme :

37.26 Under this scheme, rental accommodation is provided in district and Revenue Divisional Headquarters for State Government employees on subsidised rent. The Housing Board executes this scheme on behalf of the Government and it also maintains the buildings after execution. The ownership of the buildings vests with the State Government. The Tamil Nadu Housing Board has constructed 4,723 units during Sixth Five-Year Plan period. The Board has programmed to complete 6,680 units during Seventh Five-Year Plan at a cost of Rs. 2,001 lakhs.

Sites and Services Scheme :

37.27. Tamil Nadu Housing Board has taken up this Special Land Development scheme under the Madras Urban Development Project (MUDP). The main goal of this scheme is to improve the housing conditions of urban poor by providing house sites with basic amenities at a cost affordable by them. Pricing policy allowing for cross subsidy is adopted and allotted to economically weaker section at affordable cost. It also aims at mobilisation of allottees own resources and participation in completion of shelter.

MUDP—I :

37.28. Under MUDP—I, Sites and Services Scheme is implemented by the Tamil Nadu

Housing Board at three sites viz., Arumbakkam, Villivakkam and Kodungaiyur. Rs. 6,43.64 lakhs has been spent so far in MUDP—I and an amount of Rs. 120 lakhs has been provided in State Budget for 1985-86 to complete the spill over works in MUDP—I.

MUDP—H (Mogappair Scheme) ;

37.29. This scheme was started in March 1981 and 3759 core units have been completed in 152 acres. Due to land acquisition problems remaining 152 acres could not be taken up for development. With the available land in Mogappair and Nolambur Villages, about 1 K.M. west of original location sites and services scheme was proposed to be revised and taken up as Mogappair West Scheme. This scheme envisages development of 187.02 acres with all infrastructure facilities. 4172 core units; 1275 LIG, 152 MIG and 72 HIG plots are proposed to be developed at a cost of Rs. 963.76 lakhs.

Maduravoil Scheme :

37.30 Nerkundram was the original location selected for implementing the Scheme. Due to non-availability of land, the scheme location is changed to Maduravoil. It is programmed to complete 13959 units during Seventh Plan Period, 1985-90, under MUDP—II.

A sum of Rs. 2300 lakhs has been proposed in the Seventh Plan for implementation of Sites and Services Scheme of the World Bank.

Slum Clearance/Improvement Scheme in Mofussil Areas :

37.31 This scheme is being implemented in mofussil towns by Tamil Nadu Housing Board from 1961. 4576 units have been constructed during Sixth Five-Year Plan in District Headquarters of Coimbatore, Madurai, Tiruchirappalli, Salem, Thanjavur and Tirunelveli. Government have permitted Tamil Nadu Housing Board to execute the Slum improvement/Clearance Scheme throughout the State with HUDCO's financial assistance. The margin money and the repayment to HUDCO will be borne by the Government.

37.32. It is proposed to construct 2913 units during Seventh Plan Period at a cost of Rs. 500 lakhs from Government grants.

TAMIL NADU SLUM CLEARANCE BOARD:

37.33. The Tamil Nadu Slum Clearance Board formed in the year 1970 has been executing the following schemes :

1. Slum Clearance (Multi-storeyed tenemental scheme).
2. Environmental Improvement Scheme—
 - (a) A.S.I.S. with State Government funds :
 - (b) E.I.S./E.I.U.S. with Government of India funds :
 - (c) Slum Improvement with World Bank Loan.

37.34. Till 1984-85 out of 1,63,804 (1971) families 1,21,630 families have been benefitted from the above schemes.

37.35. During the year 1983-84, the Government of Tamil Nadu by an order allowed the Tamil Nadu Slum Clearance Board to extend its activities to 15 Mofussil towns initially and to other towns also based on needs. Seventh plan proposals have been prepared taking the needs of 42 towns in the State.

37.36. Till now the State Policy has been to subsidise the tenemental scheme, not to impose any recovery under A.S.I.S. and effect full cost recovery in M.U.D.P. schemes. During Seventh Plan, it has been proposed that the tenemental scheme will be continued to be subsidised and full cost recovery shall be made in the improvement schemes of A.S.I.S. type and M.U.D.P. type. The improvement scheme of M.U.D.P. type will be redesignated as Shelter for Shelterless Scheme.

37.37. The tenemental scheme will be restricted to rehabilitate the people living in places along the river courses, road margins and places reserved for public purposes. The unit cost of tenement and the cost per family proposed to be spent has been adopted as per existing rates for the year 1985-86 and a price escalation of 10 per cent has been adopted for the balance years of the plan period.

37.38. The schemes proposed and their salient features are narrated below :

1. Tenemental Scheme :

37.39. The cost of each tenement shall be in the order of Rs. 22,000 during the year 1985-86. HUDCO loan shall be obtained for this scheme under U.H.C. 'B' category with State Government grant of Rs. 8100 and HUDCO loan amount of Rs. 13,900. The repayment shall be at the interest rate of 8 per cent payable over 15 years for a crore of loan drawn from HUDCO and

Rs. 15.00 lakhs will have to be repaid to HUDCO per annum. 4,000 tenements will be constructed at a cost of Rs. 15,00.00 lakhs.

Improvements of A.S.I.S. Type :

37.40 The HUDCO extends 50 per cent of cost as loan for this scheme. The loan is repayable over 10 years period at the rate of 5 per cent interest. The cost per family shall be restricted to Rs. 2,000 during the year 1985-86.

Shelter for Shelterless Scheme :

37.41. Under this scheme the package of services will be,—

	RS.
(a) Environmental improvement (including land cost).	3,000
(b) A dwelling Unit	7,000
(c) R.C.A.P. latrines with leachpits ..	1,500

	11,500

37.42. This scheme will be taken up under HUDCO Loan assistance under UHC 'A' category having maximum loan amount of Rs. 12,000 per unit at the rate of 7 per cent interest repayable over 20 years duration. For an amount of one crore loan repayment shall be Rs. 10.00 lakhs per annum. Under A.S.I.S. and MUDP 125,000 persons will be benefitted at a cost of Rs. 10,00.00 lakhs.

Sites and Services Scheme :

37.43. This scheme is intended for rehabilitating the slum dwellers living in objectionable areas in cities where public lands are available in large extents. HUDCO extends its loan on 100 per cent basis for this scheme. The maximum loan amount is Rs. 5,000 at 4 per cent rate of interest over a period of 20 years.

37.44. The scheme consists of development of pots with sanitary core of R.C.A.P. latrine type. The unit cost for the year 1985-86 will be Rs. 5,000.

37.45. The scheme will be implemented under HUDCO loan and the loan with interest will be repaid through recoveries made from the prospective allottees. The State Government commitment will not arise for this scheme.

37.46. To start with, the Tamil Nadu Slum Clearance Board has obtained Rs. 44.79 lakhs for developing 953 plots in Madras city. Similar schemes will be executed in other towns also.

Environmental Improvement of Urban Slums with Government of India Funds :

37.47. Under the new 20 Point Programme an incentive scheme has been launched by Government of India. The Government of India have come forward to give grants for this scheme. It is expected that the Tamil Nadu Slum Clearance Board will be given Rs. 60 lakhs for the year 1985-86 which will be spent to upgrade the slums in Municipalities around City of Madras.

I.Y.S.H. Project :

37.48. The year 1987 has been declared as the I.Y.S.H. The Shelter for Shelterless schemes will be declared as I.Y.S.H. projects on the grounds of economic viability and the tenemental schemes on the grounds of technical feasibility. There shall be a judicious mix of clearance/improvement project in the Seventh Plan Period so that the people living in the objectionable areas are rehabilitated in safer places and the people living in acceptable areas but without basic amenities and shelter will be provided with the same.

37.49. The plan provision for the year 1985-86 and 1986-87 come under I.Y.S.H. projects.

37.50. Summing up, the Tamil Nadu Slum Clearance Board will execute the above schemes to construct 4,000 units to benefit 1,25,000 persons at a cost of Rs. 2,500 lakhs during Seventh Plan period (Table II).

HOUSING AND URBAN DEVELOPMENT DEPARTMENT.

House Building Advance Scheme :

37.51. The House Building Advance Scheme was introduced in the year 1960 and a large number of Government Servants are benefitted by this scheme. The Panchayat Union School Teachers who have been converted as Government Servants with effect from 1st June 1981, are also sanctioned House Building Advance.

37.52. House Building Advance is sanctioned to Government employees for constructing houses on the plots already owned; for purchase of plot and construction of houses thereon; or purchase of ready built house/flat and also for enlargement of living accommodation in the existing houses owned by them.

TABLE II.

<i>Serial number and name of the scheme.</i>	<i>Number of beneficiaries.</i>	<i>Government Grant.</i>
(1)	(2)	(3)
		(RUPEES IN LAKHS.)
1 Tenemental Scheme	4,000 units.	1,500.00
2 A.S.I.S. type of Environmental improvements	1,25,000 persons.	1,000.00
3 Shelter for Shelterless, M.U.D.P. type of Environmental Improvements. (Outlay provided under Urban Development Sector) }		
	4,000 units.	2,500.00
Total ..	+1,25,000 persons.	

37.53. The maximum ceiling limit is Rs. 1,50,000 for sanction of house building advance partly for purchase of plot and partly for construction of a house, and for construction of a house on the plot already owned, or for purchase of a ready built flat/house. The maximum ceiling limit for enlargement of house is Rs. 50,000 which is within the overall ceiling of Rs. 1,50,000. In all, during the Sixth Plan, a total number of 12,169 applications have been sanctioned.

37.54. Besides 3,441 applications to the tune of Rs. 1299 lakhs received from 1st July 1983 to 31st March 1984, a very large number of applications have been received subsequently. Large number of A.I.S. Officers apply for house building advance and almost all of them are eligible for the maximum advance of Rs. 1.50 lakhs. Even though estimated requirement for Seventh Plan is Rs. 9900 lakhs, in view of the financial constraint, an outlay of Rs. 50,00.00 lakhs has been provided in the plan.

REGISTRAR OF CO-OPERATIVE SOCIETIES (HOUSING).

Rural Housing in Co-operative Sectors :

37.55. Co-operative Housing Societies are one of the agencies for house construction in urban/

rural areas. The beneficiaries can make substantial savings in cost through group action. The rural Housing Scheme is implemented through the 104 primary Rural Housing Societies all over the State.

37.56. During the first two years of the Sixth Five-Year Plan, the Government got sizeable financial assistance from the General Insurance Corporation, Life Insurance Corporation, etc., under the Rural Housing Scheme and provided the amount fully to the Tamil Nadu Co-operative Housing Society for implementation of the Rural Housing Scheme. Thereafter, due to the very limited resources available under the plan for the house construction, the Government decided to implement the Rural Housing Scheme with the financial assistance from HUDCO.

37.57. Under the Rural Housing Scheme, during the Sixth Five-Year Plan, 186323 houses have been constructed with the financial assistances received from the Government, HUDCO, etc. as detailed in Table III.

TABLE III

Year.	Number of houses completed.	Loan to T.N.C. H.S.	Financial Assistance subsidy.	
			Capital Subsidy.	Interest Subsidy.
(1)	(2)	(3)	(4)	(5)
(RS. IN LAKHS.)				
1980-81	42,082	1048.30	300.00	..
1981-82	36,326	762.69	278.74	125.00
1982-83	40,092	477.51	293.26	236.23
1983-84	40,016	385.00	225.24	333.43
1984-85	27,807	290.00	121.23	228.96
	1,86,323	2963.50	1218.47	923.62

37.58. The Seventh Plan Programmes of the Registrar of Co-operative Societies (Housing) are as follows :—

(i) The direct investment by the HUDCO and the institutional agencies like General Insurance Corporation, Life Insurance Corporation will continue to be obtained during the Seventh Five-Year Plan in assisting the Rural Housing Scheme, particularly the economically weaker section.

(ii) The THADCO is providing free houses to the A.D. and S.T. beneficiaries. But under the rural Housing Scheme, implemented by the Department, financial assistance is provided to A.D. and S.T. beneficiaries by way of interest free loan. Hence the beneficiaries do not come forward to get financial assistance under Rural Housing Scheme.

37.59. It was, therefore, decided (under the Rural Housing Scheme) during the Seventh Plan Period that 27,000 houses are to be constructed for the backward classes only. In respect of the first year of Seventh Five-Year Plan, i.e., 1985-86 it is proposed to include 2,000 spill over cases also and hence the target is fixed at 7,000 houses for 1985-86 and 5,000 houses per year for the remaining four years. The total cost of the house is estimated at Rs. 6,000 in plains and Rs. 7,500 in Hill areas.

37.60. The outlay proposed for Rural Housing Scheme is Rs. 19,90.00 lakhs comprising of

Rs. 500 lakhs as loan and Rs. 1,490 lakhs as interest subsidy during the Seventh Plan period.

Police Housing Corporation :

37.61. The aim of the Police Housing is to provide accommodation for Police subordinate staff and for the Deputy Superintendent of Police posted in remote areas. A Police Housing Corporation has been established for implementing "Own your House Scheme" exclusively for the Police personnel. An amount of Rs. 1,300 lakhs has been ear-marked for Police housing scheme during the Seventh Five-Year Plan Period.

TAMIL NADU HARIJAN HOUSING DEVELOPMENT CORPORATION.

Fishermen Housing :

37.62. The Tamil Nadu Harijan Housing Development Corporation has been building houses for fishermen apart from Harijans and repatriates. The ceiling cost of a house is fixed at Rs. 6,000 per single roomed construction. During the Seventh Five-Year Plan period it is proposed to spend Rs. 200 lakhs for construction of houses for fishermen.

37.63. Summing up, the total outlay provided for Housing during the Seventh Five-Year Plan period is Rs. 16,500.00 lakhs for the various schemes as indicated in the Table IV.

TABLE IV.
HOUSING.

Schemewise Financial and Physical details for Seventh Five-Year Plan.

<i>Serial number and Schemes.</i>	<i>Seventh Five-Year Plan Outlay.</i>	<i>Physical Targets.</i>
(1)	(2)	(3)
(RUPEES IN LAKHS.)		
1. Public Works Department :		
Government Residential Buildings constructed by Chief Engineer (Buildings)	400.00	347 Units.
Commissioner of labour :		
Subsidised Industrial Housing Scheme	9.00	516 Units.
Assistance to Tamil Nadu Housing Board :		
3. Sites and Services under World Bank Project—Economically Weaker Section	2,300.00	13,559 Units.
4. Slum Clearance Scheme (Mofussil)	500.00	2,913 Houses.
5. Low Income Group Housing Scheme	800.00	2,760 Houses.
6. Middle Income Group Housing Scheme	500.00	825 Houses.
7. Government Servants' Rental Housing Scheme	2,001.00	6,680 Houses.
Assistance to Tamil Nadu Slum Clearance Board :		
8. Slum Clearance Scheme	1,500.00	4,000 Tenements.
9. Housing for Government Servants :		
Advances to Government Servants for construction of houses	5,000.00	7,500 applications.
10. Police Housing Scheme	1,300.00	N.A.
Assistance to Tamil Nadu Co-operative Housing Society :		
11. Rural Housing Scheme	500.00	N.A.
Interest Subsidy	1,490.00	
12. Construction of Houses for Fishermen	200.00	N.A.
Total	16,500.00	

CHAPTER 38.

URBAN DEVELOPMENT.

38.0. The 1981 census indicates about 30.28 per cent as urban population in the State of Tamil Nadu. It also indicates 27.7 per cent as urban growth rate compared to only 12.7 per cent of rural growth rate. The population growth in urban areas has been more than double the rate in rural areas. Out of the urban population more than 62 per cent live in 20 of Class I towns. Madras Urban Agglomeration alone accounts for 25 per cent of the urban population. This high percentage of population in major towns of the State indicates migration of people into these towns from smaller towns and rural areas. This migratory trend of people has resulted in haphazard expansion of major towns with all the urban problems of over crowding, inadequate utilities and services, etc. Simultaneously the rural settlements and small and medium towns are not growing for lack of basic utilities and services and adequate employment opportunities.

38.1. This skewed and unbalanced development of urban towns is to be tackled by proper planning of development of these towns. The Directorate of Town and Country Planning undertook comprehensive planning and development of both urban and rural settlements in the State to create rural-urban continuum and identified growth poles and growth centres, based on the regional plans drawn by the Directorate. The Directorate also suggested the 1971 Town and Country Planning Act for balanced and objective development of settlements in the State, through the constitution of appropriate Planning Authorities and the Town and Country Planning Board. The Madras Metropolitan Development Authority constituted under the act is planning and developing the Madras Metropolitan Area effectively. The Regional Planning Authorities at the districts, Local Planning Authorities at the towns and New Town Development Authorities at the growth pole or centre will be constituted for undertaking planning and development of such of the areas which are yet to be developed, during Seventh Plan period, to achieve the objective of balanced development of urban towns in the State.

38.2. The Development Plan involves the following development strategies:—Control of physical growth by drawing a physical development plan, regulation of urban utilities and services by formulation of regulations; offering aid and assistance to productive activities; involvement of public agencies in undertaking development projects; and identification and monitoring of the areas of development. The Development Plan for an area may comprise of an appropriate combination of the above strategies depending upon the situation under which the planning area is placed. The development strategies adopted already during the previous plan and to be adopted under Seventh Plan for urban development in the State are discussed below.

SIXTH FIVE-YEAR PLAN PERFORMANCE.

MADRAS METROPOLITAN AREA (MMA).

38.3. The strategy adopted for the development of Madras Metropolitan Area during the Sixth Plan aimed at (i) implementation of integrated urban projects with specific focus on improving quality of life of the urban poor by creating adequate housing stock for poor with basic amenities; (ii) decongesting the central business district by shifting some important trading activities to a new centre; and (iii) accelerated development of urban nodes with a judicious policy of bulk acquisition of land and development in order to promote orderly growth of these nodes. In partial fulfilment of the first objective the MUDP-II was taken up during the Sixth Plan along with the spill over of MUDP-I with World Bank (IDA) assistance. Both these projects are multi-sectoral projects focusing on different aspects of life in the area. Under this a set of projects from slum improvement to nutrition development, solid waste management, bus fleet expansion, employment generation, training, etc., were undertaken to help the population of the Metropolitan Areas.

38.4. In order to decongest the central business district programmes were taken up to shift the textiles, perishable and grains and iron and steel wholesale market from George Town to a new centre at Koyambedu and Korattur respectively along with schemes for provision of bus and truck terminals along the three major traffic corridors radiating out of the City in

order to ease traffic congestion within the city. To ease congestion and to certain extent divert the migration, schemes to accelerate development of satellite towns at Maraimalainagar and urban node at Manali were also taken up during the Plan Period.

38.5. During the Sixth Plan both MUDP-I and II placed significant emphasis on the improvement of slums. An outlay of Rs. 2,150.00 lakhs has been provided for slum improvement in Madras and an amount of Rs. 350 lakhs has been provided specifically for improvement of slums in other urban centres with the stipulation that cost recovery techniques should be adopted. This scheme was taken up under the Minimum Needs Programme during the Sixth Five-Year Plan period.

Koyambedu Wholesale Market :

38.6. During 1981 Government have accepted in principle the organisation of Koyambedu Wholesale Market project and sanctioned incurring an expenditure of Rs. 1432 lakhs for acquiring land and providing infrastructure services relating to water supply, power supply, storm drains, sanitation, etc. So far an expenditure of Rs. 210 lakhs has been incurred, for acquiring land (Rs. 40 lakhs) and provision of infrastructure (Rs. 170 lakhs) like roads, storm water drains, water supply, etc. The project was commenced in 1984-85 and is scheduled for completion in 1987-88. The project as conceived now envisages land development over an extent of 230 acres and construction of the market itself for the perishables trade alone. The market for food grains and textiles would be put up by the respective trading communities themselves with their own finances. However in regard to provision of serviced land for all the markets, it is proposed to incur an expenditure of Rs. 1410 lakhs.

Iron and Steel market :

38.7. MMDA has formulated a project for relocating wholesale trade in Iron and Steel at Sathangadu on the northern periphery of the city. An extent of 203 acres has been identified for this purpose and a layout for development of this market has also been finalised in consultation with the trading community. In pursuance of this, it is proposed to prepare the site for this particular kind of trade, adequately providing for water supply, storm water drains, roads, power supply and sanitation arrangements and allot plots to the traders for putting up structures of their own at their cost.

38.8. The project is expected to cost around Rs. 1331 lakhs and contemplates land acquisition (Rs. 61 lakhs) and land development (Rs. 1270 lakhs). The work has already commenced with the funds advanced by Government to the extent of Rs. 25 lakhs during 1984-85.

Office Block for MMDA :

38.9. MMDA since its inception in 1973 has been functioning in a rented building. Since then, its activities and responsibilities have expanded considerably, requiring location of its several wings in buildings scattered in different parts of the city. This has significantly affected the efficiency of its functioning and the public whom it serves has been put to considerable difficulty because of this. Therefore it was decided to construct an office block for MMDA.

38.10. A site has been identified in a central location at Egmore for putting up the office block. However to minimise the outlay it is proposed to construct a multistoreyed office block in the identified site and accommodate MMDA's own offices, other Government Departments and Public Sector undertakings.

38.11. During the year 1984-85 the Government had released Rs. 25 lakhs for preliminary works. The project is scheduled to commence in April 1985 and be completed by the end of 1988.

Maraimalai Nagar Satellite Town :

38.12. The development of Maraimalai Nagar New Town, 43 kms. south of Madras City was commenced in 1974. Out of 3,300 acres proposed for development about 1,000 acres have been acquired and 200 acres have been developed for residential use and 456 acres for industrial use resulting in the allotment of 463 open developed plots, 360 open developed plots with bath and FOL and 1632 Ready Built houses and 86 industrial plots of which 30 units are functioning in addition to 60 sheds provided by SIDCO.

Manali New Town :

38.13. Manali New Town project contemplates development over an extent of 1,430 acres. Out of this, 490 acres have already been taken over and about 210 acres have been developed for residential purposes. So far 1760 Ready Built houses and 580 plots with sanitary units have been constructed and 164 plots have been developed in this area.

Miscellaneous Grant to Corporation of Madras :

38.14 Madras Corporation is one of the few Metropolitan Corporations in the country which do not have an elastic source of revenue like Octroi or terminal tax. Consequently the Government are releasing funds out of additional surcharge on Sales Tax collected within the Madras City area to the Corporation of Madras for maintenance of existing assets and for improvements to bus-routes. During the Sixth Plan period Rs. 1,490 lakhs has been released as miscellaneous grant of which Rs. 290 lakhs forms part of non-plan account.

Other Urban Towns :

38.15. As regards the strategy adopted for other areas is by drawing out development plans to create rural-urban continuum by identification and development of urban and rural growth poles or centres to create a hierarchical pattern. It was also programmed to develop small and medium towns under Integrated Urban Development Programme and provision of services/infrastructure for certain other selected towns through assistance from the State Town and Country Planning Fund. The development of Slums in these areas were also taken up during the Sixth Five-Year Plan period.

Central Integrated Urban Development Programme:

38.16. Under the Centrally sponsored IDP of small and medium towns with a population of less than one lakh (according to 1971 census) was taken up in 28 towns distributed all over the State at a cost of Rs. 80.00 lakhs per town as loan (on a 50:50 sharing) by State and Centre. This project besides providing amenities to the public gave ample opportunity and scope to Local Bodies to augment their resources. The project at an outlay of Rs. 2240.00 lakhs, consists of 174 projects, out of which 88 projects have already been completed and put into beneficial use. Funds released during the Sixth Five Year Plan for implementation of the programme was Rs. 1794.45 lakhs.

38.17. Besides the Centrally sponsored IDSMT, financial assistance in the form of loan on soft terms has been extended to Municipal Towns and Panchayat towns in the Sixth Five Year Plan under the State IUDP for taking up Remunerative Enterprises and other Programmes. 172 projects were approved with an outlay of Rs. 923.00 lakhs in 107 Municipal and Panchayat Towns. A sum of Rs. 714.73 lakhs was released during

the Sixth Five Year Plan for implementation of the programme. 132 projects were completed and put to beneficial use under the State IUDP.

38.18. The Sixth Plan also took care of the needs of financially weaker municipalities which were unable to provide even the basic amenities to the public because of paucity of Funds. These are aid schemes administered by the Director of Municipal Administration. They are discussed below :

Revolving Fund for improvement of Private streets :

38.19. In 1980-81 there were about 820 unauthorised layouts in Municipalities and Township Committees. The plot owners in these areas have been put to lot of inconveniences without having the basic amenities like Roads, Street lights, drainage, etc.

38.20. Government in 1980-81 introduced the scheme of "Revolving Fund" and sanctioned a sum of Rs. 25.00 lakhs to operate this scheme initially. According to the scheme 50 per cent of the estimated cost of the work is met from the Revolving Fund as loan to Municipalities and 25 per cent from Municipal Fund and the remaining 25 per cent is to be collected initially from the beneficiary layout owners or plot owners as the case may be. However, the entire balance of 75 per cent will be collected from the beneficiaries in easy instalments in a period of 5 years with an interest of 7 per cent per annum. During the Sixth Plan period 304 layouts in 69 Municipalities have been provided with the infrastructure improvement with a sum of Rs. 54.05 lakhs.

Construction of School Buildings for Municipal High and Higher Secondary Schools :

38.21 Many of the School Buildings are very old and do not have required accommodation with reference to the strength of the students. With a view to provide pucca and additional accommodation Government have sanctioned grants for the construction of these school Buildings. So far under this project upto 1985-86, construction of 44 High and Higher Secondary School Buildings in 34 Municipalities at an estimated cost of Rs. 81.71 lakhs have been taken up and they are in various stages of completion.

Construction of Building for Municipal Elementary School.

38.22 Out of 1,040 Elementary and Middle Schools, 302 Elementary Schools are located in rented buildings paying a rent of Rs. 7.06 lakhs per annum, 93 Elementary Schools are located in thatched sheds and the remaining 631 Elementary

Schools have inadequate accommodation and are located in poor and unsafe buildings. During the Sixth Five-Year Plan period 192 Schools have been covered under this scheme at a cost of Rs. 84.87 lakhs.

Self-Sufficiency Scheme :—

38.23. The Government have decided to extend the Self-sufficiency Scheme to financially weaker Municipalities from the year 1982—83 onwards, to alleviate the grievances of the Tax payers. The scheme was started in 1982—83 in 20 Municipalities and upto the end of Sixth Plan period 81 Municipalities were covered by this scheme at the rate of Rs. 25 lakhs to each. During VI Plan period 4,612 number of works were taken up at a cost of Rs. 15,50 lakhs and 3,153 works were completed and put to beneficial use. Remaining 1459 works are nearing completion.

38.24 Under the scheme the following items of works were taken up: Water Supply, Road Works, Storm water Drains and culverts, Pathway to Adi-Dravidar Colonies and Burial ground, School Buildings, Maternity and Child Welfare centre, Public Health, Street lighting, Housing to sanitary workers, etc.

Accelerated Slum Improvement Scheme :—

38.25. Government have initiated a new scheme during 1977—78 to improve the living conditions of the Slum Dwellers in Municipalities. There are 1,100 slums in 106 Municipalities covering population of about 12 lakhs. These Slum Dwellers are not having proper and adequate accommodation and Sanitary facilities. In order to mitigate their suffering, Government have initiated a new scheme called 'A.S.I.S.' by giving financial aid in the form of 100% Grant to Municipalities, to enable the Municipalities to provide all the civic amenities in slum areas.

38.26. During Sixth Five-Year Plan Rs. 3,00 lakhs have been released by Government for implementation of the scheme in Municipal Areas. So far 255 number of slums benefitting 3.10 lakhs number of people have been covered against the Target of 250 slums fixed for Sixth Five-Year Plan period. The following amenities have been provided for the benefit of Slum Dwellers.

Roads	..	..	200 Kms.
Water Supply	..	..	140 slums.
Public Convenience	..	..	100 slums.
Street lights	..	..	230 slums.
Storm Water Drains	..	..	153 slums.

Integrated Development of Back ward Areas

38.27. This scheme was introduced in Municipalities during 1977—78. The main aim of this scheme is to provide improved civic amenities like Drinking Water Supply, Roads, Street lighting, Public conveniences, etc. to areas occupied by the under privileged classes and weaker sections of the society in Municipalities and Township Committees.

38.28. Commencing from the year 1977—78 upto the year 1982—83, 94 Municipalities have taken up the above works under the scheme at a total cost of Rs. 66.00 lakhs. During Sixth Plan Rs. 50.00 lakhs has been released for the implementation of the scheme.

Schemes under Tamilnadu Housing Board :

38.29. The land acquisition and development scheme aims at large scale acquisition of land in advance with a view to prevent speculation and to peg down land prices so as to make land available for housing at reasonable cost and also to ease congestion in growing towns. Approximately Rs. 620 lakhs have been spent on land acquisition and development by Tamil Nadu Housing Board during Sixth Plan period (1980—85).

38.30. As against a total allocation of Rs. 8200 lakhs, schemes costing Rs. 10629 lakhs have been implemented for Urban Development during the Sixth Plan, (1980—85), period.

Seventh Five-Year Plan policy and Strategies for Urban Development.

38.31. The urban policy thrust of Government of India for the Seventh five-year plan period is to moderate the growth of the cities with million-plus population through a well-defined policy of diversion of the migrant population towards smaller towns and cities. Towards this end development strategies have been formulated for the Seventh plan period in Tamil Nadu.

38.32. As regards, Madras Metropolitan Area the existing urban services and infrastructure do not accommodate the growing need of the ever increasing population of the area. There is need to continue to control the physical growth in a planned manner and regulate the urban utilities and services. Projects of problem solving nature alone are to be undertaken by public agencies. Similar strategies are followed for other major cities. In the case of small and medium towns a tilt in investment in their favour is imperative. The strategies of aiding and assisting the productive activities and public agency involvement in development besides identification and monitoring of areas of development is to be given prominence in small and medium towns.

With this in view schemes to be taken up during Seventh Plan were formulated and they are discussed in the coming pages.

I. MADRAS METROPOLITAN AREA (MMA)

38.33. Since Madras Metropolitan Area is an urban agglomeration with more of urban problems the planning strategy adopted is more in the nature of control of its physical growth in a planned manner and regulation of urban activities. Public agencies are involved only in improving the infrastructure and in problem solving projects.

38.34. MMDA as the planning and development authority, responsible for managing urban growth in the Madras Metropolitan Area has evolved a strategy for the development of the area in the next 20 years. Broadly speaking the strategy envisages a three tiered development in the entities identified i.e., Core city (Madras Corporate Area), the Metropolitan Area (comprising six urban nodes) and a string of satellite towns (three nos.) outside the Metropolitan Area strategically located on the major transportation corridors radiating out of the City.

38.35. The strategy mentioned above contemplates planned growth of these urban nodes and the satellite towns simultaneously, by providing infrastructure services so as to receive additional population. However, due to paucity of funds it was decided to take on hand the work on one urban node and the one satellite town, to begin with. Accordingly Manali Urban Node and the Maraimalai Nagar Satellite Town have been selected for this accentuated development.

38.36. Apart from implementing the above strategy MMDA had to concurrently look into making good deficiencies and meeting the need based requirements in servicing the population within the core city itself. Towards paying attention to this aspect of urban management, the MMDA has drawn up certain improvement projects which call for urgent attention. These include relocation of wholesale trading activity from the Central Business District of the City (viz) George Town area. Two sites have been identified at the periphery of the city which are eminently suitable for the purpose. The market at Koyambedu would accommodate the wholesale traders in perishables, foodgrains and textiles whereas the one at Sathangadu will accommodate the traders in Iron and Steel.

38.37. It is also proposed to organise, in phases three bus and truck terminals on the periphery of the city which would help considerably in

easing the traffic congestion on the city roads and disperse the movement of the traffic besides significantly improving the living conditions in the George Town area where presently the bus and truck terminals, are concentrated. For this purpose three sites at the intersection of the three national highways and the inner ring road at St. Thomas Mount, Koyambedu and Madhavaram have been identified. The one at Koyambedu particularly will be complementary to the wholesale market at Koyambedu. The details of the scheme and the outlay on these projects are furnished below :

Koyambedu Wholesale Market :

38.38. During the Seventh Five-Year Plan period before the end of which the project would have been completed it is proposed to build the market including the perishables market building. However, the traders in textiles and foodgrains would have been by then allotted developed sites only, for their respective markets and they would have commenced works for construction of the market buildings.

38.39. With this in view, provision has been made for Rs. 1700 lakhs during the plan period. This would go for acquiring land at a cost of Rs. 22 lakhs and provision of infrastructure services at a cost of Rs. 1335 lakhs and the balance would be utilised for construction of shops.

Iron and Steel Market :

38.40. An amount of Rs. 300 lakhs has been provided in the Seventh Plan to meet the cost of land acquisition and development of the market site at Sathankadu. Besides plan provision, additional funds by way of initial deposit from prospective allottees will be collected and utilised for the completion of the project.

Bus and Truck Terminals :

38.41. Three sites selected for this purpose at St. Thomas Mount, Koyambedu and Madhavaram cover an extent of 205 acres. It is proposed to prepare the site at each location and organise the required facilities. It is proposed to incur an expenditure of Rs. 300 lakhs for this project during the 7th plan period. Out of this, the outlay on land acquisition would be Rs. 60 lakhs and the balance of Rs. 240 lakhs would be spent on site preparation and land development. The project is expected to be completed by the end of the plan period.

Office Block for M.M.D.A. :

38.42. The TNCC, a Government agency has been entrusted with the work of construction of office complex to ensure expeditious completion and for keeping down the costs. During the plan period, it is proposed to incur an expenditure of Rs. 250 lakhs from Government funds entirely for construction works. The balance is to be met through institutional financing and advances drawn from the prospective buyers.

Maraimalai Nagar Satellite Town :

38.43. This is a continuing scheme. Development works NH I, II, III convenient shops, dispensary and water supply works, public health contemplated in the project are in various stages of progress. During the Seventh plan period Rs. 725 lakhs is provided which will be utilised as follows :

	(RUPEES IN LAKHS.)
1. Land Acquisition ..	50.00
2. Land Development	210.00
3. Interest on Government Loan	300.00
4. Repayment of Government Loan.	27.00
5. Overheads ..	138.00
Total ..	725.00

38.44.—HUDCO will provide loan assistance for construction of houses.

Manali New Town:

38.45. This is a continuing Scheme. Development works in sector III, IV, convenient shops, burial ground, dispensary and bus stand will be taken up during Seventh plan period. Outlay proposed on this project is Rs. 750 lakhs and the break up is as follows :

	(RUPEES IN LAKHS)
1. Land Acquisition ..	50.00
2. Land Development	335.00
3. Interest on Government Loan	200.00
4. Repayment of Government Loan.	27.00
5. Overheads ..	138.00
Total ..	750.00

Technical Assistance under MUDP-II.—

38.46. This is a continuing Scheme. In order to develop the capabilities of implementing agencies and M.M.D.A. particularly for implementation of M.U.D.P.-I and II and to carry out studies for better planning, training of staff and specialised studies are in progress.

38.47. It has been estimated that Rs. 40.48 lakhs will be required for 1984-85 for the committed ongoing consultancy studies and training programmes already approved by the Authority. The following are the ongoing studies :

Consultancy studies :

1. Traffic and Transportation study ;
2. Consultancy assistance for Housing Board and Madras Corporation ;
3. Computerisation of the accounts of the Madras Corporation.

38.48. The Seventh Plan provision for this component is Rs. 63.59 lakhs.

Assistance for implementation of Metropolitan Plan and World Bank Projects.

38.49. The Seventh Plan allocation of Rs. 175 lakhs and Rs. 203 lakhs are exclusively for establishment costs for implementation of the above two projects.

Madras Urban Development Project (MUDP III)

38.50. Taking into account the rate of growth of population in Madras City and the requirement of housing and other civic services like roads, additional transportation, etc., it is now proposed to approach the World Bank for assistance through the Government of India for a Third MUDP. The total estimated cost of the project is Rs. 13505 lakhs. The proposal is under consideration by the Government of India, Ministry of Works and Housing for approval and inclusion of the scheme for financial assistance from the World Bank. A token provision is made in the Seventh Five-Year Plan for the Scheme.

Mass Rapid Transit System :

38.51. In order to reduce the present acute problems in the traffic and transport sector, to cope with the increase in trip generation, to ensure efficient transport facilities for sustaining economic growth and to fulfil the social role of giving

opportunities for the urban poor in bettering their quality of life an Integrated Transport Development scheme including Mass Rapid Transit System has been evolved.

38.52. After prolonged and sincere efforts taken by the Government of Tamil Nadu, the Government of India have sanctioned the MRTS for Madras City. The project is to cover a distance of 8.45 km. from Madras Beach to Mylapore Luz. Out of 8.45 km. 2.93 km. will be at surface level and the balance of 5.52 km. will be at the elevated height of 18 feet. As per the approved Project Report, the project is expected to be completed by 1989-90. The work is in progress from 1983-84. This Government have already agreed to give Government lands on the alignment of the MRTS to the Railways free of cost. Accordingly action is being taken to hand over the Government land and also to vacate the slums on the alignment by providing alternate accommodation to the slum dwellers. An amount of Rs. 750 lakhs is provided for the scheme in the Seventh Five-Year Plan.

Corporation of Madras :

38.53. *Street Lighting*—During the year 1978, 12 Panchayats have been added to the Corporation of Madras thereby extending the area of the city to 174 sq.kms. There are as many as 4,800 street lights fixed into the MES poles maintained by the Tamil Nadu Electricity Board. It is proposed to convert the existing street lights in conformity with the Corporation standards with separate distribution network. It is also proposed to provide additional street lights in the newly formed colonies of these 12 added Panchayat areas. An amount of Rs. 150 lakhs is provided for this scheme in the Seventh Five-Year Plan.

38.54. *Replacement of old cables feeding street lights*.—Further the LT cable network feeding the street lights in the area fed by six substations were laid 30 years ago and they served their life. New schemes came up as years passed and all new street lights were added to existing feeders making most of them overloaded resulting in heavy voltage drop and straining of cables. Hence, it is proposed to replace all the old and deteriorated cables for ensuring proper redistribution of the load. An amount of Rs. 127 lakhs is provided for this in the Seventh Five-Year Plan.

Solid Waste Management :

38.55. This project comes under MUDP II. The total cost of the project covering both Solid Waste Management and Maintenance of Municipal Services is Rs. 308 lakhs. The entire component of equipments and vehicles provided in the Sixth Plan have been purchased and Civil works are nearing completion. The outlay provided in the Seventh Five-Year Plan is Rs. 173 lakhs.

Slum Improvement :

38.56. Eventhough Tamil Nadu Slum Clearance Board is undertaking Slum Improvement works, it will not be possible for the Board to undertake such improvement until the lands are acquired from the owners. There are about 400 slums over private lands requiring basic amenities. Though Rs. 1,142 lakhs is required for improving all the remaining slums over private lands, a sum of Rs. 50 lakhs is earmarked in the Seventh Five Year Plan for undertaking such improvements by the corporation immediately.

Miscellaneous Grant :

38.57. During the Seventh Five-Year Plan an amount of Rs. 1,300 lakhs has been provided as Miscellaneous Grant for maintenance of roads, bridges, storm water drains and to some extent on operating expenses and relaying of Bus-routes.

Public Borrowings :

38.58. Every year Corporation of Madras is floating Public Loan for formation of interior and Panchayat roads, market complex, community centres, construction of unit office buildings, etc., and purchase of equipment for various departments of Corporation. Since proposals have been projected under Government loan/grants, the floatation of public loan has been limited to Rs. 500 lakhs during the Seventh Five-Year Plan.

Storm Water Drains :

38.59. Madras City with its very flat terrain, has inherrent problem in the disposal of storm water. The entire storm water of the city has to be drained off only through the water courses namely Cooum River, Buckingham Canal, Otteri Nullah and Adyar River running through the city. The absence of proper net-work of storm drains is badly felt immediately after monsoon. The heavy stagnation in the erstwhile Panchayat areas causes inconvenience to public, besides dislocation of normal flow of traffic, damage to roads and create

public health problems. In order to relieve stagnation of water during rains in different parts of the city of Madras, Corporation of Madras is providing storm water drains.

38.60. During the Seventh Five-Year Plan an amount of Rs. 200 lakhs is provided for construction of Storm Water Drains in recently added erstwhile Panchayat areas and also for inter connecting existing Storm Water Drains in the city to a disposal point. The estimated cost of the scheme is Rs. 1,250 lakhs for a length of 117 kms.

II. OTHER MAJOR URBAN TOWNS.

Implementation of Urban Development Programmes in Coimbatore, Madurai, Tiruchirappalli, Salem and other Regional Growth Poles :

38.61. Besides Madras for which a well conceived Urban Development Programme is under implementation. Madurai, Coimbatore, Tiruchirappalli and Salem warrant and merit the most immediate attention. These four towns can act as effective counter magnets to the explosively growing Metropolitan area of Madras. They have a well developed economic base and the mangement of the same will enhance the growth of urbanism in Tamil Nadu. Therefore, in order to effectively plan and develop these Major towns Metropolitan Development Authorities have to be set up during the Seventh Five-Year Plan.

38.62. Subsequently policies have to be formulated and strategies determined to control physical growth and to regulate the various activities taking place in these towns, more or less similar to the one adopted for Madras Metropolitan Area. It is expected that this project to create Metropolitan Authorities will get aid from external international agencies like the World Bank. A package of remunerative projects is also to be taken up in the other two important Regional Growth Poles of the State viz., Vellore and Tuticorin. External aid is expected from World Bank for this Project—Tamil Nadu Urban Development Project. A Token provision of 0.01 lakh is provided in the Seventh Plan.

38.63. Pending clearance of the above project for development of major towns the following developmental schemes are undertaken in the Corporate towns of Madurai and Coimbatore by the respective Local Planning Authorities.

Corporation of Madurai :

38.64. The Madurai Municipality was constituted as a City Corporation on 1st May 1971. The area of the Madurai Corporation is 51.8

sq. kms. The population which was 4,24,810 according to 1961 census swelled to 8,18,333 in 1981 registering a phenomenal increase in population growth of 91.6 per cent. The following developmental and welfare programme for providing basic amenities to the population will be undertaken with financial assistance from Government during the Seventh Five-Year Plan.

38.65. In the Corporation area some of the schools are housed in thatched sheds and some are located in rented buildings paying heavy rent. There is inadequate accommodation in most of the schools. Hence it is proposed to construct additional schools buildings for high Schools / Higher Secondary Schools and for primary and middle schools at a cost of Rs. 50 lakhs during Seventh Five-Year Plan.

38.66. Madurai City is a major tourist centre. As a result it is not having adequate financial resources to provide basic amenities to the tourist and the public. To augment the resources of the corporation it is proposed to develop shopping Complexes at Goripalayam, Anna Bus Stand, Periyar Bus Stand and wholesale Vegetable market at a cost of Rs. 140 lakhs under remunerative enterprises scheme.

38.67. It is also proposed to develop Periyar Bus Stand at a cost of Rs. 50 lakhs and provide Miscellaneous assistance of Rs.160 lakhs for taking up developmental works in the Corporation area. An amount of Rs. 100 lakhs has been provided in the Seventh Five-Year Plan for provision of rental housing scheme for the staff of the Madurai Corporation.

Corporation of Coimbatore :

38.68. The former Coimbatore Municipality was upgraded into a Municipal Corporation from 1st May 1981. The Coimbatore Corporation extends over an area of 105.60 sq. kms. with a population of 7,04,514 as per 1981 census. The Corporation requires funds for the improvement of the added areas by providing the basic amenities like roads, water-supply, Drainage, Public Health and Education facilities. As the resources of the Corporation is limited to provide basic amenities to the people in the extended areas it is essential to augment the resources of the Corporation. Keeping this in view, the following schemes are programmed to be implemented during the Seventh Five-Year Plan period.

38.69. This Corporation has formulated schemes of construction of shops and shopping complexes in various places at a total cost of Rs. 325.00 lakhs

and three schemes of construction of City Bus Stand, Lorry stand and slaughter house at a total cost of Rs. 50.00 lakhs. For beautification and improvement of the fast growing city a scheme has been formulated for the provision of additional 2,000 numbers of Sodium Vapour Lamps and 4,000 numbers of MV lamps. An amount of Rs. 25.00 lakhs has been provided for this scheme in the Seventh Five-Year Plan. Miscellaneous assistance to the tune of Rs. 100.00 lakhs has also been provided in the Seventh Plan.

III. OTHER MUNICIPAL TOWNS.

38.70 Municipalities are not able to provide adequate basic amenities to the tax payers, as a result of deficit finance over a number of years. They are unable to discharge even their routine administrative functions. No new sources of income has been given to the Municipalities and the existing resources have also become static over the year. The Government have therefore decided to assist the Municipalities during the Seventh Plan for undertaking the following schemes.

Revolving Fund for Improvement of Private Streets :

38.71 The scheme for improvement of private streets is proposed to be continued during the Seventh Plan to cover the remaining 516 lay-outs in Municipalities in a phased manner. An amount of Rs. 50 lakhs has been provided in the Seventh Plan.

Construction of School Buildings for Municipal Elementary, Middle, High and Higher Secondary Schools :

38.72. With a view to provide pucca and additional accommodation in the existing schools in Municipalities, government have extended financial assistance. The scheme is proposed to be continued during the Seventh Plan period with an outlay of Rs. 50 lakhs for Municipal High and Higher Secondary Schools and Rs. 100 lakhs for the Elementary and Middle School buildings.

Construction of Storm Water Drains :

38.73. It is necessary that storm water drains are provided in all parts of the towns which have no underground drainage system. Even in the towns where the underground drainage system is in operation, the extension areas have to be taken up for provision of storm water drains. As a policy Drainage Schemes are taken up and executed in Municipalities with population of one lakh and more. The cost of drainage scheme is

very high and therefore the Municipalities are not in a position to take up the scheme. Hence, Government have come forward to assist the Municipalities to undertake this work. The Seventh Plan provides for an outlay of Rs. 50 lakhs for this scheme.

Self Sufficiency Scheme :

38.74. The scheme was started in 1982-83 to assist the financially weaker Municipalities to alleviate the grievances of tax payers by providing civic amenities. The scheme is proposed to be continued during the Seventh Plan period also to cover the remaining Municipalities at a cost of Rs. 1,500 lakhs at the rate of 25 lakhs to each Municipality.

Improvement to Municipal Dispensaries :

38.75. The Municipal Medical institutions cater to the needs of the economically weaker sections of the society living in urban areas. 118 Dispensaries are being maintained by the Municipal Councils. 30 of these institutions are housed in rented buildings with insufficient accommodation and 5 in rent free buildings. The accommodation available for the Municipal Medical Institutions which are housed in Municipal owned buildings also need to be improved. Medical aids and equipments are also needed in most of the places. Hence, an amount of Rs. 50 lakhs has been proposed for this scheme during the Seventh Five Year Plan.

Provision of Community T. V. Sets in Slums in Financially Weaker Municipalities :

38.76. There are about 1,100 slums in the Municipal Towns covering a population of 12 lakhs. The slum dwellers and other economically weaker sections have no recreation facilities. In the absence of recreation facilities they while away their leisure time in unsocial activities and evil deeds. Hence, it is proposed to provide 700 T.V-Sets to meet their recreational needs. During Seventh Five Year Plan period, a sum of Rs. 150 lakhs has been provided for this scheme.

Construction of Quarters for Municipal Sanitary Workers.

38.77. 15,000 Sanitary Workers, Sweepers and Scavengers under vulnerable group are living in slums without adequate accommodation. Therefore it is felt necessary to provide accommodation facilities to the Sanitary Workers living in Municipal towns where Slum Clearance Board have not undertaken any scheme. The scheme is coming under the welfare scheme for Sweepers and

Scavengers and priority is given by Government of India for the welfare of vulnerable groups. It is being sponsored by Social Welfare Department. An amount of Rs. 150 lakhs has been proposed for this scheme during the Seventh Five Year Plan period.

Accelerated Slum Improvement Scheme :

38.78. Government have initiated a new Scheme during 1977-78 to improve the living conditions of the Slum dwellers in Municipalities by giving financial assistance in the form of cent per cent grant. The Scheme is coming under the 20 Point Programme and considering the importance of the scheme, an outlay of Rs. 250 lakhs is provided in the Seventh Plan to provide basic amenities like Roads, Drinking Water Supply, Street Lighting, Public Conveniences, etc., in the remaining slums on a time bound basis.

Formation of Tamil Nadu Municipal Finance Corporation :

38.79. For undertaking major schemes such as Water Supply and Drainage Schemes, the Municipalities and Township Committees have borrowed heavily from Government of Tamil Nadu and L.I.C. of India. Most of the Municipalities are in heavy arrears in respect of payment of annuities for the huge loans taken by them for water supply and drainage schemes. In order to provide a helping hand to the Municipal bodies, the Government of Tamil Nadu have taken a policy decision to start a Municipal Finance Corporation with the sole object to provide financial assistance to the Municipal bodies in the form of long term loans at moderate interest to enable them to undertake both remunerative and non-remunerative schemes. A sum of Rs. 100 lakhs has been provided for this scheme in the Seventh Plan.

Integrated Development of Backward Areas :

38.80. This scheme was introduced in 1977-78 to provide basic amenities in areas occupied by under privileged and weaker sections of the Society. It is proposed to continue this scheme during the Seventh Five Year Plan period also with an outlay of Rs. 50 lakhs.

Provision of Buildings and Equipments to Municipal Dispensaries and Maternity and Child Welfare Centres :

38.81. There are 248 Maternity and Child Welfare Centres and 118 Dispensaries maintained by the Municipalities most of which are housed in rented buildings with insufficient

accommodation. The accommodation available for the Municipal Medical Institutions which are housed in Municipal owned buildings also needs to be improved. Medical aids and equipments and accessories are also needed in most of the places for supplementing Family Welfare Programme. The Municipal Maternity and Child Welfare Centres cater to the needs of economically weaker sections of the society. A sum of Rs. 50,00 lakhs has been provided for this scheme in the Seventh Plan for provision of buildings and equipments to the Municipal Medical Institutions.

Subsidy to Municipalities for increasing the Strength of Sanitary Workers :

38.82. The existing strength of the sanitary workers was fixed during 1939. At present there are 15,000 sanitary workers employed in Municipalities and Township Committees. Due to rapid urbanisation the urban population which stood at 48.83 lakhs in 1961 have increased to 63.59 lakhs in 1971 and further increased to 72.21 lakhs in 1981. The rapid growth of population in urban areas has necessitated intensive conservancy work resulting in the increase in work load for conservancy staff. Therefore the proposal to increase the existing strength of sanitary workers in a phased manner is included in the Seventh Plan. This will help to relieve the burden of workload for the existing sanitary workers to a great extent and also facilitate improvement of Public Health in urban areas. An amount of Rs. 200 lakhs has been provided in the Seventh Plan for implementation of this scheme.

House Building Advance to Municipal Employees.

38.83. The scheme of sanctioning House Building Advance to Government Servants has been extended to Municipal Employees also from 1983-84 and the powers to sanction House Building Advance were delegated to the Director of Municipal Administration from 1984-85 onwards. During 1984-85 sanction were accorded in 130 cases for a total sum of Rs. 23.00 lakhs. The scheme will be continued during the Seventh Plan Period also. It is expected that nearly 800 applications will be received during the period. Hence, an amount of Rs. 250 lakhs has been provided for this during the Seventh Plan.

IV. Small Towns.

38.84 There are 13 Townships of Urban character in Tamil Nadu. The Planning strategy to be adopted in these towns are in the nature of identification of potential areas for development and aiding and assisting their development through public agencies.

38.85 These towns require proper roads, drainage, transport terminal, shopping, centres market, toilets, Streetlights etc. Townships like Rameswaram, Kanyakumari and Mahabalipuram which attract large tourists, national and international, are to be given priority. During the Sixth Plan period Rs. 58 lakhs has been provided on 50 per cent grant and 50 per cent loan basis for provision of these facilities. It is proposed to continue this scheme during the Seventh Plan period. The outlay proposed for this scheme during the Seventh Plan period is Rs.123.39 lakhs.

38.86 In addition to townships there are 213 town panchayats which are also temple towns like Thiruthani, Thiruverkadu, Mangadu, Swamy-malai, Thiruchendur etc., which attract large influx of pilgrims all over Tamil Nadu. There are about 66 such temple towns requiring basic amenities. Most of these towns have potentialities for developing as tourist centres if requisite infrastructural facilities are created. During Sixth Plan to improve 5 temple towns under this scheme Rs. 10 lakhs has been provided on half grant and half loan basis. During the Seventh Plan it is proposed to take up certain of the remaining temple towns. A provision of Rs. 160 lakhs has been made for this scheme in the Seventh Plan for implementing this scheme.

38.87 These towns require proper roads, drainage, transport terminal, shopping, centres market, toilets, Streetlights, etc. Townships like Rameswaram, Kanyakumari and Mahabalipuram which attract large tourists, national and international, are to be given priority. During the Sixth Plan period Rs. 58 lakhs has been provided on 50 per cent grant and 50 per cent loan basis for provision of these facilities. It is proposed to continue this scheme during the Seventh Plan period. The outlay proposed for this scheme during the Seventh Plan period is Rs. 123.39 lakhs.

38.88 In addition to townships there are 213 town panchayats which are also temple towns like Thiruthani, Thiruverkadu, Mangadu, Swamy-malai, Thiruchendur, etc., which attract large influx of pilgrims all over Tamil Nadu. There are about 66 such temple towns requiring basic amenities. Most of these towns have potentialities for developing as tourist centres if requisite infrastructural facilities are created. During Sixth Plan to improve 5 temple town under this scheme Rs. 10 lakhs has been provided on half grant and half loan basis. During the Seventh Plan it is proposed to take up certain of

the remaining temple towns. A provision of Rs. 160 lakhs has been made for this scheme in the Seventh Plan for implementing this scheme.

I. Assistance to Municipal Towns and Panchayat Towns for implementation of Urban Development Projects under (i) Centrally sponsored Integrated Development Programme for Small and Medium towns; (ii) State Integrated Urban Development Programmes :

38.89 In the VI Five Year Plan under Integrated Development of Small and Medium Town (Centrally sponsored) 28 towns were taken up at the cost of Rs. 80.00 lakhs per town as loan (on a 50 : 50 sharing) by State and Centre. Out of 106 Municipalities, it is proposed to take 20 more Municipalities during Seventh Plan. This project besides providing amenities to public, give ample opportunity and scope to Local Bodies to augment their resources. There are certain Local Bodies which are getting 30 to 40 per cent outturn of their investment. Since there seems to be no change of patterns in this project, the scheme is confined to 20 towns which could absorb Rs. 80.00 lakhs each. The total outlay works out to Rs. 1600 lakhs and the State's share will be Rs. 800 lakhs.

38.90 While Integrated Development Programme for small and medium towns schemes take Municipal Towns which could absorb Rs. 80.00 lakhs, there are Town Panchayats many of which have become Taluk Headquarters and which are also to be looked after, under the same pattern. They do not have such financial capacity to absorb Rs. 80.00 lakhs. At least the requirements would be in the range of Rs. 20-30 lakhs but their need for amenities and potentiality to augment their resources cannot be over emphasized. Out of 71 Town Panchayats which are Taluk Headquarters, it is proposed to take up 30 Town Panchayats under this scheme leaving 41 Town Panchayats to be taken up later. On an average of Rs. 20.00 lakhs per Town Panchayat the total outlay fixed for the Seventh Plan period is Rs. 6,00 lakhs.

II. Completion of spilled over projects under the Centrally sponsored IDP Schemes for Small and Medium towns and State IUDP Schemes :

38.91 towns were taken up under the Sixth Five Year Plan, under the Centrally sponsored scheme

of IDSMP. The total outlay as earlier stated was Rs. 2240 lakhs. So far expenditure to the extent of Rs. 1800 lakhs has been incurred. There will be a spill over to the extent of Rs. 400 lakhs and the State's share will be Rs. 200 lakhs. There is spill over in respect of schemes financed under State IUDP and these projects are to be completed during the Seventh Plan Period. The spill over will be Rs. 2.00 lakhs and this has been provided in the Seventh Plan.

III. Provision of Seed Capital for implementation of Master Plan by Local Planning Authorities and Development Plan by New Town Development Authorities :

38.92 Under the Town and Country Planning Act 1972, has so far been sanctioned Master Plans for 18 towns out of 120. The balance are under various stages of process. Simultaneously detailed Development Plans for all these towns are being taken up. As a result of this Master and Development Plans, patta lands are set apart for public purposes such as roads, schools, play grounds, parks, etc. The statutory effect of publication of plan is that they are deemed to be notified to acquire these private land under Section 4 (1) of Land Acquisition Act. The recently amended Land Acquisition Act contemplates expeditious payment of award besides interest from the date of 4 (1) notification. Any delay in passing the award would result in increase in cost. Besides delay beyond one year will nullify the 4(1) notification. So much so, if the land set apart for public use is not acquired within one year of the publication of the Master Plan and Detailed Development Plan enormous work of drafting the Master Plan and Detailed Development Plan will be a sheer waste. Not only that the growth of the Town will be awry but also our planning on these towns will be futile. So we propose to have a seed capital to advance to Local Planning Authorities to meet the acquisition cost. The Local Planning Authorities would repay this amount from their collection of development charges provided for in the Town and Country Planning Act. Keeping in view the constraints on resources and the necessity to provide minimum assistance, an outlay of Rs. 120 lakhs has been provided in the Seventh Plan at the rate of Rs. 5.00 lakhs for 24 Planning Authorities.

IV. Town and Regional Planning—Modernisation of the Directorate in respect of Expertise Techniques and Equipments :

38.93 The Directorate of Town and Country Planning is the Technical Department in charge of physical planning and Development of Urban and Rural Areas under the Town and Country Planning Act. As a concomittant part of these responsibilities, the Department is preparing and approving large number of layouts, land Development Schemes and statutory development plans besides funding and monitoring their implementation. The Department is therefore called upon to shoulder increased responsibilities. This would call for modernisation of equipments, relating to collection, storing and retrieval of information relating to Urban Development through the establishment of computer programming and O.R. Wings, Aerial Photography, Data Bank, etc., besides bringing above qualitative improvements in respect of Technical expertise through training in Urban Management Techniques such as project formulation, approval, funding and monitoring. The Directorate of Town and Country Planning has also developed special expertise in Aerial Photo Interpretation which are being made available to State Department and agencies like Madras Metropolitan Development Authority, Madras Metropolitan Water Supply and Sewerage Board who are adopting aerial survey techniques for their projects formulation. Besides, the large number of records and recorded files have to be made tamper proof in the public interest and with a view to record and preserve securely these important references, maps and records, it has become necessary to adopt modern techniques and sophisticated equipment for these purposes. This will also result in reduction in storage space.

38.94 It is therefore proposed to equip the Department with Micro Processor for analysing, processing and storing. Updating and retrieving data relating to preparation of Master Plans, Regional and Detailed Development Plans and for monitoring, implementation of Intergrated Development Plan implemented with State and Central Government Funds. It is also proposed to purchase *Micro Film Camera* with processor for micro filming statutory document and maps relating to Master Plan, Detailed Development Plan and layout. In order to strengthen the Aerial Photographs Interpretation Cell, it is proposed to add more, phereperals to existing

equipments, stereo-plotter, Zoom Transfer Scope, Electronic Distance Measuring Equipment, Optical reflecting projector. The new equipment proposed are precession Co-ordinate graph, Digitors, etc. The cost of these equipments will be Rs. 30.00 lakhs.

Buildings :

38.95 There are eight Regions in addition to the Head Office. All the offices are at present located in rented buildings. At present the Department is paying an annual rent of Rs. 7.80 lakhs. This amount is likely to go up. The building should also accommodate, the costly and sophisticated equipment. It is necessary that the offices under the control of this Departments are housed in own buildings. Land has been allotted for 3 Regional Office at Salem, Tiruchirappalli and Tirunelveli under the surplus land declared under the Tamil Nadu Urban Land (Ceiling and Regulation) Act. Lands for two Regional Offices at Madurai and Coimbatore will be allotted shortly. For these lands, cost will have to be paid within two years. Head quarters office, will be accommodating the equipment besides staff. The cost of Regional office buildings will be about Rs. 5.00 lakhs or Rs. 40.00 lakhs for all the Regions. The Head-quarters office will be at a cost of Rs. 50.00 lakhs. The total outlay will be Rs. 98.00 lakhs (rounded to Rs. 100.00 lakhs). Taking into account the present rent of Rs. 7.80 lakhs per annum within all possibilities of increase, it is only desirable to have our own building. As the work in the region will be taken up on a phased programme, the outlay for the Seventh Plan is proposed as Rs. 50.00 lakhs.

The total cost under 'Modernisation of the Directorate' is therefore proposed at Rs. 80.00 lakhs comprising of Rs. 30.00 lakhs for equipments and Rs. 50.00 lakhs for buildings.

Land Acquisition and Development :

38.96 A provision of Rs. 1,000 lakhs has been made in the Seventh Plan for acquiring and developing 1,086 hectares of land during 1985-86 to curb inflationary and speculative trends in real estate. This amount will be given as loan to the Tamil Nadu Housing Board by the Government.

Environmental Improvement of Scemes :

38.97 Under the new 20 Point Programme an incentive scheme has been launched by the Government of India. The Government of India has come forward to give assistance for undertaking slum improvement schemes in the city of Madras. There will be a judicious mix of clearance/improvement project in the Seventh Five Year Plan period so that people living in objectionable areas are rehabilitated to safe places and people living in acceptable areas without basic amenities and shelter will be provided with the services. An amount of Rs. 1,000 lakhs has been provided to cover 1,29,000 families during the Seventh Plan period.

38.98 Total outlay in the Seventh Plan for 'Urban Development' is Rs. 16,000 lakhs. Schemewise outlay and physical targets are given in the Table.

TABLE

SCHEMewise BREAK UP OF FINANCIAL OUTLAY AND PHYSICAL TARGETS FOR SEVENTH FIVE-YEAR PLAN 1985-1990.

URBAN DEVELOPMENT

<i>Serial number and Name of the Programme.</i>	<i>Outlay.</i>	<i>Physical Target.</i>
(1)	(2)	(3)
	(RUPEES IN LAKHS.)	
<i>I. Madras Metropolitan Area :</i>		
1 Assistance for Setting up of Koyambedu Market Complex.	1,700.00	Not quantifiable in Physical units.
2 Assistance for Setting up of Iron & Steel Market ..	300.00	Not quantifiable in Physical units.
3 Assistance for Setting up of New Peripheral Bus and Truck Terminal.	300.00	Not quantifiable in Physical units.
4 Assistance for construction of Office Complex ..	250.00	Not quantifiable in Physical units.
5 Assistance for setting up of Satellite Town-Maraimalai Nagar.	725.00	Development of Land and improvement in scheme areas.
6 Assistance for Development of Urban Node-Manali New Town.	750.00	Development of Land and improvement in scheme areas.
7 Technical Assistance for implementation of Metropolitan Plan.	63.59	Staff Expenditure.
8 Assistance for implementation of Metropolitan Plan	175.00	Staff Expenditure.
9 Assistance for Implementation of World Bank Projects.	203.00	Staff Expenditure.
10 Madras Urban Development Project III	0.01	Token Provision.
11 Integrated Transport Development Including MRTS	750.00	Not quantifiable in Physical terms.
12 Assistance to Corporation of Madras- Street lighting and Replacement of Cables.	277.00	....
13 Solid Waste Management	173.00	....
14 Slum Improvement	50.00	....
15 Miscellaneous Grant	1,300.00	....
16 Public Borrowings	500.00	....
17 Storm Water Drains	200.00	....
<i>II. Major Towns :</i>		
18 Tamil Nadu Urban Development Project at Coimbatore, Salem, Trichy and Madurai.	0.01	Token Provision.
19 Assistance to Corporation of Madurai— Construction of School buildings.	50.00	....

<i>Serial number and Name of the Programme.</i>	<i>Outlay.</i>	<i>Physical Target.</i>
	(RUPEES IN LAKHS)	
(1)	(2)	(3)
<i>II. Major Town</i>		
20 Remunerative Schemes/Construction of shopping complex at 4 places.	140.00	Four places
21 Improvement to Periyar Bus Stand	50.00	Not quantifiable
22 Miscellaneous Assistance	160.00	Not quantifiable
23 Housing Scheme for Staff (Rental Housing) ..	100.00	.....
<i>Assistance to Corporation of Coimbatore :</i>		
24 Remunerative Schemes—Construction of Shops and Market Centres.	325.00	Not quantifiable
25 Remunerative Schemes—Construction of Bus/Lorry stand and Slaughter House.	50.00	Not quantifiable
26 Construction of Roads, Beautification Schemes, etc.	25.00	Not quantifiable
27 Miscellaneous Assistance	100.00	Not quantifiable
<i>III. Other Municipal Towns :</i>		
28 Revolving Fund	50.00	Roads 30 Kms. Storm Water Drains and Culverts—10 Kms.
29 Construction of Buildings for Municipal High and Higher Secondary Schools.	50.00	25 Schools.
30 Construction of Buildings for Municipal Elementary and Middle Schools.	100.00	Improvement to 200 School Buildings.
31 Assistance to Municipalities for construction of Storm Water Drains.	50.00	45 Kms.
32 Self Sufficiency Scheme	1,500.00	Not quantifiable.
33 Improvement to Municipal Dispensaries	50.00	25 Buildings.
34 Provision of T. V. Sets	150.00	3500 TV sets (Black and white).
35 Construction of Quarters for Sanitary Workers ..	150.00	300 twin type quarters.
36 Accelerated Slum Improvement Schemes	250.00	200 slums will be improved.
37 Municipal Finance Corporation	100.00	Not quantifiable.
38 Integrated Development of Backward Areas ..	50.00	25 Non-slum backward areas.
39 Improvement to Maternity and Child Welfare Centres.	50.00	25 Centres.
40 Subsidy for increasing the strength of Sanitary workers.	200.00	Staff cost.
41 House Building Advance to Municipal Employees.	250.00	800 applications

<i>Serial number and Name of the Programme.</i>	<i>Outlay. (RUPEES IN LAKHS)</i>	<i>Physical Target.</i>
(1)	(2)	(3)
<i>IV. Small Towns :</i>		
42 Assistance to Municipalities and Townships/Rameswaram, Kanyakumari and Mahapalipuram.	123.39	Not quantifiable
43 Integrated Development of Temple Towns-Urban Town Panchayats.	16 .00	Not quantifiable
<i>Town and Country Planning—</i>		
44 Assistance to Municipal Towns under Central IDSMP.	800.00	Physical targets not yet fixed as GOI have not finalised this programme.
45 Assistance to Town Panchayats for implementation of Urban Development Plan (Loan).	600.00	Physical Targets not yet fixed as GOI have not finalised this programme.
46 Completion of Spillover Projects under Central IDP Schemes.	200.00	Not quantifiable.
47 Completion of Spillover Projects under State Schemes.	200.00	Not quantifiable.
<i>V. Other Schemes—</i>		
48 Provision of Seed Capital for implementation of Master Plan.	120.00	Not quantifiable.
49 Modernisation of Directorate—Town and Country Planning.	80.00	Not quantifiable.
50 Land Acquisition and Development by Tamil Nadu Housing Board.	1,000.00	1086 Hectares.
51 Environmental Improvement of Slum—		
Tamil Nadu Slum Clearance Board	1,000.00	1,29,000 families.

CHAPTER 39.

INFORMATION AND PUBLICITY.

Present Status :

39.0. The aim of the Information and Public Relations Department is to apprise the people about the various Welfare and developmental programmes of the Government. The main activities of the Department include organising exhibitions, conducting multi-media campaigns, Song and Dramas, Villuppattu programmes, propagating the evils of untouchability and evils of drinking, etc., conducting Films Shows, producing documentary films in co-ordination with other departments to inform the people of the Government's programmes, welfare measures and other activities. Besides these, this department concentrates in the field of films.

39.1. The Sixth Five Year Plan schemes were implemented which assisted in promoting the developmental activities of Government as part of an integrated multi-media communication strategy.

Broad Thrust during the Seventh Plan :

39.2. The main thrust during the Seventh Plan will be to adopt the increased use of modern equipments in Information Technology. It is proposed to introduce video in a phased manner in the districts as a major field publicity effort. It is also proposed to acquire one Micro film unit for Headquarters for permanent information storing of old dailies and Newspapers. Sophisticated machinery like Black and White Processing Machine, Edicync, 'U' Matic—Video Recorder perfectone Rapidex colour

high speed—high quality scanning, etc. are to be imported during the Seventh Plan, for the film and Television Institute of Tamil Nadu. It is proposed to acquire a video colour system and set up video production studio in the Tamil Nadu Films Division. It is proposed to set up 12 Information Centres and construct four auditoriums. The Information Centres will be manned by Information Officers with special staff like Librarians etc.

Shifts in emphasis during the Seventh Plan :

39.3. The department of Information and Publicity has hitherto deployed audio visual equipments like projectors for publicity work in interior villages in block areas. In the Seventh Plan it is proposed to introduce videos as a major field Publicity effort of the Government. The video has come to stay as a powerful medium of mass communication in this age of electronic explosion.

Policies and Programmes :

39.4. The programmes included in the Seventh Plan are similar to on-going schemes with an accent on purchase of modern equipments like video cassette players, two-in-one Radio, Cassette recorders, Micro Film Units, etc. Extension of Photo Services to Six more districts in the Seventh Plan and establishment of Information Centres at 12 districts, will expand the publicity net work of the department.

THE INFORMATION AND PUBLICITY PLAN AT A GLANCE.

(Outlays in Rs. Lakhs.)

*Programme.
Plan Outlay.*

*Seventh Plan.
300.00.*

List of Schemes :

1. Song and Drama	Conducting of Dramas.
Seventh Plan	
Outlay	Rs. 10.24 lakhs.
Target	1,460 Dramas.
2. Purchase of vehicles	Purchase of vehicles for Information and Public Relations Officers' Offices in the Districts and Motor Cycle for Madurai district and Van for Exhibition.
Seventh Plan	
Outlay	Rs. 32.64 lakhs.
Target	One Motor Cycle, 17 Vans and Employment of Motor Cycle Messenger/Driver and Cleaners.

List of Schemes—cont.

3. Photo Services Establishment of Photo Services in the districts.
 Seventh Plan
 Outlay Rs. 6 lakhs.
 Target Purchase of 6 New Camaras.
4. Purchase of Videos, Cassettes and Two-in-one
 Radio Players.
 Seventh Plan
 Outlay Rs. 12.75 lakhs.
 Target 42 videos and Two-in-one Radio Players.
5. Purchase of Photo Max Machine for Exhi-
 bition Wing.
 Seventh Plan
 Outlay Rs. 0.80 lakh.
 Target One Photo Max Machine.
6. Setting up of Micro Film Unit and Perma-
 nent Information Storing of old Dailies:
 Seventh Plan
 Outlay Rs. 5.67 lakhs.
 Target Setting up of one Micro Film Unit.
7. Construction of Auditorium
 Seventh Plan
 Outlay Rs. 15 lakhs.
 Target Construction of One Auditorium at Coimbatore.
8. Development Works at Valluvar Kottam,
 Madras.
 Seventh Plan
 Outlay Rs. 3.20 lakhs.
 Target Certain development works at Valluvarkottam,
 Madras.
9. Provision for equipment to Institute of
 Film Technology and Tamil Nadu Films
 Division.
 Seventh Plan
 Outlay 0.01 lakh.
 Target Provision of equipment to Institute of Film Techno-
 logy and Tamil Nadu Films Division.
10. Establishment of Information Centres and
 Construction of Auditoriums :
 Seventh Plan
 Outlay Rs. 94.03 lakhs.
 Target Establishment of 12 Information Centres and
 construction of four Auditoriums.
11. Research and Training in Mass Communi-
 cations :
 Seventh Plan
 Outlay Rs. 7 lakhs.
 Target Purchase of equipment, furniture and employment
 of staff.

12. Film and T.V. Institute of Tamil Nadu.
Seventh Plan

Outlay	..	..	..	Rs. 50.26 lakhs.
Target	..	..	..	1. One B and W Processing Machine. 2. One Edicync. 3. One Hostel II Phase. 4. Utensils and Furniture for hostel. 5. Staff for Film Archive. 6. One 'U' Matic 3 3/4' Video recorder. 7. One Perfectone Rapidex Colour high speed-high quality scanning. 8. One number of Sanya duplicating equipment. 9. Reverbration time measuring Instrument.

13. Tamil Nadu Films Division.
Seventh Plan

Outlay	..	..	..	Rs. 56.35 lakhs.
Target	..	..	..	1. Employment of Additional Staff. 2. Provision of mobile power Generator for outdoor shooting van. 3. Building for accommodating video production departments. 4. Complete Video Colour. 5. System consisting of video cameras, cassette Recording Unit monitor. 6. Standard Diesel Van. 7. Strengthening of staff to cope up with the increased work. 8. Video production studio with complete set equipment. 9. Strengthening of Technical and other staff to cope up with the increased work. 10. 35 mm Tele-cine system.

14. Tamil Nadu Theatre Corporation, Film Finance Corporation/Children Film Production.

Seventh Plan			
Outlay	..	..	Rs. 6.05 lakhs.
Target	..	..	Functioning of Film Finance Corporation. Provision of assistance of Rupees One lakh for the production of the Children's Film by the Children's Film Society of India.

TABLE 39. I

PHASING OF OUTLAY.

Programme.	Year.					Total for 1985-90
	1985-86	1986-87	1987-88	1988-89	1989-90	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS).						
1. On going Schemes..	23.21	27.49	11.36	12.55	13.71	88.32
2. New Schemes ..	15.15	43.17	48.37	51.09	53.90	211.68
Total—Information and Publicity	38.36	70.66	59.73	63.64	67.61	300.00

CHAPTER 40.

EMPLOYMENT SERVICES, CRAFTSMEN TRAINING AND LABOUR WELFARE.

40.0. The importance of providing adequate and increasing employment opportunities in our development programmes can hardly be over-emphasised. The basic objective of any development plan must always be the provision of an adequate living standard for all. Within the overall aim of generating employment opportunities, it has to be recognised that more detailed consideration has to be given to certain sectors of skills, particularly those in which the development requires a substantial degree of social and financial investment and those in which there is a long gestation period before they can be fully acquired. In these specified areas of training and aptitudes, greater care has to be exercised to match the estimated requirements and availability as closely as feasible. Apart from other measures, the development of an adequate and effective placement service is of vital importance for ensuring that the available employment and the most suitable incumbents are brought together as early as possible. The placement service have an important role in providing not only suitable placement opportunities but also vocational guidance in enabling an individual to find the employment most suited to his talents and capabilities.

40.1. These over-riding considerations were kept in view and programmes were formulated for skill development of the technicians in the different spheres of economic activity. To ensure a peaceful industrial climate, the labour machinery in the State was geared up to meet the challenges by strengthening the machinery at appropriate levels of conciliation, and enforcement. The performance in these spheres during the Sixth Plan is reviewed in the following paragraphs.

Review:

40.2. The employment status of the State in 1981 is that, against a total population of 484.08 lakhs, 189.09 lakhs were main workers, 16.66 lakhs were marginal workers, giving a total worker population or labour force of 205.75 lakhs. Of these, the 32nd round of N. S. S. estimates that Tamil Nadu has an unemployment rate of 16 per cent in 1977 and on assumption that this rate holds good in 1981, the number of unemployed is reckoned at 32.90 lakhs. The

Sixth Plan which started with a population of 476.32 lakhs is expected to add at the end of the Sixth Plan an additional 40.10 lakhs of population. The estimated number of unemployment at the end of the Sixth Plan will be 34.62 lakhs. According to the survey (1983) by the Employment Services Department, the number of rural families below the poverty line is estimated to be 23.22 lakhs and the percentage of rural families below the poverty line is reckoned at 32.6 per cent. Out of 73.47 lakh families in rural areas it is estimated that about 6.83 lakh families are without any employment whatsoever, and 14.89 lakh families are in need of self employment.

Employment in Organised Sector:

40.3. Data on employment Statistics for organised sector, are available from the Employment Market Information and Annual survey of Industries. The recorded employment in the organised sector which was 18.50 lakhs in 1975-76 has increased to 22.42 lakhs in 1982-83 with an annual growth rate of 2.8 per cent. There has been a increase in Public Sector Employment. Employment in this sector has reached the level of 13.81 lakhs in 1982-83 from 10.53 lakhs in 1975-76, recording an annual growth rate of 4.0 per cent. In the case of private sector, the recorded employment of 7.97 lakhs in 1975-76 has increased to 8.61 lakhs in 1982-83 and the rate of growth is reckoned at 1.1 per cent.

Employment Oriented Programmes in VI Plan:

40.4. The Sixth Five-Year Plan of Tamil Nadu was aimed at a progressive reduction in poverty and unemployment. The occurrence of poverty is the outcome of unemployment and under employment. The Governmental strategy towards bringing down the levels of unemployment is two pronged. While employment generation in overall terms will be taken care of through development schemes designed for implementation in the different sectors of the economy, creation of employment opportunities in rural sector will attract special attention. The Government at the Centre and State have been implementing employment generation programmes like NREP, RLEGP, TRYSEM and certain other programmes designed for rendering assistance to small

and marginal farmers, agricultural labourers and rural artisans. These programmes are designed to reduce poverty and lift certain sections of the rural population above the poverty line. The programmes are intended to create employment in rural areas in two ways—Provision of wage employment directly and promotion of self-employment opportunities.

40.5. In the Sixth Plan, through a determined effort, about 13.89 lakhs families living below the poverty line have been assisted through IRDP as against the target of 11.30 lakh families. The NREP has been extraordinarily successful in providing employment to rural landless agricultural labour and small and marginal farmers. It has helped to reach such labour in far-flung rural areas providing gainful employment. Nearly 17.62 lakh mandays of employment have been generated in the Sixth Plan. RLEGP aims at creating durable assets, while at the same time, providing agricultural labour adequate employment. The Scheme has been very successful and has generated tremendous public response. Industrial Training Institute numbering 28 have so far been established in the State to train rural youth in particular trades on a full time basis, with the object of enabling them to organise their own units of production. Trades has been chosen carefully to establish units with the help of locally available resources entirely. The persons trained under TRYSEM in the I.T. Is and in similar institutions are encouraged to take up self-employment in Semi-engineering trades. So far 10,031 persons have been benefited under TRYSEM. Besides the rural employment programmes, the One Job for One Family Scheme is designed to take care of the residual employment in the different sectors of the economy.

Employment Service:

40.6. Under the National Employment Service Scheme there are 41 Employment Offices in the State including 4 special Employment Offices for technical personnel, one for physically handicapped, 3 University Employment information and Guidance bureau, and one for professionally qualified persons. In order to cater to the special problems of the physically handicapped, there is an employment office in Madras with six units at Madurai, Coimbatore, Thanjavur, Tiruchirappalli Salem and Nagercoil. A special cell to cater to the problems of physically handicapped was set up during 1983 in the Employment Exchange at Coimbatore with 100 per cent assistance from the Government of India. Vocational Guidance Units have been set up in the District Employ-

ment offices at Pudukkottai Krishnagiri, Virudhunagar, Ramanathapuram and Dindigul. All the districts are now served by a vocational guidance unit. A total of 14,238 establishments came under the purview of the enforcement of Employment Exchanges (compulsory notification of Vacancies) Act, 1959 as on 30th June 1985.

40.7. In order to register and guide the job seekers to take to self-employment by referring them to various agencies dealing with provision of facilities for self-employment such as District Industries Centre, District Rural Development Agency, Units of Khadi and Village Industries Commission, Lead Bank etc., a special vocational guidance unit for promotion of self employment has been set up at District Employment Office, Vellore and Coimbatore. The units register rural youth, particularly the educated ones for work opportunities (both wage and self employment), and motivates job seekers to take to self-employment. At the end of 31st October 1985, 727 jobless persons have been assisted to set up self-employment ventures, and Rs. 61.16 lakhs was disbursed as loan.

40.8. The number of persons registering their names in the employment exchange is increasing steadily, and the annual registration which stood at 4,14,058 in 1979 has reached a peak of 5,32,721 in 1985. Regarding placements, it is seen that the number of persons placed in employment has increased considerably from 54,543 in 1979 to 3,82,204 at the end of 1985. The number of persons on the live register of employment exchanges, the number of educated unemployed among them during the Sixth Plan period, are shown below :—

Year.	Number of persons on the live register at the end of the Year.	Unemployment as per live register.		Percentage of educated unemployed to total un-employed.
		Educated.	Others.	
(1)	(2)	(3)	(4)	(5)
1979	9,89,844	4,79,446	5,10,398	45.40
1980	11,07,233	5,58,194	5,49,039	50.41
1981	12,60,991	5,99,280	6,61,711	47.52
1982	14,15,918	7,22,072	6,93,846	50.99
1983	15,36,391	7,25,497	8,10,894	47.22
1984	17,07,940	8,12,459	8,95,481	47.57

40.9. The Government's scheme of payment of unemployment relief to educated unemployed who have been on the live register of the employment exchanges for a period of more than 5 years has been under implementation from 1st July, 1980. The scheme has been extended to cover S.S.L.C.

Plus 2 and P.U.C. passed candidates also with effect from 15th September 1984. Cash relief totalling Rs. 827.70 lakhs had been disbursed upto December, 1985. Under the scheme, 94,795 registrants have benefited as on 31st October 1985, and 9 approved categories of job seekers were recognised for assistance.

40.10. The Government of Tamil Nadu is committed to the policy of "One job per family" as part of its efforts to tackle the general problem of unemployment. A State-wise survey of rural families beneath the poverty line has shown that approximately 15 lakh persons are willing for self-employment. As part of the scheme, the Government have taken the following steps :—

(i) With an investment of Rs. 30 lakhs, a rural employment project society has been started at Gudapakkam Village in Poonamalle Panchayat Union. 200 villagers are under training in various trades. They will be absorbed in the various units such as carpentry, welding, brick-making, etc., to be started there.

(ii) Area skill survey at a cost of Rs. 1.10 lakh has been undertaken in Periyar district which will help in launching a massive Employment Programme for the future.

(iii) Destitute and orphan woman will be trained in modern house-keeping course.

40.11. The Government have also set up an empowered committee for the purpose of creating self-employment opportunities under 'One job per family' Scheme. The Committee has cleared many schemes like establishment of house service booths in Madras City and its suburbs, egg cart schemes, service units for repairing agricultural pumpsets at the rate of two or three in each block. Dish washing training, scheme of Horticulture training, masonry training scheme, etc.

Craftsman Training :

40.12. In March 1980, there were 30 Industrial Training Institutes, one Industrial Training Centre and one Industrial Training Unit with a total seating capacity of 13,176 seats. 12,300 candidates were undergoing training in these institutions, of which 2,372 belonged to the Scheduled Castes/Tribes and 192 were women. At present, there are 40 Industrial Training Institutes in this State of which 5 are exclusively for women with a total seating capacity of 15,120. The Government have introduced a third shift in the Industrial Training Institutes at Coimbatore, Madurai, Salem and North Madras during 1983-84. This has resulted in the increase

of seating capacity by 788. The annual out-turn which was 8,000 at the beginning of the Sixth Plan, increased to about 9,000 during the plan period. Training was imparted in 30 engineering and 12 non-engineering trades.

40.13. The women folk account for 50 per cent of the total population in Tamil Nadu. At the end of the Sixth Plan only 3 Industrial Training Institutes located at Madras, Cuddalore and Nagercoil with a seating capacity of 480 are available exclusively for women. The number of seats allotted for women has increased from 192 in 1980 to 480 in 1985. The enrolment as on August 1985 was 529. The percentage of women participation works out to 1.46 in 1980 to 3.36 in 1985 of the total seating capacity in all the Industrial Training Institutes.

40.14. The apprenticeship training programme under the Apprenticeship Act, 1961, is being implemented to regulate an uniform system of training throughout the country. While the Industrial Training Institutes impart basic training in various trades, the apprentices are given necessary shop floor training coupled with appropriate related instruction during the period of apprenticeship training. The apprentices recruited as on 30th September 1984 was 3,024 in public sector and 7,716 in private sector as compared with the figures 2,885 and 7,482 in September 1982 and 2,685 and 7,485 in September 1981 respectively. Nearly 1,570 establishments are implementing the apprenticeship training under the Act in the State.

40.15. Related Instruction centres have been set up in various Industrial Training Institutes. These cater to the requirements in terms of technical education of apprentices undergoing training in near by Industries. At present there are 10 related Instruction centres in the State.

40.16. The Programme of Training of Rural Youth for Self-employment (TRYSEM) which has been formulated at the national level is being implemented in this State from September 1979 onwards. Industrial Training Institutes numbering 28 are engaged in training rural youth in engineering and semi-engineering trades in 22 Industrial Training Institutes on a full time basis and in 19 I.T.Is. on part-time basis with the object of enabling them to organise their own units of production. Care has been taken to choose such trades which can be established with the help of locally available resources entirely. Financial assistance are provided by the Commercial Banks ranging from Rs. 3,000 to Rs. 10,000. As on March 1985, 10,031 persons have benefited under TRYSEM, and 3,372 persons have

actually received assistance to the tune of Rs. 1.37 crore to take up self-employment in semi-engineering trades.

LABOUR WELFARE:

40.17. Tamil Nadu had the benefit of a comparatively peaceful industrial climate during the Sixth Plan Period. To secure the peaceful industrial relations, the Government have introduced progressive legislation, wherever necessary. The co-operation received from the management and trade unions to pursue the pragmatic policy is considerable. This is evidenced from the fact that during the year 1984, there have been 211 strikes and lockouts involving loss of 37,08,409 mandays as compared with the corresponding figures of 331 and 82,73,236 in 1979. The Government is also keen on protecting the welfare of unorganised workers by assuring them statutorily fixed minimum wages.

40.18. There were 460 plantations at the end of the year 1984 employing about 92,301 workers as against 412 plantations employing about 79,172 workers at the end of 1979. There were 1,218 Beedi and Cigar trade mark establishments having 11,993 workers, as against 1,574 establishments employing 14,260 workers in March, 1979. In addition there were about 2 lakh home workers. At the end of 1984, there were 25,900 establishments, covered by the Tamil Nadu Cateying Establishments Act (1958) employing 74,238 workers. The corresponding figure for 1979 was 21,730 establishments and 68,922 workers. The number of shops and establishments covered was 2,80,769. These shops and establishments were employing 2,62,292 persons by the end of 1984. The corresponding figures were 2,21,642 shops and establishments and 3,23,644 workers in March, 1979. In 1984, there were 12,562 factories registered under the Factories Act (1948) employing about 7.94 lakh workers as against 9,277 factories employing 5.79 lakh workers in March, 1979. The number of registered motor transport undertakings were 1,592, employing 58,843 workers in 1984, as against 1,359 undertakings, employing 50,156, workers in 1979.

40.19. By 1983, the Government have fixed revised the minimum rates for wages for employment in 26 different types of activities. During the period under review, the Government have constituted Minimum Wage Advisory Committees for employment in plantations, Auto-rickshaws and taxis, bricks and tiles manufactory, printing presses, fishing industry etc., to advise them in the matter of revising minimum rates of wages.

40.20. The Tamil Nadu Manual Workers (Condition of Service and Miscellaneous Provisions) Act, 1982 for the safety of the workers engaged in road construction, beedi industry, salt pans, coir industry, etc., and Tamil Nadu Construction Workers (Conditions of Employment) Act, 1985 are the new labour welfare legislations enacted during the Sixth Plan.

40.21. The Employees State Insurance Scheme is now implemented in all the districts in the State. With the extension of the Employees State Insurance Act, the total number of employees covered under the scheme has increased to 5.10 lakhs, the total number insured to 6.20 lakhs, and the total number of beneficiaries to 24.27 lakhs. The total expenditure incurred in administering the medical benefits is being Shared by the State Government and the Employees State Insurance Corporation in the agreed ratio of 1:7. There are 5 Employees State Insurance Hospitals, 119 E.S.I. State dispensaries and 2 part-time dispensaries in the State under the Employees State Insurance Scheme. The bed strength of the five E.S.I. hospitals is 1,649. The number of subscribers under Employees Family Pension Scheme was 11,54,035 at the end of December 1984.

40.22. At the end of 1984-85, 1,073 houses have been constructed for the plantation labour under the Plantation Labour Industrial Housing Scheme. Besides 1,346 houses have been constructed by private employers for industrial workers under the subsidised Industrial Housing Scheme from the inception of the schemes. The Tamil Nadu Labour Welfare Board is undertaking a number of labour welfare measures which include running of 44 kindergarden schools for children, 40 tailoring classes for wives and dependants of workers, 6 Child Care Centres, and 11 Reading Rooms. During the Sixth Plan period, 21 Labour Welfare Centres have been opened in addition to the existing 17 centres. One Holiday Home for the use of industrial workers and their family at a nominal rent has been constructed at Courtallam in Tirunelveli District at a cost of Rs. 15 lakhs. The Board has sanctioned financial assistance of Rs. 1,04,231 to 241 students by way of scholarships for pursuing studies in Engineering, Medical, Industrial Training Institutes and Higher Secondary Courses of Study.

40.23. The Tamil Nadu Institute of Labour Studies established in 1973, has organised various orientation training and refresher courses for the

development of sound and healthy trade unionism for inculcating in managerial personnel, enlightened attitudes towards labour and for strengthening of Labour Administration.

Broad thrust in the Seventh Plan :

40.24. It is recognised that wage employment alone, cannot meet the situation fully, and major efforts will have to be made to generate more self-employment opportunities particularly in the sectors of agricultural and allied sectors, small industries, services, commerce and trade. The decentralised strategy for employment promotion advocated in the current plan has to be operationalised further, and the District Manpower Planning and Employment Generation Council has to be activated as a principal body to monitor and foster all employment projects in the district. The employment services in the State is proposed to be strengthened for better functioning in the system of registration, placement, vocational guidance and employment counselling. The existing employment exchange will be suitably strengthened to service the increasing number of job seekers and some more employment exchanges will be established on a selective basis. Additional facilities will be provided to employment exchanges to perform better. Area skill studies are proposed to be undertaken to identify shortage categories of manpower in order to formulate suitable training programmes. A career study centre to prepare guidance material such as career pamphlets, handouts, and booklets and a scheme for promoting career guidance in high schools are proposed in the Seventh Plan. In order to streamline the working of employment exchanges, the employment exchange operations in Vellore region will be strengthened with computer service.

40.25. In the area of craftsmen training, the main thrust will be on consolidation, diversification and qualitative improvement of vocational training in order to relate such training more closely to employment potential and needs. Vocational training will be re-oriented towards the level and type of skills required by the economy and effective co-ordination between the training institutions and the employment establishments will be promoted. The emphasis will be on improvement in the quality and upgradation of skills of craftsmen by expanding and strengthening the facilities for training in advanced skill, through apprenticeship training and advanced vocational training schemes.

40.26. The broad thrust during the Seventh Plan will include the setting up of special machinery for implementation of welfare schemes for

women and child labour, strengthening the Industrial relations machinery, introduction of group gratuity fund scheme for unorganised labour, strengthening the machinery for the enforcement of Factories Act, setting up of a productivity cell schemes for testing of lifting tackles, hoists, lifts, cranes, etc., and ensuring wider coverage of safety by strengthening the safety cells.

PROGRAMMES :

A. Employment Services :

Direction and Administration :

40.27. In order to strengthen this Directorate and also to attend to the work relating to TRYSEM and 'one job per family' in respect of self-employment scheme, one self employment cell is proposed to be set up during the Seventh Plan at a cost of Rs. 4.91 lakhs.

Creation of Regional Offices :

40.28. In order to decentralise the work done by the Director of employment and training and also to have effective control and supervision over the employment exchanges, Regional offices have been established at Madurai, Tiruchirappalli and Coimbatore during the Sixth Plan period. One more regional office with a Deputy Director and supporting staff has also been set up at Madras during 1984-85. To maintain these offices as also to provide a jeep to the Regional Deputy Director, Madras, an outlay of Rs. 3.00 lakhs has been provided in the plan.

Expansion of Employment Services :

40.29. It is proposed to provide additional facilities to some selected employment exchanges. The facilities include provision of franking machine on a pilot basis to the employment office at Kancheepuram, Tiruchirappalli, Madurai, Salem, Coimbatore and Thanjavur with a view to minimise the clerical work.

Strengthening of Employment Exchanges :

40.30. It is proposed to create a district employment office by merging the sub-employment offices, Ambathur and Trivellore in order to overcome certain difficulties and to avoid delay in sending lists to employers.

40.31. Government have already sanctioned the scheme of computerisation of the employment exchange operations in Madras region during the Sixth Plan. This scheme will be extended to one more region. It is proposed to computerise the employment exchange operation in Vellore region during the Seventh Plan. For these schemes, a sum of Rs. 9.97 lakhs has been provided.

Setting up of separate employment exchange for technically qualified.

40.32. In order to relieve congestion at the main district employment exchange, and considering the work load and flow of technical vacancies from major and medium industries in the district, a separate employment exchange for technically qualified personnel has been set up at Coimbatore during the Seventh Plan to render specialised service to the technically qualified people and employers requiring technical people. A sum of Rs. 16.46 lakhs is provided in the plan. A separate Employment Exchange for Technically qualified is proposed to be set up at Vellore during the Seventh Five Year Plan Period.

Scheme for promotion of career guidance programme in high schools :

40.33. In order to render guidance on career selections to a large number of student population who will be entering the job market after completion of their studies, it is proposed to select some of the teachers in high schools and train them as career masters. They in turn, will take classes on career guidance programme twice in a year to bring home to the student population, the need for a proper career plan. The scheme is proposed to be implemented during 85-86 in the Seventh plan at a cost of Rs. 1.65 lakhs.

Setting up of career study centre :

40.34. A career study cell at the State Directorate has been set up during 85-86 in the Seventh Plan, at a cost of Rs. 4.00 lakhs. The career study centre will undertake the following functions.

- (i) Identification of new occupations that have come up, and preparation of detailed job specifications in respect of such new occupations;
- (ii) Identification of training needs of the industries in respect of new occupations and preparation of career pamphlets in respect of existing as well as new occupations;
- (iii) Updating the career pamphlets by Collecting latest details of the occupations concerned; and
- (iv) Undertaking surveys to identify shortage and surplus occupations especially in respect of technical categories such as ITI trained craftsmen.

Construction of buildings for employment exchanges:

40.35. The employment exchanges in the State have been functioning in private rented buildings. The buildings occupied by these offices are not

conducive for effective functioning and even the minimum facilities to the public are not there. The department is spending more than Rs. 4 lakhs per year as rent alone. Further, a specially designed building is required for organising special meetings, film shows, seminars, etc., to motivate the job seekers to take up to self-employment. It is, therefore, proposed to construct Government buildings to house the employment exchanges in a phased manner. An amount of Rs. 10.00 lakhs is proposed for the Seventh Plan.

Standard Diesel Van to employment exchange for Physically handicapped :

40.36. A special employment exchange for physically handicapped is functioning at Madras to render employment assistance to blind, deaf and orthopaedically handicapped candidates. In order to increase the placement of handicapped and also to transport the blind to the place of interview, a vehicle is considered necessary. It is proposed to purchase a diesel van for which a sum of Rs. 2.67 lakhs is provided.

Overseas Manpower Corporation :

40.37. The main objective of this corporation is to function as recruiting agents for Indian Workers Seeking employment opportunities abroad. This corporation has so far placed 926 Indian workers in jobs abroad, and it is taking all possible efforts to secure stable positions in the field of overseas recruitment. Since the Corporation is a service oriented organisation, it is not financially viable and, therefore, share capital assistance from Government to meet the establishment charges of the corporation is provided. A token provision is provided for this purpose.

One job for One Family :

40.38. During 1983, with a view to aid the implementation of the 'One Job per Family Scheme, a baseline survey of all households below the poverty line in the rural areas of the state was conducted. The baseline for identification of the people living below the poverty line has been fixed at Rs. 3,500 as annual income from all sources. A family is said to be jobless when no member in the family has employment for more than 183 days in a year. The survey records give various details about the families living below the poverty line, such as landed property of the family, their income from various sources, their loan liabilities, the number of members in

the family, the number of people working, their educational qualifications employment status, etc. As per the survey report, out of 73.47 lakhs of rural families, 23.22 lakh families are living below the poverty line, and among them, 6.83-lakh families are jobless. The heads of departments including Collectors have been activated to send necessary proposals so as to help the jobless families. The Extension Officer (Adi Dravidar Welfare) available in each Panchayat Union, has been made solely responsible for the implementation of the schemes.

40.39. The Government have directed that the registrants in Employment Exchanges who desire to avail the concession under 'one job per family' schemes should produce a certificate that the income of their family is below Rs. 3,500 from the Tahsildar concerned and produce the same in the Employment Exchange. On the basis of this certificate, necessary entries will be made in the candidate's record in the Employment Exchanges. When a candidate's name is sent for selection to any Government Department/Quasi-Government Department or Board etc., an entry should be made in the list sent to the employer that the candidate is a person eligible for getting employment under the scheme of 'one job per family'. Everything being equal, the employer should give preference to those candidates.

40.40. The Government have created an Empowered Committee under the Chairmanship of the Chief Secretary to act as a co-ordinating body for all projects/schemes under 'One job per family' scheme. This committee will finalise speedily all the proposals sent by the various departments. As soon as the proposals are received, they are processed in consultation with the concerned Administrative Department of the Secretariat and they are

placed before the Empowered Committee for taking a decision.

40.41. On the model of Narayanapuram Centre for Rural Development Sponsored by the Indian Institute of Technology, Madras, a project has been launched at Kuchikadu hamlet of Gudapak-kam near Poonamallee. It has been established as a registered society called Poonamallee Rural Employment Project Society under the Chairmanship of Commissioner and Secretary to Government, Employment Services Department. The Government have also sanctioned a sum of Rs. 7.5 lakhs as grant and Rs. 22.05 lakhs as loan from the allotment under the one job per family scheme. Arrangements like erecting sheds, getting power supply etc., have been made in this project area. It is proposed to give training to about 200 selected candidates who live in and around Gudapakkam village in the following trades:—

1. Food Processing
2. Plastic processing
3. Electronics
4. Service Centre
5. Fabrication
6. Chemical products
7. Carpentry
8. Civil construction
9. Wig manufacture

40.42. About 150 persons have already been selected and they are being trained in carpentry welding, civil construction, gloves and garment making, repair and rewinding of electrical motors, manufacture of wheel barrows and drums, etc. Besides the above project certain other scheme have also been cleared by the Empowered Committee. The details of these schemes are given below:—

<i>Serial number and name of Scheme,</i>	<i>Sponsored by</i>	<i>Amount sanctioned (Rs.)</i>	<i>Number of persons to whom employment opportunity created,</i>
(1)	(2)	(3)	(4)
1. One job per Family Scheme—Training in House Keeper Course.	Social Welfare Department	54,000	45
2. One job per Family Schemes—Service Units for repairing agricultural pumpsets.	Rural Development Department,	..	..
3. OJPF Scheme—Training in Masonry Works—Training under TRYSEM.	Rural Development Department.	..	375 persons in 15 centre
4. OJPF Scheme—House Service Booths in Madras City.	Employment Service Department.	10 lakhs	150 persons
5. OJPF Scheme—Self Employment for unemployed youth in Egg Cart Scheme.	Agriculture Department.	1,75,000	350
6. OJPF Scheme—Training in Dish—Washing.	Employment Services Department.	15,000	40
7. OJPF Scheme—Training in Horticulture.	Agriculture Department.	3,250	50

40.43 After selecting the beneficiaries necessary training is given to them which will help them to take up either self-employment or getting employment outside. During the training period they are provided with stipend amounting to about Rs. 200 p.m. After the training is over they are also helped in getting loans from the Nationalised Banks for purchase of tools and Kits. The State Government Departments are helping the beneficiaries in selecting their working places and also in getting other necessary facilities so that they can start their self-employment without much difficulty and delay.

40.44. By implementing the aforesaid scheme 1,210 persons will be benefited immediately and the number of beneficiaries will be increasing in future on par with the increase in the number of schemes to be implemented. Above all, some 2 lakhs of persons appointed under the Chief Minister's Noon Meals Scheme are brought under the 'One Job per Family' scheme. For continuing the schemes started already, and for implementing new schemes, a sum of Rs. 800 lakhs has been provided for the Seventh Plan. The year-wise break up of outlays for the Seventh Plan is shown in Annexure-I.

B. Training of Craftsman.

Strengthening of State Directorate :

40.45. The number of staff available in the Directorate have not increased though, the schemes such as advanced vocational training system, evening classes for industrial workers, staff training programmes, etc., have been started, and implemented by the department. Further, the number of I.T.Is. has gone up from 30 to 40 adding to the work load. There is, therefore, need to strengthen the state Directorate at the middle and lower levels of administration. It is proposed to strengthen the Directorate during the Seventh Plan, for which an outlay of Rs. 2.84 lakhs has been proposed.

Apprenticeship training scheme :

40.46. Apprenticeship training is implemented since 1963. There are at present nearly 11,000 apprentices, and 1,570 establishments implementing the act. It is proposed to start separate Related instructions centre at Cuddalore, Thanjavur and Mettur Dam. It is also proposed to strengthen the staff at the head quarters and offices of the Regional Deputy Directors to have close supervision of industries implementing the act and also improve the quality of training. The

Schemes started in the Sixth Plan will be continued. For continuing the existing schemes, and for starting new centres at three centres and for strengthening the offices at State headquarters and in the regions during the Seventh Plan, a sum of Rs. 25.00 lakhs has been provided.

Training of Junior Officers at Central Training Institutes :

40.47. The staff recruited through the employment exchanges do not have the necessary teaching skills. Therefore, it is the usual practice to send them to various Central Training Institutes to get trained in teaching technology for a period of one year. For deputing 25 Junior training Officers/ Assistant Training Officers every year, to the Central Training Institute, a sum of Rs. 10.00 lakhs has been provided.

Strengthening of Industrial Training Institutes :

40.48. Under this programme, schemes for strengthening of existing I.T.Is. for optimum utilisation of facilities, and starting new I.T.Is. where there is felt need, will be implemented. The content of these schemes are as detailed below :—

(i) Introduction of Third Shift in I.T.Is. :

40.49. The starting of an Industrial Training Institute with 250 seats will cost nearly Rs. 60 to 70 lakhs. Therefore, using the infrastructure facilities already available a third shift can be started in Industrial Training Institutes. This will entail expenditure only on purchase of hand tools for the extra trainees plus recurring expenditure on salary of staff, stipend, etc., Third shift has been started in four Industrial Training Institutes at North Madras, Coimbatore, Madurai, Pettai and Salem. The total number of seats introduced is 788 during the sixth plan. The total cost for each Industrial Training Institute will come up to Rs. 5 lakhs (Recurring and Non-recurring). Based on the above experience, it is proposed to start third shift in four more Industrial Training Institutes namely, Guindy, Vellore, Virudhunagar and Hosur during the Seventh Plan. These I.T.Is. have been chosen with reference to the development of industries in and around the centres. An outlay of Rs. 46.00 lakhs is proposed

(ii) *Starting of New Industrial Training Institute for Men :*

40.50. At present, there are 43 I.T.Is. with a seating capacity of 15,120. When compared to the number of seats available in engineering colleges and polytechnics, the number of seats available in the I.T.Is. is far below. According to the norms propounded in advanced countries, for every engineer there should be a complement of four technicians and 16 craftsmen. The Working Group on Technical Education has however, suggested that 1 : 3 : 5 is a desirable ratio among engineers, Technician and craftsmen. Hence, it is proposed to start three more I.T.Is. in the trades that are relevant to local Industry. These Industrial training institutes have been chosen on the basis of development of Industries, and even distribution of Industrial Training Institutes. An outlay of Rs. 51.50 lakhs is earmarked for this scheme.

(iii) *Starting of Rural Industrial Training Institute :*

40.51. The trades available in I.T.Is. cater only to the needs of the organised industries (i.e.) large scale and medium scale and to some extent, small scale. The training given in Industrial Training Institutes do not cater to the needs of rural population. Therefore, an Industrial Training Institute to help the rural people is to be started at Natrampalli in North Arcot district during the Seventh Plan. The cost of starting the rural institute will be Rs. 7.50 lakhs.

(iv) *Grants to private Industrial Training Institute :*

40.52. There are 59 private Industrial Training Institute schools in the State. These private Industrial Training Institutes save the State Government expenditure on land, buildings and equipment. But, of late, these private I.T.Is., find it difficult to purchase new equipments for tools to keep up the standards as per NCVT. Therefore, it is proposed to give equipment grant to such of those needy I.T.Is. who fulfil the minimum norms. A sum of Rs. 5.00 lakhs is provided to wards grants for purchase of equipment.

(v) *Construction of Hostel :*

40.53. At present, permanent hostels is available in 26 I.T.Is., In the I.T.Is. at Pudukkottai, Theni, Karaikudi and Tuticorin, hostels are located in rented buildings. It is proposed to construct

permanent hostel buildings for I.T.Is. in a phased manner. During the Seventh Plan, a permanent hostel will be constructed for the I.T.I. at Pudukkottai, Theni, Karaikudi and Tuticorin at a cost of Rs. 25.00 lakhs.

Diversification of trades :

40.54. It is proposed to start new trades like computer, upholstery, etc., to cater to the needs of the Modern Industries, in the existing I.T.Is. The trades started earlier during the Sixth Plan will also be continued. For this scheme, an outlay of Rs. 10.00 lakhs has been provided.

Craftsmen Training Schemes :

40.55. At present no course on computer is offered in the Industrial Training Institutes, Computers are important instrument of modern technology and occupy a prominent place in modern society. There is need to start a training programme at craftsmen level. This scheme will be implemented in the I.T.I. at Ambathur near Madras. For starting this scheme, as well as for continuing the existing scheme, a sums of Rs. 7.00 lakhs has been provided.

Starting of Regional Office :

40.56. With a view to improve the standard of training and to have effective control on the apprenticeship training scheme, four regional Deputy Directors Offices at Trichy, Madurai, Coimbatore and Tirunelveli have already been set up. During the Seventh Plan period, it is proposed to set up one more regional Office at Madras. An outlay of Rs. 12.00 lakhs has been provided for this purpose.

Evening classes for Industrial workers :

40.57. A scheme for giving theoretical instruction to the Industrial workers employed in particular trades has been implemented in the Industrial Training Institutes with a view to help the Industrial workers to improve the theoretical knowledge in their respective trades. The training is at present given in I.T.Is. During the Seventh Plan, it is proposed to start this scheme at the I.T.I. at Hosur. An Outlay of Rs. 1.50 lakhs is proposed, which includes the provision required for continuing the schemes started during the Sixth Plan.

Modernisation of Industrial Training Institutes :

40.58. Advanced vocational training system scheme (AVTS) has been started with the help of UNDP/ILO., at Ambattur in the first instance. The scheme is intended to give advanced training for the existing workers in the industry. The advance courses offered are :—

1. Indian Standard and Reading of Engineering drawing.
2. Advanced welding.
3. Mechanical maintenance.
4. Tool and dye making.
5. Induction to engineering technology.
6. Other short-term courses such as TIG welding, and JIG Boring, rewinding, etc.

This scheme has been expanded to Coimbatore during the Sixth Plan. It is proposed to introduce this scheme at Madurai, Tiruchirappalli, Hosur, Tuticorin and Vellore during the Seventh Plan for which an outlay of Rs. 18.00 lakhs has been provided.

40.59. In order to provide a course of instructional materials and motivation for all the trainees involved in craftsmen training scheme and Apprenticeship training scheme and use individual and proper methods of instructional aides and to provide necessary facility which will investigate and demonstrate the technology and pedagogy methodology involved, it is proposed to set up an Instructional Media Institute with the assistance of DGET, New Delhi and German aid. The State Government have to provide 20 acres of land free of cost. For this purpose 20 acres of land located at Kavandanpalayam village in Coimbatore district has been selected.

Starting of new Industrial Training Institute for Women :

40.60. At present there are Five Industrial training Institutes exclusively for women at Madras, Cuddalore and Nagercoil. The total seating capacity in these ITIs, is 480. Taking into consideration the vast number of girls passing out from high schools, it is proposed to start two more I.T.Is. for women at Tiruppur (Coimbatore district) and Gandhigram (Madurai District) during the Seventh Plan. An Outlay of Rs 45 lakhs is earmarked for this scheme

Purchase of equipments :

40.61. There is an increasing awareness that the training in the Industrial Training Institutes is outdated and the tools and equipment used are obsolete. Industries feel that the standard of training has gone down. Therefore, it is relevant to modernise the existing tools and equipment available in I.T.Is. with reference to the changing technology as obtaining in the Industries. In this context Advanced Training Institute has made a survey of some of the I.T.Is. in Tamil Nadu and has noted that nearly Rs. 3.00 to 4.00 crores may be required for the purchase of tools and equipment and also to purchase modernised tools and equipment in the place of condemned equipments. It is proposed to purchase essential items of tools and equipment during the Seventh Plan at a cost of Rs. 150 lakhs. The outlay also covers the expenditure on the purchase of tools and equipment sanctioned during the Sixth Plan.

40.62. The year-wise break up of outlays for the Seventh Plan is shown in Annexure II.

C. Labour Welfare :

40.63. The main shift in emphasis will consist of a careful appraisal of the required enforcement staff of the Labour department which includes factory inspectorate also and ensuring that personnel are appointed in accordance with norms. For the seventh Plan, an outlay of Rs. 180 lakhs is proposed. The details are shown in Annexure-III.

40.64. The Labour department is a regulatory department of the Government with the broad functions of conciliation, quasi judicial and enforcement of Labour and factory legislation. The separation of quasi judicial and conciliation functions would ensure industrial peace, increase the efficiency, and would help to keep the wheels of production unhampered. By securing safe and healthy working environment for the workers in factories, industrial accidents will be reduced and productivity increased. The following schemes are proposed for the Seventh Plan.

Establishment of a combined industrial Health and Hygiene Unit and Laboratory in the State Factory Directorate, and Setting up of Safety Cells :

40.65. The combined industrial health and Hygiene unit helps to prevent occupational diseases like lead poisoning dermatitis, silicosis,

etc., by conducting periodical examination of workers and collecting specimens of blood, urine and sputum. The medical examination of workers in factories is also done by the medical Officers appointed under this scheme. It is proposed to appoint a medical officer (Factories) at Coimbatore

40.66. The safety cells in the State, study the causes of accidents in factories, suggest preventive methods and educate workers. They also conduct safety surveys and publish safety codes. The posts of Inspectors of factories and Assistant Inspector of factories in the safety cells at Madurai and Coimbatore have been upgraded as Deputy Chief Inspectors of Factories and Inspectors of Factories respectively. It is proposed to create two safety cells at Salem and Tiruchirappalli during the Seventh Plan. In addition, a post of Joint Chief Inspector of Factories has been sanctioned for testing of lifting tackles, hoists for lifts, granes, etc. For these schemes, a sum of Rs. 20.00 lakhs has been provided.

Industrial Relations :

40.67. The industrial relations machinery will be further strengthened in the regions by providing Officers in the cadre of Joint Commissioner of Labour and upgrading the post of Special Deputy Commissioner of Labour as Joint Commissioner of Labour. For this purpose an outlay of Rs. 35.00 lakhs has been provided.

Strengthening of Factory Inspectorate and Enforcement machinery :

40.68. In pursuance of the convention of the International Labour Organisation to have one Inspector for every 150 Factories, the enforcement machinery will be further strengthened. The enforcement machinery for Labour laws in the State was strengthened by the addition of one post of Inspector of Labour for Dharmapuri district at Krishnagiri during 1984-85. For strengthening the enforcement machinery and to continue the ongoing programme started in 1984-85 an outlay of Rs. 55.00 lakhs is provided in the plan.

Introduction of Group Gratuity Fund Scheme for unorganised Labour :

40.69. The scheme will provide for the formulation of a retirement benefit scheme for unorganised labour by taking up a survey throughout the State. A sum of Rs. 5.00 lakhs is provided for this purpose.

Strengthening of weights and measures machinery :

40.70. The scheme protects the interest of the consumer public by the enforcement of packaged commodities rules which require the marking of year of manufacture, net weight, retail price, etc., on each packaged commodity. A separate machinery is being set up for verification and re-verification of weights and measures under Weights and Measures Act with separate stamping Inspectors. A sum of Rs. 20.00 lakhs is provided for this purpose and exhibited under the Food Sector for budgetary purpose.

Setting up of productivity cell at Madras :

40.71. A productivity cell is proposed to be set up at Madras. The cell will help to improve productivity by periodical advice with regard to prevention of man power losses and also to reduce and eliminate wastage of materials and machines. A sum of Rs. 3.00 lakhs is provided for this purpose.

Scheme for implementation of Welfare measures for Women and Child Labour :

40.72. A special machinery is proposed to be created exclusively to attend to the enforcement aspects of the beneficial legislations for women labour and to prevent exploitation, abuse and employment of child labour. The cost of setting up the special machinery will be Rs. 2.00 lakhs, for the Seventh Plan.

Labour Studies :

40.73. Under this programme four different schemes are proposed for implementation during the Seventh Plan, at a total cost of Rs. 40.00 lakhs.

(i) Expansion of Research Cell :

40.74 : To evolve policy for solving Labour Problems or for that matter social problems, adequate research is the vital need. Labour education has to be a synthesis of theory and pragmatism so that it may pave way for human resource development, Labour Welfare and proper industrial relations climate. The shift in emphasis will consist of careful selection of the area for research which will throw light on the factors balking productivity, factors which cause strain and stress in industrial relations, and factors which will generate self-employment, etc. To undertake this task, it is proposed to

create a post of Senior Research Officer and Research Officer with supporting staff at the institute for which a sum of Rs. 6.51 lakhs is proposed.

(ii) *Construction of building for the Tamil Nadu Institute of Labour Studies :*

40.75 The Tamil Nadu Institute of Labour Studies is at present functioning in a rented building. The institute has to start degree course in Bachelor of Labour Management and subsequently Master degree course in Labour Management as approved by the Government. For conducting the degree courses as well as for conducting various short-term training programmes the existing rented building is inadequate. Therefore in the Seventh Plan, it is proposed to construct a building for the Institute with provision for auditorium, Library, reading room, seminar hall, hostel accommodation, staff quarters etc. The Government have sanctioned the acquisition of a site in Adyar village. During the plan period, the first phase of the construction will be started and completed. The total cost of the construction of a building will be 66 lakhs. A sum of Rs. 24.96 lakhs has been provided in the plan. The balance of Rs. 41.04 lakhs will be obtained from the Tamil Nadu Labour Welfare Board.

(iii) *Diversification of training activities.*

40.76 : During the Seventh Plan, the emphasis will be on training the rural labour and labour from the unorganised sector who form the majority of the labour force. Towards this end, the Institute will be decentralised. It is proposed to open branches of the Institute at Coimbatore, Madurai, Tiruchirapalli, Tirunelveli and Salem, with a Deputy Director, two lecturers and supporting staff. The Total cost of opening and maintaining the branches will be Rs. 18.40 lakhs. However, due to constraint on resources a token provision has been proposed.

(v) *Training of professionals in the field of Labour Administration :*

40.77 The Tamil Nadu Institute of Labour Studies cater to the training needs of workmen, Management and officials from the Government departments who are connected with Industrial Relations. The Institute organises various

short term programmes. The Institute is conducting Post graduate diploma in labour management, Industrial relations and Labour Welfare. These training programmes will be continued during the Seventh plan for which an outlay of Rs. 8.52 lakhs has been provided.

Rehabilitation of Freed Bonded Labourers :

40.78 : The bonded labourers identified in this state and rescued from other states and brought to the state are 32,615 as on December, 1984. So far, 30108 bonded labourers were rehabilitated in this state under various schemes. There are still 2507 bonded labourers to be rehabilitated. The process of identification of bonded labourers are still going on in Andhra Pradesh, Madhya Pradesh and Maharashtra States, and as and when labourers are identified they will be rescued and allotted to this state for rehabilitation in the respective districts of this State. The ceiling limit for each beneficiary is Rs. 4,000 which will be shared equally by the State and Centre. A sum of Rs. 50 lakhs has been earmarked for the VII Plan, as the states share for this programme for the rehabilitation of 5,000 freed bonded labourers.

OUTLAY FOR THE SEVENTH PLAN
LABOUR AND LABOUR WELFARE
ABSTRACT.

<i>Programme.</i>	<i>Outlay proposed.</i> (1985-90)
(RUPEES IN LAKHS.)	
1. Employment Service	853.66
2. Craftsmen training	416.34
3. Labour Welfare	180.00
4. Rehabilitation of Bonded Labour	50.00
Total	1,500.00

ANNEXURE-I.

PROPOSED OUTLAY FOR 1985—1990—EMPLOYMENT SERVICES.

Programmes/Schemes.	Outlay proposed.					Seventh Five Year Plan proposed- outlay.
	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN LAKHS)					
<i>I. Direction and Administration.—</i>						
1 Strengthening of Directorate (Employment Wing).	..	1.43	1.16	1.16	1.16	4.91
2 Creation of Regional Deputy Directors Offices.	..	1.18	0.62	0.60	0.60	3.00
<i>II. Employment Exchanges.—</i>						
3 Expansion of Employment Services.	..	..	..	..	1.00	1.00
4 Strengthening of Employment Exchanges.	0.19	1.51	1.07	1.07	6.13	9.97
5 Setting up of separate Employment Exchanges for Technically qualified.	2.34	4.16	3.32	3.32	3.32	16.46
<i>III. Survey and Statistics.—</i>						
6 Schemes for promotion of Career Guidance Programme in High Schools.	1.65	0.01*	..	..	..	1.65
7 Setting up of Career Study Centre at Headquarters.	1.00	0.95	0.70	0.70	0.65	4.00
8 Construction of buildings to Employment Exchanges.	0.01*	..	..	..	10.00	10.00
9 Standard 20 Diesel Van to Employment Office for Physically Handicapped.	1.27	0.35	0.35	0.35	0.35	2.67
10 Overseas Manpower Corporation.	0.01*	..	..	..	..	..
Total ..	6.45	9.58	7.22	7.20	23.21	53.66
<i>IV. One Job per Family Scheme</i>						
..	200.00	200.00	150.00	125.00	125.00	800.00
Grand Total ..	206.45	209.58	157.22	132.20	148.21	853.66

* Token provision not accounted for total.

ANNEXURE-II.

PROPOSED OUTLAY FOR 1985-1990—CRAFTSMEN TRAINING.

Serial number and name of the scheme.	Outlay proposed.					Seventh Plan proposed outlay.
	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS)						
A. 1 Direction and Administration.—						
Strengthening of State Directorate/District Offices.	0.84	0.50	0.50	0.50	0.50	2.84
2 Craftsmen Training Scheme.—						
(a) Deputation of Junior Training/Assistant Training Officers to Central Training Institutes.	2.20	1.80	2.00	2.00	2.00	10.00
Strengthening of Industrial Training Institutes.—						
(b) Introduction of III shift ..	5.00	5.90	9.80	11.80	13.50	46.00
(c) Starting of new Industrial Training Institutes for Women.	25.00	5.00	5.00	5.00	5.00	45.00
(d) Starting of new Industrial Training Institutes for Men.	..	19.50	14.75	7.00	10.25	51.50
(e) Starting of rural Industrial Training Institute at Natampalli.	..	..	..	..	7.50	7.50
(f) Equipment grant to Private Industrial Training Institutes.	0.01	0.99	1.00	1.00	2.00	5.00
(g) Construction of Hostel ..	..	12.50	12.50	..	..	25.00
(h) Diversification of Trades and Introduction of new trades.	..	7.72	0.76	0.76	0.76	10.00
(i) Introduction of Computer course.	..	5.50	0.50	0.50	0.50	7.00
(j) Setting up Regional Offices.	..	3.75	2.75	2.75	2.75	12.00
(k) Evening classes for Industrial Workers.	..	..	..	..	1.50	1.50
(l) Modernisation of Industrial Training Institute.	..	3.50	5.00	3.00	6.50	18.00
(m) Purchase of equipment ..	6.13	38.87	35.00	35.00	35.00	150.00
B: Apprenticeship Training Scheme.	1.13	11.87	4.00	4.00	4.00	25.00
Total ..	40.31	117.40	93.56	73.31	91.76	416.34

ANNEXURE—III

PROPOSED OUTLAY FOR 1985-90—LABOUR WELFARE.

<i>Programmes/Schemes.</i>	<i>Outlay proposed.</i>					<i>Seventh Plan proposed outlay.</i>
	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS.)						
<i>I. Labour and Labour Welfare.</i>						
1. Establishment of a combined Industrial Health and Hygiene unit and Laboratory in the State Factory Inspectorate.	0.34	2.50	1.54	1.31	1.31	7.00
2. Setting up of Safety Cells :—						
(i) Safety Cell	0.20	0.80	0.80	0.60	0.60	3.00
(ii) Testing of lifting tackles, Hoists for lifts, cranes, etc.	1.46	1.94	2.20	2.20	2.20	10.00
3. Strengthening of Industrial relations machinery.	3.89	8.00	12.06	11.04	0.01	35.00
4. Strengthening of Factory Inspectorate.	12.22	12.85	12.85	1.04	1.04	40.00
5. Strengthening of Enforcement Machinery.	4.58	4.90	4.90	0.31	0.31	15.00
6. Introduction of Group Gratuity Fund Scheme for unorganised labour.	1.48	3.12	0.20	0.10	0.10	5.00
7. Strengthening of weights and measures machinery.	2.21	17.76	0.01	0.01	0.01	20.00
8. Setting up of productivity Cell ..	1.23	0.99	0.76	0.01	0.01	3.00
9. Welfare of women and Child labour.	0.75	1.22	0.01	0.01	0.01	2.00
Total—I ..	28.36	54.08	35.33	16.63	5.60	140.00
<i>II. Labour Studies</i>						
	1.44	6.18	15.00	12.00	5.38	40.00
Total I+II ..	29.80	60.26	50.33	28.63	10.98	180.00
<i>III. Rehabilitation of Bonded Labour</i>						
	10.00	10.00	10.00	10.00	10.00	50.00
TOTAL I+II+III ..	39.80	70.26	60.33	38.63	20.98	230.00

CHAPTER 41.

WELFARE OF SCHEDULED CASTES/ SCHEDULED TRIBES AND OTHER BACKWARD CLASSES.

41.0. One of the directive principles of State Policy in the constitution enjoins that the state will promote with special care the educational and economic integration of weaker sections of the people and in particular the Scheduled Castes/Scheduled Tribes and shall protect them from Social injustice and all forms of exploitation. This direction has been reflected in the Five Year Plans of the State, which has sought to raise the socio-economic levels of all the people including Scheduled Castes/Scheduled Tribes and other weaker sections in Tamil Nadu. Vigorous and systematic efforts are being made by the State Government to bring about socio-economic amelioration of the weaker sections of the society in general, and backward classes in particular. To channelise, and to monitor the flow of benefits to the Scheduled Castes/Scheduled Tribes, the department of Adi-Dravidar and Tribal Welfare has been established in the year 1949.

41.1. As per the 1981 census, the population of Scheduled Castes in Tamil Nadu is about 88.81 lakhs and that of Scheduled Tribes is 5.20 lakhs, which represents 18.35 per cent and 1.07 per cent respectively of the total population of the State (484 lakhs). The literacy rate of Scheduled Castes is 30 per cent and that of Scheduled Tribe is 20.45 percent as against 47 per cent of general population. Among the 88.81 lakhs of Scheduled Castes in the state, 45.86 lakhs are males and 43.95 lakhs are females with the largest concentration in South Arcot and Chingleput Districts. 80 per cent of Scheduled Castes/Scheduled Tribes live predominantly in rural areas and depend mainly on agriculture and allied activities for their living, and the remaining 20 per cent live in urban areas. About 2.10 lakhs of Scheduled tribes are living in 9 integrated tribal development blocks in 5 districts namely, Salem, North Arcot, South Arcot, Dharmapuri and Tiruchirappalli.

Performance during the VI Plan

41.2. During the Sixth Plan (1980-85), the schemes for the development of Scheduled Castes/Scheduled Tribes were aimed at improving the quality of life of the people and in removing the gap between the levels of develop-

ment of these people, and the general population. The Government of Tamil Nadu has continued its emphasis on social integration, through Promotion of social, educational and economic programmes for the Members of Scheduled castes and Scheduled Tribes and other under privileged as well as weaker sections. In the multi-faceted strategy for the upliftment of weaker sections adopted in the State, the Scheduled Caste/Scheduled Tribes receive benefits from the schemes implemented under the different development sectors viz., education, agriculture, animal husbandry, co-operation, industry, water supply, housing etc.,

41.3. A sum of Rs. 80.30 crores was earmarked in the Sixth Plan, out of the total outlay of Rs. 3,150 crores, for the development programmes on education, employment and economic advancement and Health and Housing facilities for Scheduled Castes/Scheduled Tribes. The actual expenditure incurred, however, on these programmes was Rs. 101.19 crores (or) 126.0 per cent. The progress recorded under the major ameliorative programmes undertaken for the economic upliftment of the weaker sections are outlined below —

(i) Education—

41.4. Education is the key as well as the first step for the socio-economic development of Adi-Dravidars as well as tribals. In Tamil Nadu, education is free for all upto twelfth standard and for scheduled caste/scheduled tribes upto post-Graduate degree level. In terms of percentage, the Adi-Dravidars have increased the literacy by 7.85 per cent and scheduled tribes by 11.43 percent over the level achieved in 1971, while the general population has shown an increase of 7.30 per cent only. Out of 25 lakhs of Adi-Dravidar Children, 78.3 per cent have been enrolled in schools. In the field of education, the main activities are the grant of scholarships-maintenance of schools, opening of hostels, supply of nutritious meals, books, slates, note books, clothing and boarding grants, etc., About 59,000 Adi-Dravidar students and 300 Scheduled tribe students have benefited every year, through provision of post-matric and pre-matric scholarships during the Sixth Plan. Loan scholarships were also sanctioned to about 37,911 Adi-Dravidar students and 1,529 scheduled tribe students during the plan period.

41.5. At the end of 1984-85, there were about 952 schools for Adi-Dravidar students, with a total strength of 2.09 lakhs, and 160 schools for Tribals, with a total strength of 9,782 students in Tamil Nadu. To improve the standard of education, a Scheme of Supervisory Study has been implemented in 500 High schools and 300 Higher Secondary schools covering about 57,000 students in all subjects during the Sixth Plan period.

41.6. To provide free boarding and lodging facilities to the students belonging to Scheduled Castes/Scheduled Tribes communities 735 hostels are maintained by the Government with a strength of 50,238 boarders. Two sets of dresses have been supplied to 1.29 lakhs of boarders studying in Standards I to X every year. A training centre has been established to train Scheduled Caste/Scheduled Tribe candidates for appearing for I.A.S., I.P.S., and allied services examination and special coaching is imparted for them for appearing for Group IV examination, C.A. and Typewriting examination conducted by Tamil Nadu Public Service Commission.

41.7. The C.M.N.N.M. Scheme has been implemented and noon meal is provided to students studying in Standards I to V for all the 365 days in a year and the scheme has been extended to students studying in Standards VI to X with effect from 15th September 1984 and the beneficiaries covered are about 177, 815 students. A sum of Rs. 34,94.10 lakhs has been actually spent for education for SC/ST against an outlay of Rs. 29,63.32 lakhs provided during the Plan period.

(ii) *Employment and Economic Advancement of Scheduled Castes/Scheduled Tribes :*

41.8. A sum of Rs. 1.40 lakhs has been sanctioned for providing self employment opportunities to 7,000 Adi-Dravidars living in urban areas. Training on TRYSEM pattern was given to 3,000 Adi-Dravidars living in urban areas at a cost of Rs. 36 lakhs.

41.9. THADCO has identified 22,000 Adi-Dravidar families in 30 backward blocks in the State and has provided all assistance for economic development and employment throughout the year. To improve the economic condition of the communities, a subsidy for sinking of irrigation well at Rs. 5,000 and for purchase of plough

bulls, seeds and agricultural implements at Rs. 600 have been given to about 7.40 lakhs of Adi-Dravidar families. To help the rural assistance to stand on their own feet, tools and implements have been distributed to 1,100 persons, per annum free of cost. With a view to provide SC/ST with employment opportunities and to help them to cross the poverty line, Milk Supply Co-operative Societies have been organised in third plan period. At present, there are 374 Adi-Dravidar Co-operative Milk Supply Societies in the State which benefits 15,347 families. Assistance was also given to 6,683 Scheduled Castes and 609 Scheduled Tribes, who were technically trained and qualified with free supply of tools and appliances. 10,000 Adi-Dravidar families were enrolled as members of co-operative societies. A sum of Rs. 55.29 lakhs was sanctioned as loan to Adi-Dravidars for running petty trades and the scheme benefitted 5,804 persons. The loan was sanctioned in respect of 31 trades.

41.10. During the year 1982-83, 911 persons belonging to Adi-Dravidar have been recruited for Armed Forces, and 167 for Service training, 26,137 Adi-Dravidar colonies have been electrified upto April 1985. With a view to create a casteless society, and to eradicate untouchability, the scheme of awarding gold medals to inter-caste married couples is being operated from 1968-69. During the Plan, 941 persons have been awarded gold medals under this scheme.

41.11. A sum of Rs. 251.19 lakhs has been spent for Employment and Economic Advancement as against an outlay of Rs. 2,72.52 lakhs.

(iii) *Health and Housing facilities for Scheduled Castes/Scheduled Tribes.*

42.12. 169 Child Welfare Centres are functioning in Tribal areas and 49 Child Welfare Centres in Madurai, Kanyakumari, Nilgiris, Coimbatore and Periyar districts. These have been merged with CMNMP with effect from February 1982.

41.13. With a view to improve the housing facilities for Scheduled Castes/Scheduled Tribes Released bonded labourers, fisher-folk and sanitary workers in a Phased Programme, the THADCO has been set up in February 1974. So far this Corporation has constructed 3,760 houses for Adi-Dravidars. From 1980 to 1985 9,629 houses have been constructed and 847 houses are under construction as against the

sanction of 16,309 houses. Under cluster Development Programme in villages, 1,462 houses have been completed, and 2,138 houses are under construction. Besides, 182 quarters have also been constructed for teachers. During the period 1983 to 1985, 43,909 houses were sanctioned for construction.

41.14. The Government have been continuing to provide house sites for landless rural workers including Adi-Dravidars under Minimum Needs Programme. Three cents of land has been assigned for about 4,47,880 families as house sites by acquiring private lands. Upto March 1984, 3,86,011 pattas were distributed to Adi-Dravidars free of cost. Besides, 99,235 sites under "Kudiyiruppu Act" and 4,79,187 sites under regular assignment of lands were also distributed. A sum of Rs. 46,89.05 lakhs has been spent for health and housing facilities as against a provision of Rs. 33,64.25 lakhs for the Sixth Plan period.

41.15. For the above development programmes, a sum of Rs. 8,939.41 lakhs has been spent, as against an outlay of Rs. 6,836.34 lakhs provided for the Sixth Plan, indicating that these programmes have received greater attention than was originally contemplated at the beginning of the plan.

Objectives of the Seventh Plan ;

41.16. The main objectives for the VII Plan will be to consolidate the gains of the earlier plans and to extend the coverage of the welfare programmes on education, employment, housing and health to a larger number of scheduled castes/scheduled tribes and other backward classes people in Tamil Nadu.

41.17. The other objectives are to minimise the dropouts among the scheduled caste/scheduled tribes and backward class pupils from schools, to considerably enhance the quality of education they receive, to increase their employability by improving their technical skills, to wean them away from their unremunerative, traditional occupations and to provide training to make them more competitive. Attention will be given to improve the quality of services in the hostels for scheduled castes, scheduled tribes and other backward classes.

41.18. The outlay for the Sector has been stepped up to Rs. 90,23.00 lakhs from Rs. 69,00.00 lakhs in the current plan. In the Budget, most of the

outlay is earmarked for education of Scheduled Castes and Scheduled tribes. Nearly 55.8 per cent of the total budget of this sector is earmarked for educational programmes.

41.19. The details of the outlay for the various programmes are given in the table :—

Outlays for Adi-Dravidar/Scheduled Tribes in the VII Plan.

Programmes.	Seventh Plan Outlay. (RS. IN LAKHS.)
A. Welfare of Scheduled Castes—	
1. Education	48,87.32
2. Employment and Economic Advancement	3,63.70
3. Health, Housing and Other Schemes	24,74.06
Total ..	<u>77,25.08</u>
B. Welfare of Scheduled Caste-- (Converts to Chirstianity) ..	
	<u>57.14</u>
C. Welfare of Scheduled Tribes—	
1. Education	1,49.70
2. Employment and Economic Advancement	41.13
3. Health, Housing and Other Schemes	65.80
4. Tribal Sub-Plan	9,10.02
5. Assistance for Agriculturists to come into the Co-operative fold	* 75.00
6. Other Expenditure	74.50
Total ..	<u>13,16.15</u>
Total A+B+C	<u>90,98.37</u> or <u>90,98.00</u> lakhs.

* Includes Rs. 75.00 lakhs for assistance to Agriculturists to come into the Co-operative fold. Transferred from Co-operation head of development.

Programmes for VII Plan.
Welfare of Scheduled Castes
Educational Programmes—

41.20. Top priority is given for education, since the socio-economic development of Adi-Dravidar and scheduled tribes depends on education. Educational development is sought to be achieved through giving facilities to the scheduled castes pupils by way of scholarships, books, clothing, midday meals, and at higher levels by way of hostels for accommodation. In order to promote social integration, a certain percentage of the hostel accommodation is reserved for other communities. There are at present, 713 hostels for scheduled castes, with a total strength of 49,233 boarders at the end of sixth plan. With a view to provide more facilities it is proposed to construct pucca buildings for 127 hostels and provide more facilities. 135 new hostels will be opened during the plan period. Post and Pre-matric scholarships and stipends will be given to 6,55,000 students studying in these schools. Scholarships to the best and the next best scheduled castes (Hindu) and Christian girl students who have passed the X standard examination will be given to 275 and 765 students respectively. It is proposed to supply uniforms to 61,600 boys studying in IX to plus 2 and the boarders studying in plus 1 and plus 2 courses.

41.21. A major scheme in the provision of food for students is the midday meals scheme. The CMNMP is implemented in all the 1,112 Adi-Dravidar and tribal welfare schools and the forest department schools. There are 1,070 Noon Meal Centres. The food articles are supplied by the Tamil Nadu Civil Supplies Corporation. The feeding programme will be extended to cover 1,77,800 children in the plan period.

41.22. Another aspect of educational development is upgrading of the existing schools. It necessitates larger buildings, laboratories, furniture, libraries and additional staff. Out of 952 Adi-Dravidar welfare schools, 503 are housed in Government buildings including those under construction. The remaining 449 schools are housed either in tiled roof, thatched or in rented buildings. Hence, it is proposed to construct 100 buildings, and provide furniture to all the 952 schools at 50 per cent of the total requirement. Supply of maps and charts to 540 Adi-Dravidar schools at the rate of 108 schools per annum and

provision of text books, and slates to 2.86 lakhs pupils, studying in all schools are also proposed during the plan. Supply of note books to SC/ST students undergoing pre-matric stages of education will be covered to 3 lakhs.

41.23. Housing for teachers is a pre-requisite and it is proposed to construct 130 houses for teachers adjacent or near by their working places particularly in hilly areas. In addition to coaching 12 students in ITI, programmes for coaching in shorthand and typewriting are also continued. Students from 39 schools will be taken on excursion to various places. Loans to 41,500 students will be provided to enable them to pursue degree and post degree courses to attain better occupational opportunities. Grants of stipends will be enhanced in respect of 12,800 Trainees in ITI's and supply of scout uniforms to 1,397 students are proposed. In order to help the scheduled castes children to pursue their studies without difficulty it is proposed to give incentives for promotion of SC/ST girls in education covering about 1,590 persons, and cash awards to heads of institutions who enroll largest number of Adi-Dravidar/Scheduled tribe girls in standard 6 to 10 and to minimise the dropouts in standards 6 to 10. The scheme of Adi-Dravidar Meritorious Students Academy will be further extended to cover 8 students in the Seventh Plan conducting of common examination to V Standard in primary Schools and refresher courses for primary and middle school teachers will also be implemented in the plan period.

41.24. For these development programmes, a sum of Rs. 48,87.32 lakhs has been proposed in the plan.

(ii) Employment and Economic Advancement Programmes;

41.25. The majority of the scheduled caste and scheduled tribes are living in rural areas and their development is closely bound with the rural development programmes. Those engaged in agriculture, obtain subsidies for sinking irrigation wells and to purchase plough bulls. During the plan, it is proposed to give loan and subsidies for the purchase of 2,860 pairs of bulls and for sinking 326 irrigation wells. The Co-operative Milk Supply Societies have been organised exclusively for Adi-Dravidars since the commencement of third five-year plan. Under this programme 374 Societies are now functioning in the State benefitting 21.360 persons and each member of

the society is eligible for assistance to buy two animals at Rs. 2,500 each. Hundred women-trainees per year will be given training in Radio and T.V. mechanism. 900 technically trained people will be supplied with tools and other required appliances to pursue their trade and the beneficiaries will be about 6600 persons. The intention is that people with technical knowledge will settle down in their trades and earn a livelihood. Loans will be given for starting petty trades at Rs. 500 per individual to benefit about 10,000 families in the plan.

41.26. Under cottage industries, 240 trainees will be benefitted and it is proposed to start a general purpose engineering workshop to train 40 scheduled castes/scheduled tribes in each batch. During the plan it is also proposed to open six sheep farming co-operative societies for scheduled castes in a phased programme.

41.27. A sum of Rs. 3,64.70 lakhs has been ear-marked for employment and economic advancement programmes in the seventh plan.

(iii) **Health Housing and other schemes :**

41.28. Drinking water wells and ground level reservoirs are provided in colonies where such facilities are not available. This programme will be continued and 1,000 drinking water wells will be provided and television sets will be supplied to 875 habitations. Supply of wheel barrows will be continued to cover 1,500 sweepers and scavengers as part of humanising their work. It is unfortunate that many of the colonies of the scheduled caste people do not have a pathway to housing colonies. Pathways will be provided wherever necessary. 73 additional community halls will be constructed for use by the inhabitants to conduct marriages and other festivals. Inter-caste marriages are encouraged by the Government, Cash incentives will be given to 1589 inter-caste married couples.

41.29. For providing health facilities, 600 child welfare centres will be maintained. The scheme for provision of house sites, to Adi-Dravidar and landless rural workers by acquiring private lands and unobjectionable Government waste lands is being implemented in the state vigorously. The outlay for various schemes for the welfare of Scheduled Caste (converts to Christianity) have been proposed as follows :—

	(LAKHS)
Education	0.24
Employment and Economic Advancement.	0.25
Health, Housing and other schemes.	0.08
Total ..	0.57

41.30. During the plan period, the Government has proposed to construct under MNP about 29,300 houses for Adi-Dravidar and also acquire 1,94,000 house sites for allotment to landless Rural workers by providing assistance to the THADCO.

It has been recorded that about 18 lakh families are below the poverty line and nearly 11 lakhs Adi-Dravidar and scheduled tribe families are in need of house sites at present. For fishermen housing, necessary provision has been made in the housing sector. For the benefit of sweepers and scavengers and sanitary workers in municipalities/town panchayat, construction of 400 houses is envisaged. Construction of 10 dhobikanas at the rate of 2 per year has also been proposed. 155 drinking water wells will be provided in the scheduled Caste (converts to Christianity) colonies. A sum of Rs. 900.02 lakhs has been provided for construction of houses for SC's through THADCO.

41.31. A sum of Rs. 24,74.06 lakhs has been ear-marked for health, housing and other programmes.

WELFARE OF SCHEDULED TRIBES.

(i) **Educational programmes :**

41.32. There are 160 residential schools for the tribal population in the State. The residential schools cover elementary, middle, high and higher secondary schools. Out of 160 residential schools 56 are located in hill areas. During the Seventh Plan it is proposed to construct four Government tribal residential schools in hill areas. At present there are 80 Government tribal residential schools in non-integrated tribal development project areas. It is proposed to open four Government, tribal residential schools during the plan in non- I.T.D.P. areas also.

41.33. Hostels for students who attend schools are also opened every year on a phased programme. The Adi-Dravidar and Tribal Welfare department are running 22 hostels for boys and girls. It is proposed to open two Government residential hostels and also to construct pucca buildings for five hostels during the plan period. Furniture will be supplied to 81 tribal schools and instruments, globes and charts, etc., will be provided for 80 schools.

41.34. The other programmes include construction of 57 quarters for the remaining 393 teachers : taking students on excursions, supply of text-books, note-books and slates free of cost to about

9000 pupils and grant of scholarships to 600 post-matric students. Loans to Scheduled Caste (converts to Christianity) for pursuing arts, professional and Post-Graduate courses will be given to 1,950 students in the plan. For this purpose, a sum of Rs. 1,49.70 lakhs has been proposed for the plan period.

(ii) Employment and economic Advancement Programmes :

41.35. Scheduled tribes are basically rural oriented. There are about 1.17 lakhs of scheduled tribes engaged in cultivation in the State. To encourage them in agricultural occupations, they are given the facility of subsidy to purchase plough bulls and to sink 208 irrigation wells where necessary. During the plan period it is proposed to give assistance for purchase of 1,015 pairs of plough bulls and to sink 52 wells at the rate of Rs. 6,000 per well and 600 milk supply societies will be started. Interest free loans will be continued to be sanctioned to 1,000 persons to start petty trades. Training-cum-production centres/work centres, etc., are also to be continued. Free supply of tools and appliances to technically trained persons will be extended to 1,110 persons in the Plan.

41.36. A sum of Rs. 41.13 lakhs has been proposed for the plan period.

(iii) Health, Housing and other schemes :

41.37. The tribals live in ill-ventilated huts put up in unhygienic conditions. The Government are anxious to provide houses to all the 57,000 tribal families living in the State. The Government have constructed about 44,925 houses for tribals. The Programme for construction of houses for 257 tribals will be continued during the plan period. A sum of Rs. 22.27 lakhs has been provided for construction of houses to scheduled tribes through THADCO.

It is essential that the tribals are supplied with good drinking water as they suffer from chronic water-borne diseases, and, therefore, 280 drinking water wells will be provided in 280 tribal colonies.

41.38. There are 10 mobile medical units functioning in the State. Four more mobile medical units are proposed to be opened to serve the tribal area to improve the public health measures. Provision is also made to provide link roads to connect the tribal colonies and to facilitate their contact with the outer world. It is also proposed to construct four community halls in the plan. A sum of Rs. 65.80 lakhs has been proposed for providing health, housing and other programmes in the plan period.

(iv) Tribal Sub-Plan :

41.39. Tribal Sub-Plan is an area oriented plan with focus on the tribals. The size of the tribal sub-plan is constantly increasing from year to year from Rs. 101.82 lakhs in 1976-77 to Rs. 761.57 lakhs in 1985-86. About 2.10 lakhs tribals living in nine integrated tribal development areas are benefitted by the Sub-plan. The objectives of the tribal sub-plan is to economically assist 46,979 scheduled tribe families (I.T.D.P. 31,979 and I.R.D.P. 15,000) and it is expected that 23,240 scheduled tribe families (I.T.D.P. 17,240 and I.R.D.P. 6,000) will cross the poverty line by the end of the Seventh Plan period. The annual target is to cover 6,309 scheduled tribe families through I.T.D.P., and 3,000 families through I.R.D.P. For implementation of the tribal sub-plan, an allotment of Rs. 910.02 lakhs has been provided as the flow from the state plan outlay. The details of the programmes are explained in the separate chapter on "TRIBAL SUB-PLAN".

(v) Assistance for Agriculturists to come into Co-operative fold :

41.40. Under this scheme it is proposed to cover additional scheduled caste families by enrolling one person from each family to the membership of the agricultural services co-operative societies so as to enable them to avail themselves, credit and other services rendered by the societies. Each person admitted will be given a Government subsidy of Rs. 100 towards the share capital to be paid by him in raising agricultural loans. For this purpose a sum of Rs. 75.00 lakhs has been proposed in the plan. During the sixth plan period 90,000 persons were assisted under this scheme.

(vi) Other Expenditure:

41.41. Adhoc merit grant of Rs. 300 per student belonging to Scheduled Caste and Scheduled Tribe, Scheduled Castes convert Christianity in Standard 10 and plus 2 Examination who have secured 60 per cent and above marks and are continuing higher studies will be continued in the Plan at a cost of Rs. 74.50 lakhs and the beneficiaries will be 24,830 persons.

41.42. The year-wise break-up of the outlays are given in Annexure-I.

WELFARE OF DENOTIFIED COMMUNITIES AND OTHER BACKWARD CLASSES.

41.43. The Government of Tamil Nadu is taking vigorous and systematic efforts to bring

about socio-economic amelioration of the weaker sections of the society in general and Backward Classes and Denotified Tribes, in particular. To channelise and to monitor the flow of benefits to the Backward Classes, the Department of Backward Classes has been established in the year 1969.

41.44. During the Sixth Plan period, the State Government appointed the second Backward Class Commission under the Chairmanship of Thiru J. A. Ambasankar in December 1982, to study the social and educational backwardness of the community. The Commission has submitted its report on 28th February 1985. According to the commission, the Backward Classes population is about 335.71 lakhs or 67 per cent of the total population of the State. It has recommended that reservation of seats shall be made at 50 per cent for Backward Classes and 18 per cent for Scheduled Castes/Scheduled Tribes in respect of all courses in educational institutions and for recruitment in public services. The Government have accepted the recommendations and have issued orders accordingly.

Review of the Sixth Plan, 1980-85 :

41.45. During the Plan period, the Government have initiated various welfare measures and developmental schemes with their focus on alleviating poverty and unemployment, and on promoting the welfare of Backward Classes. The ambit of welfare measures undertaken by the State for Educational and economic upliftment of the Backward Classes has enlarged from year to year.

41.46. For the educational, economic upliftment and health and housing facilities for Backward Classes, a sum of Rs. 46.96 crores has been spent during the sixth plan period as against an outlay of Rs. 46.45 crores, totally under plan and non plan.

(i) Education of Backward Classes :

41.47. For the educational advancement of the denotified communities, 277 schools are run in Tamil Nadu. During the sixth plan period, 19,21,000 students belonging to backward classes/denotified communities studying in standard IX onwards have been sanctioned pre-matric and post-matric scholarships, under plan and non-plan provisions valued at Rs. 17.54 crores. Loan scholarships (interest-free) have been sanctioned to 237 students who pursue professional courses and are residing in hostels. At the end of 1984-85, 523 hostels with a strength of 30,803 students were maintained by the Backward Classes Department.

41.48. Two sets of dresses have been supplied free of cost to the inmates of High School Hostels. The Denotified community students upto X standard have been provided with text books Note books and slates free of cost. 2,78,000 students of the denotified community schools and inmates of the hostels run by this department have been benefitted. A sum of Rs. 188.06 lakhs was spent in this regard during the Sixth Plan period. Boarding grants payable for 10 months a year, were sanctioned for 12,406 students costing Rs. 44.04 lakhs to meet the food charges of boarders, the rate being Rs. 40.45 per month, per boarder.

41.49. From 1st July 1982 onwards, the Chief Minister's Nutritious Meals Programme is being implemented in all the denotified community Schools run by the Directorate of Backward Classes to attract the poor pupils in the age group 5 to 9 to attend schools regularly. The scheme has been extended to the students in the age-group of 10 to 15 from 15th September 1984. Rs. 89.05 lakhs was spent. Nearly, 207,081 pupils were benefitted under the scheme. Special training institute for civil service examination has been functioning at Madras since 1971. During the Plan period, 401 candidates were admitted in the institutions. Of which, 72 candidates appeared for the preliminary examination and six candidates have come out successful in final examination.

41.50. A sum of Rs. 39.76 crores has been spent for the educational programmes, as against an outlay of Rs. 29.62 crores provided for the Sixth Plan Period.

(ii) Employment and Economic Advancement programmes :

41.51. In general purpose Engineering Workshop, training is imparted in trades like fitting, turning, welding, etc., and also for providing adequate technical skills to the denotified Community people to enable them to take up employment or self-employment. So far 621 candidates have been trained. Besides 239 candidates, including 20 women, were given training in computer programming, salesmanship and other allied job-oriented courses. Free supply of tools and implements were given to 14,050 barbers 22,930 dhobies and to 2250 Boyars at a cost of Rs. 103.17 lakhs to enable them to do their traditional jobs. Construction of 13 dhobikanas costing Rs. 4.88 lakhs were also sanctioned.

41.52. To improve the economic condition of Denotified Communities people, who own less than two acres of land, subsidy was given to 267 families for sinking of irrigation wells. The Government have started the Tamil Nadu Backward Classes Economic Development Corporation with a share capital assistance of Rs. 10 crores to improve the economic conditions of the community by providing margin money at low interest to pursue their activities in trading, commercial and industrial activities. The corporation has sanctioned loans to 23 Registered Co-operative Societies for undertaking development programmes with a share capital assistance of Rs. 55.47 lakhs which would benefit 717 families. For the above schemes, a sum of Rs. 1.14 crores only has been spent, against an outlay of Rs. 3.05 crores provided in the plan.

(iii) Health, Housing and other schemes:

41.53. Housing has emerged as one of the most important felt needs of the weaker sections. 873 houses were completed by THADCO in Madurai, Ramanathapuram, Tirunelveli, Thanjavur and Tiruchirappalli for the Denotified Community members as against the target of 967 houses. at a cost of Rs.31.29 lakhs. The remaining 94 houses are under construction. House sites have been provided for 11,172 families at a cost of Rs. 60.38 lakhs.

41.54. During the plan period, five Child welfare centres have been established at Aziznagar to cater to the health needs of the poorer sections. These centres have been merged with CMNMP centres of the Directorate of Social Welfare.

Approach to the Plan 1985-90:

41.55. The objectives of the Seventh Plan are to minimise the drop outs among the backward class pupils from schools, and to considerably enhance the quality of education and to increase their employment opportunity by improving their technical skills to wean them away from their unremunerative traditional occupations and to provide training to make them more competitive. Special attention will be given to improve the quality of service in the hostels. It is also proposed to strengthen and reorganise the administrative machinery in order to make it more effective during the seventh Plan Period.

41.56. The major programmes envisaged for the upliftment of backward classes and denotified communities in the seventh plan consist of increasing the hostel facilities providing for pre and post-matric scholarships, free books, dresses, and other incentives to reduce drop outs etc. For the Seventh Plan an outlay of Rs. 14.77 crores is proposed. The details of the outlay for the various programmes are given in the table :

Outlays for Backward Classes and Denotified Communities in the Seventh Plan.

Programmes. (1)	Seventh Plan Outlay. (2) (RUPEES IN LAKHS)
A. Welfare of Denotified Communities:	
1 Education	3,98.21
2. Employment and Economic Advancement.	1.55
3 Health, Housing and other Schemes	51.73
Total—A. ..	4,51.49
B. Welfare of other Backward Classes	
1 Education	8,01.72
2 Employment and Economic Advancement.	98.10
3 Health, Housing and other schemes	1,21.45
4 Direction and Administration ..	4.24
Total—B ..	10,25.51
TOTAL—A + B ..	14,77.00

Programmes for Seventh Plan :

(i) Education

41.57. At present, 4,18,500 students are provided with pre-matric and post matric scholarships and stipends. The scheme of provision of pre-matric and post-matric scholarships and stipends will be extended to cover 11,100 students belonging to Denotified Communities and 12,320 students belonging to Backward Classes. Supply of midday meals to the students in the age group 10+15 has been introduced from 1984-85. This scheme will be continued in the Seventh Plan to cover 1,85,000 pupils belonging to denotified communities under CMNMP scheme at the rate of

37,000 pupils every year. At present 277 schools and 523 hostels are maintained by the Backward Classes department. Two hostels are to be constructed in 1985-86 at a cost of Rs. 7.50 lakhs, 18 new school buildings and additional class rooms are to be constructed in a phased programme in the Seventh Plan. It has been proposed to open 175 new hostels in the plan period for the benefit of 43,750 pupils. Schools will be upgraded. Two sets of free dresses will be given to 2,99,000 students and equipments (books, slates) will be supplied to 35,000 students in all the schools belonging to denotified communities during the plan. Ten houses will be constructed for teachers working in the schools run by the Backward Classes Department.

41.58. Every year prizes to backward classes and denotified community students who secure first and second rank in VIII and X standard examination in Districts and State first rank in plus 2 and X standard examinations are given to induce a spirit of competition among students. The beneficiaries will be about 340 during the seventh plan. To improve the standard of education in denotified communities schools, it has been proposed to provide furniture, teaching aids, plan materials, library books etc., and to organise excursions. Additional staff in 277 schools will be provided. It is proposed to increase the rate of loan scholarship from Rs. 500 to Rs. 1,000 for hostellers and sanction Rs. 500 to day-scholars, to pursue higher studies. The number of beneficiaries will be 1,600. 474 hostels are located in rented buildings without basic amenities. As the inmates are subject to hardship, it is proposed to construct 32 hostel buildings in a phased programme. For the educational programmes of denotified and backward classes, a sum of Rs. 8.00 crores and Rs. 4.00 crores respectively has been provided in the plan.

(ii) Employment and Economic Advancement

Programmes :

41.59. Under the schemes for economic development, assistance will be given to 500 persons to sink wells for irrigation. It is proposed to enhance the rate of subsidy from Rs. 2,500 to Rs. 5,000 for this purpose. The trainees who successfully complete their training in the three general purpose engineering workshops which have been upgraded as ITI's are to be given tools, free of cost, to enable them to start their work independently

and the number of beneficiaries to be covered during the plan period will be 300. Training in tailoring and embroidery will be given for women folk for improving their economic condition.

41.60. Free supply of tools and implements to barbers, boyars and iron boxes to dhobies were given to about 5,800 persons during 1984-85. It is proposed to continue this scheme to cover 4,000 beneficiaries every year. Free tools to 1500 Boyars will also be supplied. Subsidy for mobile laundry to dhobies under Differential Interest Rate of Loan scheme is also proposed to be continued. It is also proposed to provide financial assistance to 448 persons for setting up saloons at Panchayat Union head quarters.

(iii) Health, Housing and other Schemes :

41.61. Many poor families among the backward classes/denotified communities do not own a house site or hut to live in. They have to be provided with house sites free of cost. It is necessary to acquire lands for being assigned to them. It is proposed to construct 274 houses and assign 1,500 house sites during the plan period. Sixty denotified community students are to be given training in fitter, welder, turner, etc., courses in the three General purpose engineering workshops on ITI pattern each year. This scheme will be continued and about 300 students will be covered during the Seventh Plan. It is proposed to increase the stipend from Rs. 45 to 75 to trainees. One hostel for job-oriented training has been started in 1984-85 and one is to be opened for girls. It is proposed to continue this scheme and about 3,000 students will benefit during Seventh Plan period. The scheme of providing training to law graduates in the administration of justice will be continued in the seventh plan to cover 180 trainees. Business loans to Narikoravars to enable them to carry on their trade on beads, needles, etc., will be provided. For health and housing and other programmes, a sum of Rs. 0.52 crore for denotified communities and Rs. 1.26 crores for backward classes are proposed in the plan.

41.62. The year wise break-up of the outlays is given in Annexure II.

Outlay :

41.63. The total outlay for 1985-90 for the Sector Welfare of Scheduled Caste / Scheduled Tribes / Other Backward Classes would be Rs. 1,05.00 crores comprising of Rs. 90.23 crores for Adi-Dravidar and Tribal Welfare department and Rs. 14.77 crores for Backward Classes Department.

ANNEKURE—I

ADI-DRAVIDAR AND TRIBAL WELFARE DEPARTMENT—YEAR WISE OUTLAYS.
PLAN SCHEMES (STATE PLAN).

Group Head. (1)	Seventh Five-Year Plan.					Total 1985—90. (7)
	1985-86. (2)	1986-87. (3)	1987-88. (4)	1988-89. (5)	1989-90. (6)	
STATE PLAN.						
WELFARE OF SCHEDULED CASTES, SCHEDULED TRIBES AND OTHER BACKWARD CLASSES.						
<i>State Plan Schemes.</i>						
. Welfare of Scheduled Castes (including State's Share of Centrally Sponsored Scheme)—						
(i) Education	5,37.58	5,88.59	12,62.26	12,33.59	12,64.30	48,87.32
(ii) Employment and Economic Advancement ..	61.30	61.70	89.53	74.81	76.36	3,63.70
(iii) Health Housing and Other Schemes	198.01	2,01.10	6,88.92	6,95.18	6,90.85	24,74.06
Total—I. Welfare of Scheduled Castes ..	7,96.89	8,52.39	20,40.71	20,03.58	20,31.51	77,25.08
II. Welfare of Scheduled Castes Converts to Christianity—						
(i) Education	4.63	4.71	4.75	4.75	4.75	23.59
(ii) Employment and Economic Advancement ..	4.55	4.55	5.21	5.21	5.21	24.73
(iii) Health Housing and Other Schemes	1.57	1.61	1.88	1.88	1.88	8.82
Total—II. Welfare of Scheduled Castes Converts to Christianity.	10.75	10.87	11.84	11.84	11.84	57.14
III. Welfare of Scheduled Tribes including State's share of Centrally Sponsored Schemes) —						
(i) Education	13.57	16.24	38.41	34.19	47.29	1,49.70
(ii) Employment and Economic Advancement .	6.14	6.23	9.27	9.60	9.89	41.13
(iii) Health, Housing and Other Schemes . .	7.38	7.38	14.57	16.85	19.82	65.80
(iv) Tribal Area Sub-Plan	1,69.56	2,15.59	2,00.54	1,60.20	1,64.13	9,10.02
(v) Assistance for Agriculturists to come in to the Co-operative fold.	12.50	17.50	15.00	15.00	15.00	*75.00
Total—III. Welfare of Scheduled Tribes . . .	2,09.75	2,62.94	2,77.79	2,35.64	2,56.13	12,41.65
(IV) Other Expenditure—						
Welfare of Scheduled Castes and Tribes (including State's share of Centrally Sponsored Schemes)	14.90	14.90	14.90	14.90	14.90	74.50
(Total—I, II and IV.) GRAND TOTAL . . .	10,31.69	11,41.10	23,45.24	22,65.96	23,14.38	90,98.37 OF 90,98.00 lakhs

* Includes Rs. 75.00 lakhs for assistance to Agriculturists to come into Co-operative fold transferred from
" CO-OPERATION " head of department.

ANNEXURE II.

BACKWARD CLASSES DEPARTMENT—YEAR-WISE OUTLAYS.

<i>Group Head.</i>	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	Total 1985-90.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(RUPEES IN LAKHS)						
A. Welfare of Denotified Communities—						
(i) Education	39.89	76.95	88.64	94.95	97.78	3,98.21
(ii) Employment and Economic Advancement	0.31	0.31	0.31	0.31	0.31	1.55
(iii) Health, Housing and other Schemes	4.26	11.30	11.65	12.10	12.42	51.73
Total—A.	44.46	88.56	1,00.60	1,07.36	1,10.54	4,51.49
B. Welfare of Backward Classes—						
(i) Education	86.38	1,09.80	1,93.23	1,98.06	2,14.25	8,01.72
(ii) Employment and Economic Advancement	15.00	17.04	22.02	22.02	22.02	98.10
(iii) Health, Housing and Other Scheme	18.16	19.79	26.38	28.56	28.56	1,21.45
iv) Direction and Administration		1.24	1.00	1.00	1.00	4.24
Total—B	1,19.54	1,47.87	2,42.63	2,49.64	2,65.83	10,25.51

ABSTRACT.

	(RUPEES IN LAKHS)
A. Denotified Communities	4,51.49
B. Backward Classes	10,25.51
(A+B) Grand Total]	14,77.00

CHAPTER 42.

SOCIAL WELFARE.

Performance of the Sixth Plan (1980—1985):

42.0 The major thrust of the various programmes implemented by the Government of Tamil Nadu in the Sixth Five-Year Plan was to secure equal opportunities for women in the development of economic progress, render special services to the weaker sections of society, promote nutrition and health care facilities to family and child welfare and provide assistance to the poor, destitute and widowed women. Expansion and continuance of special programmes like, providing employment to rural women by starting Industrial Co-operatives, training and enrolling them as members of the Industrial co-operatives in Match-Box, Chalk, Stationery, Palm Based Industries, etc., was contemplated during the Sixth Plan. Highest priority was given to Handicapped persons for uplifting their economic rehabilitation and social conditions in the society. Schemes like management of Modern-Training cum-production work shop, management of schools for the Deaf and Blind, management of Rehabilitation Home with sheltered workshop for Blind women, imparting Training to handicapped women in Engineering, non-engineering trades, free supply of aids and appliances like hearing aids, tricycles calipers etc., to improve the mobility of the handicapped and establishment of Regional Rehabilitation centres, was effectively implemented during the plan under review. Apart from this, emphasis was laid on stepping up "mother and child health care" programmes and other support services by providing supply of nutritious food to children, expectant and lactating mother, "health" and "Nutrition" education to women particularly in rural areas. Special attention was given to tribal people by providing informal pre-school education, supply of free text books, mobile health care services, etc., during the Sixth Plan.

II. Approach to Seventh Plan (1985—1990) :

42.1 The emphasis in the formulation of Social Welfare programmes in the Seventh Plan will be on the promotion of preventive and developmental services as these have proved to be effective and economical in the long run. Institutional services may have to be developed only as a last resort as they are costly and lack the family like atmosphere. While developing these services, machinery would be geared to enforce the minimum standards of services in the institutions.

42.2 A sharper focus and selectivity in the programme preparation has been adopted in the seventh plan in order to put the best use of available limited resources.

42.3 Child development is the key to human resources development. As a large number of children belong to economically and socially backward population, and are in need of State support, child and family welfare will be given highest priority in the plan. Schemes like public assistance to the Destitute and poor widows, improve the conditions of the weaker and handicapped sections of the society, provide nutrition and health care services to women and children, include informal pre-school education in backward, tribal and hill areas, supply of nutritious food to children, expectant and lactating mothers, expansion of special programmes for providing employment to rural women, supply of sewing machines to destitute widows, issue of savings certificates for widow re-marriages and supply of note books at free of cost to widow's children are contemplated in the Seventh Plan. The ICDS Scheme will be consolidated and expanded on a moderate scale. Distribution of Vitamin 'A', expanded programme of immunisation, and measures for the control of diarrhoeal and respiratory diseases would be introduced as they account for considerable mortality and morbidity rates.

42.4 Besides, steps would be initiated for reducing the incidence of blindness and orthopaedic handicaps through education and proper intervention. The institutional programmes for destitute women and children will be linked with vocational training.

42.5 The Sixth Plan included programmes of education, employment and health for women. Emphasis would therefore be placed on other programmes such as vocational training, personnel policies for women, legislative aspects, mass education to bring attitudinal changes, appropriate technology to reduce drudgery and involvement of women in developmental programmes, etc.

42.6 For reducing the problem of juvenile delinquency and vagrancy, in addition to the effective enforcement of children Acts, the State Government would initiate special steps to organise preventive services such as juvenile guidance units, contact clubs, play centres, parental

counselling. Crime and atrocities against women are showing an upward trend. To tackle this problem, the enforcement and institutional machinery would be strengthened throughout the State.

42.7. Voluntary organisations will be encouraged and fully utilised in taking the programmes to the masses. The grants-in-aid rules would be simplified so as to enable deserving voluntary agencies to obtain help from the Central Social Welfare Board and the Ministry. The administrative machinery both at the Centre and state levels will need to be geared up for efficient planning and execution of the above welfare programmes during Seventh Five-Year Plan period. Better Co-ordination between the Governmental and non-Governmental agencies concerned, viz., the Ministry of Health and Family Welfare, the Ministry of Social Welfare, the Ministry of Education, the Central Social Welfare Board, the State Governments, the Department of Science and Technology—CART (Council for Advancement of Rural Technology) etc., would be achieved by the execution of suitable machinery at the Centre and State levels during the plan period.

II. Present Status of the Sector.

42.8. The Directorate of Social Welfare deals with the economic and social status of women, children, handicapped and old people.

42.9. Women's Welfare consists mainly in rehabilitating women of the weaker sections—widows and destitutes. The emphasis has been on economic rehabilitation by enrolling these women in various co-operative societies, giving them vocational training and helping them to get loans from Banks. The Directorate also runs Service Homes, Teachers Training Institute, Hostels for Working Women, Mahalir Mandrams and Guidance Bureaus. In its attempt to upgrade the social and economic status of women, the Directorate also supplies sewing machines, provides marriage assistance to daughters of poor widows and gives cash incentives in cases of widows' remarriage, helps socially handicapped women and destitute widows. The Tamil Nadu Corporation for Development of Women was started in 1983 to provide commercially viable schemes for women.

42.10. The Child Welfare programme gained its strength after the introduction of Chief Minister's Nutritious Meal Programme. The Directorate of Social Welfare is in charge of the Chief Minister's Nutritious Meal Programme catering to the children between the ages of 2+ and 4+.

42.11. ICDS has been established in 39 projects. In these projects training is given to Anganwadi workers in pre-school education, Nutrition and health aspects. Children between the ages 6 to 24 months are given CARE feeding. 'At risk' children are identified and supplementary nutrition is given to children in this age group as they are a nutritionally vulnerable group. Mass immunisation is being undertaken against polio, DPT, measles etc. Pregnant and lactating mothers are also given nutrition, so that children are born healthy. T. T. vaccination is also being done for pregnant mothers to prevent neo-natal tetanus. Of the 28,105 centres in which CMNMP scheme is being implemented, 3,552 centres are covered under I.C.D.S. 10,000 centres have been converted into centres where pre-school education is being given.

42.12. The Directorate of Social Welfare undertakes training and the nutritional delivery component of the Tamil Nadu Integrated Nutrition Project. In this scheme feeding is given to children who are malnourished alone.

42.13. The Directorate runs 20 Orphanages of which 16 were opened during the year 1984-85. In order to rehabilitate the various categories of handicapped, the Directorate is running 22 Special schools. There is also a Government Regional Braille Press for printing of Braille Books. The Government also provides various scholarships for the handicapped. A Government Home for the *Mentally Retarded* was opened during 1984-85. Vocational Training is being given to the handicapped at the Government Industrial Training Centre and Industrial Training Institutes. The Directorate also attempts to provide employment to the handicapped, by getting them loans from nationalised banks and by using them to man telephone booths etc. An unemployment allowance to unemployed blind is also given. Various aids such as tricycles, wheel chairs and hearing aids are also being distributed at free of cost to the physically handicapped. A scheme for distributing 15,000 hearing aids at free of cost was implemented during 1984-85 and will be continued during the next 3 years covering the entire eligible deaf population of Tamil Nadu.

42.14. Old age pension is given to people above 65 years of age, in addition to pension for physically handicapped destitutes, destitute widows and destitute agricultural labourers.

42.15. The Directorate runs various reception and correctional homes for children and women where social and economic rehabilitation is being done.

IV. Broad Thrust during Seventh Plan:

42.16. During Seventh Plan Period, it is proposed to convert about 14,000 Chief Minister's Nutritious Meal Programme Centres into centres where pre-primary education will be given. It is expected that Tamil Nadu will get around 110 new ICDS projects during the Plan period. Thus the Directorate of Social Welfare will be looking after the nutritional, educational and health aspects of 7.94 lakhs children. In the years to come, it is hoped that these programmes will help to bring about a healthier and more educated population. In all the special schools for the handicapped, a new standard will be introduced each year. Thus all Special schools will slowly be upgraded into Higher Secondary Schools. Emphasis will also be placed upon helping of handicaps wherever possible. All Orthopaedically handicapped children under the ICDS Scheme are to be provided with Calipers. It is also expected that mass immunisation would be undertaken on a much larger scale than ever before. Skin Camps are also to be conducted to identify leprosy and such debilitating diseases.

V. Shift in emphasis during Seventh Plan:

42.17. During Seventh Plan period, greater emphasis will be placed on the nutritional, health and educational aspects of children as they are the future citizens of the State. Emphasis will also be placed upon economic rehabilitation of women through better self employment.

VI. Policies and Programmes:

42.18. The deep concern of this Government is for the Welfare of the weaker sections of society, and hence, the proposed Social Welfare Programmes are oriented towards welfare of Physically Handicapped, Women, Children, and the aged. Every scheme of this department is specially oriented towards the special problems of these sections of the population. The details of the schemes are as follows :-

1. SCHEMES FOR REHABILITATION OF HANDICAPPED.

(i) Education and Welfare of Handicapped :

42.19. Under this scheme, aids and appliances like hearing aids, tricycles, wheel chairs, calipers were supplied to the handicapped depending upon their disability. Tricycles are distributed free of cost to poor orthopaedically handicapped. Six thousand nine hundred and fifty-one Tricycles have been supplied from 1974-75

to 1983-84. During 1984-85, 1,696 Tricycles have been distributed. Supply of Wheel chairs have been made free of cost to paraplegic patients since 1981-82. So far, 400 persons have been benefited up to 1983-84.

42.20. Hearing aids are distributed free of cost to the poor deaf children whose parents/guardians' income does not exceed Rs. 500 per month. So far 3,297 hearing aids have been supplied.

42.21. Handicapped persons are also assisted in setting up of Bunkstalls in various places in the State with loan assistance from the Nationalised Banks and with Government subsidy. So far 914 persons have been benefited from 1979-80 to 1983-84. For the year 1984-85, Rs. 42.82 lakhs have been provided. It is proposed to continue the scheme during Seventh Plan. A sum of Rs. 24.63 lakhs was provided in the budget estimate, 1985-86 for this scheme.

(ii) Rehabilitation for Blind :

42.27. There are 22 Special Schools run by the Government for the Blind, Deaf, Orthopaedically handicapped, etc. The rate of food charges sanctioned by the Government for each child in the above schools is Rs. 60 per month. The rate has been increased from Rs. 60 to 90 per month due to increase in cost of food commodities.

(iii) Unemployment allowances to unemployed Blinds registered in Employment Exchange :

42.23. Unemployment allowance of Rs. 50 per month to the unemployed Blinds registered in the Employment Exchange are being given under this scheme. This scheme has been proposed to be continued during Seventh Plan also.

(iv) Introduction of Higher Standard in Government Schools :

42.24. Handicapped, viz., Blind, Deaf, Orthopaedically handicapped and mentally retarded need special care, attention and facility for education. Besides, provision of education to them is different from that of normal children. Therefore special techniques have to be applied in teaching them. Keeping in view the special needs, the Government have been running special schools for the handicapped. There are at present 51 special schools, out of which 22 are Government schools and the remaining are Government aided.

42.25. Steps were taken to provide more chances for higher studies to the handicapped children of special schools. As a first step, Sixth Standard will be introduced in two Schools for the Deaf and two Schools for Blind. Eighth Standard will be introduced in one school for deaf and one school for blind with Standard VII. It is proposed to continue the scheme in other schools also during Seventh Plan.

(v) *Starting of X Standard in Government School for Deaf at Thanjavur :*

42.26. For the benefit of deaf children to continue their higher studies at Government school at Thanjavur, X Standard with a total strength of 25 students, has been started during 1984-85. It is proposed to continue the scheme during Seventh Plan.

(vi) *Establishment of Two Special section for the deaf in the pattern of I.T.I. in the Trade of Fitter in I.T.I., Guindy :*

42.27. There is no special training course for the deaf and they could not be given training also with normal people. Without any training, employment opportunity for the deaf is remote. With a view to catering to the training needs of a large number of deaf persons and to enable them to acquire sufficient skills, thereby improving their employment potential, Government thought it fit to establish separate training centres for the deaf in the pattern of I. T. I. in selected trades suitable for the deaf. This scheme has been started in I. T. I. Guindy and it is proposed to continue in Seventh Five-Year Plan also.

(vii) *Medical Rehabilitation to children in Government School for Orthopaedically handicapped:*

42.28. The Orthopaedically handicapped children require constant medical attention, regular physiotheraphys exercise, appliances such as Calipers/Artificial limb centres, etc. In order to provide these facilities, Government have sanctioned to start a separate sub-centre in the school premises of severely orthopaedically handicapped at Madurai.

2. FAMILY AND CHILD WELFARE.

(a) *Starting of Integrated Family and Child Welfare Centres :*

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42.29. There are 4,639 Child Welfare Centres spread all over the State. Of this 450 centres are in Adi-Dravida areas, 159 tribal children, 25 for Children of primitive Tribes, 10 for Pannai-Children, five for Sri Lanka Repatriates children and five for denotified tribes. During the current year 3,000 Child Welfare Centres were opened. In these centres, Nutritious food is supplied to the children besides imparting education to them. Feeding Programme with Balahar by getting commodity assistance from "CARE" is implemented and the total number of beneficiaries under the programme is about 3 lakhs. It is proposed to continue the scheme in Seventh Five-Year Plan.

(b) *Social support scheme under World Bank Project :*

42.30. Under Madras Urban Development Project, implemented with World Bank aid, one of the components is Maternal and Child Health Services Scheme. This Scheme is implemented in Villivakkam, Arumbakkam and Kodanaiyur with 150 centres. This scheme will be continued in Seventh Plan.

(c) *Grants to Social Welfare Board for Assisting Social Welfare Institutions for work in Rural areas :*

42.31. The Tamil Nadu Social Welfare Board constituted in 1954 has been playing an important role in the growth and Development of Voluntary Agencies in the State. The State Social Welfare Board distributes grants to Voluntary Institutions engaged in the Welfare of Women and Children in the age-group of 0 to 6 years and physically handicapped. This scheme will be continued in Seventh Five-Year Plan.

(d) *Supplementary Nutrition in I.C.D.S.:*

42.32. The Integrated Child Development Services Scheme Projects under Centrally-Sponsored schemes are functioning in the following three places, -viz. Madras City, Thally Panchayat Union in Dharmapuri District and Nilakottai Panchayat Union in Madurai District. In each Panchayat, 100 pre-schools have been started. 30,000 beneficiaries including pre-schools children, pregnant and lactating mothers are benefited under this scheme. Indegenous feeding is done in three centres. This scheme will be continued in Seventh Five-Year Plan.

(e) Opening of Pre-Primary Schools :

42.33. Government had sanctioned the conversion of existing pre-schools into Nursery schools during 1982-83. According to the scheme, 50 Key Resource persons at the rate of two from 25 institutions have been trained for a period of 21 days at Sri Avinashilingam Home Science College for Women, Coimbatore. The Printing of Hand Books and Syllabus is not yet taken up since approved syllabus has not yet been received from Director of School Education and SCERT., Madras. This scheme will be continued in Seventh Five-Year Plan.

(f) Social input in Area Development programme in Sivakasi :

42.34. Under this scheme, it is proposed to supply play equipments to 173 Child Welfare Centres with UNICEF Assistance at Sattur, Sivakasi and Vembakottai. Further 35 Community Nutrition Centres have also been opened. It is also proposed to continue the scheme in Seventh plan.

(g) Institute for Mentally retarded :

42.35. One of the several causes for mental retardation is malnutrition among the children. As the amount of Rs. 45 towards the cost of food commodities is quite insufficient, the rate has been increased to Rs. 120 per month, per children of the Institute of Mentally Retarded. This scheme will be continued in Seventh plan also.

(3). WOMEN'S WELFARE.**(a) Service Homes in Districts:**

42.36. One more Service Home at Tirupathur, Ramanathapuram District has since been started to benefit socially and economically backward widows and deserted wives between age 18-40 years and train them in VIII Std.

42.37 Apart from giving education to adult inmates, training in Tailoring, Needle work, Dress making and Embroidery is also being given to the destitute women and widows for

one year according to the approved syllabus and enable them to appear for Government Technical Examination to get employment opportunities. During the training period the inmates are paid Rs. 50 p.m. The inmates in the Tailoring Section have to incur Rs. 250 during the training period for purchase of materials, album, etc. As the amount could not be met by the inmates, a lumpsum amount of Rs. 250 per head has been sanctioned from 1985-86.

42.38. For having uniformity in the feeding charges of the children of Service Home, Secondary Grade Teachers Training Centre, etc., the stipend has been enhanced from Rs. 50 to Rs. 75 to the adults and Rs. 36 to Rs. 60 to the children in Service Home from the year 1985-86.

(b) Work Centres and Production Units :

42.39. The major thrust of the various programmes is to involve women in economic development by providing opportunity for work and wages through suitable programmes by organising production units and co-operatives in match Industry, note—book making industry, chalk making industry, coir making industry, etc., and also providing training in selected trades in order to improve their job opportunities in the co-operative sector. A number of units have been set up and these units are given share capital loan subsidy for purchase of machinery tools and equipments, working capital and managerial assistance through co-operatives. Apart from this, four Tailoring centres at Thanjavur, Dharmapuri and Feriyar District are functioning to give training to rural women. So far, 5,345 women have been trained in various industries and 3,810 have been given employment. It is proposed to continue the scheme in Seventh Five-Year plan.

(c) Supply of Sewing Machines :

42.40. Under this scheme, Sewing Machines are supplied free of cost to the destitute widows, socially handicapped women and physically handicapped women, in the age group of 20-60 years to enable them to eke out their livelihood. Persons to be benefited under this scheme should know tailoring. So far, 9,300 machines have been distributed up to 1983-84. The Scheme was continued during 1984-85 and 1985-86. In the Seventh Five-Year plan also the scheme will be continued.

(d) Issue of Saving Certificates to widow re-marriage:

42.41. For the rehabilitation of widows, incentives on remarriage in the form of National Savings Certificate to both husband and wife to the value of Rs. 5,000 to be held in deposit for seven years is given. It is restricted to destitute widows in the age group of 18-30. So far, 494 couples have been benefited upto 1984-85. It is proposed to continue the scheme in Seventh Five-Year plan.

(e) Assistance to poor women for vocational training:

42.42. Under this scheme, poor women were given vocational training in Typewriting, Shorthand, Book-Keeping and Accountancy.

(i) *Typewriting* : A stipend of Rs. 15 per month is paid for 10 months per head to 1,000 poor women in the age group of 16-30 whose family income is less than Rs. 3,000 per annum, to acquire vocational training in typewriting. 5,938 women have so far been benefited.

(ii) *Book-keeping and Accountancy*.—A sum of Rs. 165 is paid as stipend to each beneficiary to learn book-keeping and accountancy for a period of 6 months. 2,014 women are benefited.

(iii) *Shorthand*.—A sum of Rs. 220 is paid as stipend to each beneficiary to learn shorthand for a period of one year. 967 women have so far been benefited.

42.43. It is proposed to continue the scheme in Seventh Plan.

(f) Assistance to the School Children of Poor widows :

42.44. Books and note books supplied free of cost to children of widows whose annual family income is less than Rs. 3,000. This scheme is now extended to 1,000 more children of widows studying in Higher Secondary Schools at a cost of Rs. 1.00 lakh at the rate of Rs. 100 per child per annum. The scheme will be continued in the Seventh Five Year Plan.

(g) Economic Activities through Mahalir Mandram :

42.45. There are 11,200 Mahalir Mandrams at the rate of 30 for each Panchayat Union engaged in organising women of rural areas to come together cutting across the various socio-economic barriers. Each block is spending Rs. 4,000 per annum under this programme. The activities of Mahalir Mandrams are encouraged by giving

cash awards to best Mahalir Mandrams classifying them into three categories, viz., A Grade Rs. 1,000, B grade Rs. 600, C grade Rs. 400. Orientation training is given to office-bearers of the Mahalir Mandram in the economic activities of the Mahalir Mandrams (Promotion and strengthening of Mahalir Mandrams).

(h) Marriage Allowances to Deserted Destitutes and Distressed widows :

42.46 It is generally found that the deserted destitutes and distressed widows find it extremely difficult to arrange for the marriage of their daughters. It has, therefore, been proposed to give marriage allowance of Rs. 1,000 to 1,000 beneficiaries in the age-group of 18 to 30 years towards the purchase of sarees, blouse and thirumangalyam for the bride and Dhoti and upper cloth for bridegroom. The family income of each widow should be less than Rs. 3,000 per annum. The scheme will be continued in Seventh Plan. Rs. 50.75 lakhs has been provided in the Budget for this scheme.

(4) WELFARE OF POOR AND DESTITUTE.

(i) Orphanages :

42.47. Four Orphanages each at Madras City, Salem, Kanyakumari and Madurai have started functioning from the year 1979-80. The Children of the age group 5-18 years are admitted in these orphanages. They are provided free boarding, lodging, medical attention, education upto V standard in Schools run by Orphanage itself. Children requiring education above Vth Standard are admitted in the Corporation or Government Schools. Feeding charges at Rs. 36 is paid to each child per mensem. Besides, uniform allowance of Rs. 35, bedding charges of Rs. 20 and book allowance of Rs. 25 are paid to each child per annum. During 1984-85, 16 more orphanage were started and functioning. This scheme will be continued in Seventh Plan also.

(ii) Assistance to destitute Home for care of destitute children :

42.48 The Department of Approved Schools and Vigilance Service is entrusted with the care and custody training and rehabilitation of destitute and delinquent boys, girls, women and children placed under its charge as per the provisions of Tamil Nadu Children Act, 1920 and Suppression of Immoral Traffic in women and Girls Act, 1956. Besides imparting general education, the pupils are given training in different trades

so as to make them fit to find employment when they are discharged from the institutions. To have the above object fulfilled, it has been proposed to mechanise the industrial units in the institutions under the Plan Scheme. The inmates will be trained in modern machines and tools which will make them fit in the present industrial world. Schemes involving construction of buildings for dormitories, class rooms, workshops etc., for the welfare of the Government Wards, also are included under Seventh Plan.

(iii) Correctional Homes :

42.49 Under Correctional Homes, training of juvenile delinquents discharged from approved schools is given. This scheme is intended to train juvenile delinquent discharged from correctional institutions in various trades in the Industrial Training Institutions to enable them to get employment easily. Schemes like, strengthening of vocational training in Approved Schools, vigilance Institutions, starting of Power Laundry in Government Vigilance Home and Sri Sadana in Madras, Government approved Schools, After Care Home and destitute Homes and assistance to Tamil Nadu Welfare Fund for rehabilitation of victims of moral exploitation, were included under the head Correctional Homes.

Tribal Sub-Plan:

42.50 Under this scheme, nutrition feeding to the children in the age group of 2+ to 4+ has been given in 169 Child Welfare Centres with strength of 100 children in each centre. This scheme has been functioning from 1976-77 onwards. It is proposed to continue the scheme in Seventh Plan.

Centrally Sponsored Schemes :

42.51 The Integrated Child Development Service Projects under Centrally sponsored scheme are functioning in three places viz., Madras City, Thally in Dharmapuri district and Nilakottai in Madurai district. In each Panchayat 7100 pre-schools have been started. 30,000 beneficiaries including pre-school children, pregnant/lactating mothers are benefitted under this scheme. Indegenous feeding is done in these three centres. This Scheme will be continued during Seventh Five Year Plan also. Functional Literacy Programme is one of the components of Integrated Child Development Services Projects at Madras, Thally Block in Dharmapuri and Nilakkottai Block in Madurai district. This scheme will also be continued in Seventh Plan.

Centrally Sponsored Schemes shared equally between State and Centre :

42.52 This is a Government of India Scheme started for the care and maintenance of destitute children in the age group of 5-18 years by registered private Voluntary Institutions. In order to avoid high institutionalisation charges, the scheme is based on the cottage system of each unit consisting of 25 children. A liberal grant of 90 per cent of expenditure at Rs. 76.50 per child is given to the institutions, towards maintenance and non-recurring expenditure like bedding, furniture etc. 90 per cent of expenditure is shared equally between state and central Government (50:50). At present, 9,235 children are benefitted under this scheme in 131 institutions. It is proposed to continue the scheme in Seventh Five Year Plan.

Outlay :

42.53. An outlay of Rs. 30.00 crores is provided for the programmes for the Social Welfare Sector for Seventh Plan period, 1985-90. The break-up for each head of activity is indicated below :—

OUTLAY PROPOSED FOR SEVENTH FIVE YEAR PLAN, 1985-1990—SOCIAL WELFARE.

<i>Serial number and Programmes.</i>	<i>Seventh Plan outlay—1985-90.</i> (RS. IN LAKHS)
I. DIRECTION AND ADMINISTRATION	54.53
II. EDUCATION AND WELFARE OF HANDICAPPED	1,052.44
III. WOMEN'S WELFARE	693.66
IV FAMILY AND CHILD WELFARE	341.07
V. WELFARE OF POOR AND DESTITUTE	467.50
VI. TRIBAL AREA SUB-PLAN ..	5.96
VII. CAPITAL OUTLAY	69.84
VIII. CORRECTIONAL ADMINISTRATION	315.00
TOTAL— SOCIAL WELFARE	3,000.00 or 30.00 crores.

**SEVENTH FIVE-YEAR PLAN—FINANCIAL AND PHYSICAL TARGETS—
SOCIAL WELFARE (SCHEME-WISE)**

<i>Serial number and name of the programme/Scheme.</i>	<i>Seventh Five-Year Plan Outlay. 1985-90</i>	<i>Physical Target for Seventh Five-Year Plan 1985-90</i>
(1)	(2)	(3)
	(RS. IN LAKHS)	(IN UNITS)
I. Direction and Administration	53.53	To strengthen the District level offices and Directorate
II. Education and Welfare of Handicapped —		
1. Scheme for rehabilitation of handicapped	43.15	Tricycle—500 Hearingaid—500 Wheelchair—500 Bunk-stall—500
2. Introduction of Higher Standards in Special Schools.. ..	1,73.27	20 Schools.
3. Starting of X and XI standards in Government School for Deaf in Thanjavur	11.01	1 School.
4. Publicity measures for the scheme of Welfare of handicapped	10.00	....
5. Awards to best Institutions, Banks, Voluntary Institutions ..	0.30	6 Institutions.
6. Medical Rehabilitation Campaign	23.00	1,36,925 children.
7. Aids and Appliances	96.00	4,000 persons.
8. Government subsidy to handicapped towards self employment	40.00	4,000 persons.
9. Grants to Society for handicapped for Welfare Schemes ..	40.00	....
10. Organisation of District Level Sports Meet for the Handicapped	4.00	....
11. Opening of Regional rehabilitation Centre	56.15	13 Centres.
12. Starting of Unit for Repairing of Hearing Aids	12.58	....
13. Concession to Blind marrying normal persons vice versa ..	4.80	800 persons
14. Provision of Medical Rehabilitation of Children Studying in Orthopaedically handicapped Schools	12.60	400 children.
15. Strengthening the Directorate of Social Welfare for implementing Welfare Schemes	13.00	7 posts.
16. Disability detection camp	0.05	....
17. Establishment of Government Schools for Blind Girls at Trichy	10.29	250 beneficiaries.
18. Opening of Special School for Orthopaedically handicapped	14.35	400 children
19. Starting of new school for Deaf	44.34	600 ..
20. Starting of one school for mentally retarded	14.35	200 ..
21. Increase in the rate of food charges to the children of special schools	31.50	10,500 ..

<i>Serial number and name of the programme/Schemes.</i>	<i>Seventh Five-Year Plan Outlay 1985-90.</i>	<i>Physical Target for Seventh Five-Year Plan. 1985-90</i>
(1)	(2) (RS. IN LAKHS)	(3) (IN UNITS)
22. Increase in the rate of food charges to the children of institute of mentally retarded	2.05	125 children
23. Medical Rehabilitation to children in Government school for orthopaedically handicapped	5.19	125 ..
24. Establishment of one special section for deaf in I. T. I. ..	2.26	100 persons.
25. Publication of works (writings) for Deaf in I. T. I.	10.00	..
26. Extension of Special apprenticeship programme to the untrained handicapped	216.00	12,000 beneficiaries.
27. Establishment of Government Industrial Training Centre for the Blind	2.80	100
28. Establishment of Government rehabilitation home with sheltered workshop for the blind	8.80	160 ..
29. Establishment of one section for deaf boys and girls in the I. T. I. Cuddalore and Madurai	4.49	128 ..
30. Sanction of additional staff teaching and non-teaching ..	1,12.10	..
31. Industrial Training Centre for Orthopaedically handicapped.	14.06	500 beneficiaries.
32. Sanction of additional staff managing Special Schools ..	4.95	..
33. Starting of Special School for multiple handicapped	10.00	100 ..
34. Allowance to unemployed blind registered in Employment Exchange	5.00	..
<i>III. Women's Welfare—</i>		
1. Service Home in District	30.75	5,375 ..
2. Work Centre and Production Units	49.55	4,000 persons
3. Supply of Sewing machines to Destitute widows	38.00	5,000 beneficiaries.
4. Issue of Saving Certificate for widows' remarriage	25.00	500 ..
5. Assistance to Poor Women for vocational training	20.10	6,000 ..
6. Assistance to school children of poor widows	10.85	5,000 children.
7. Economic activities through Mahalir Mandrams	3.75	500 Mandrams.
8. Marriage advance to daughter's of poor widows	50.75	
9. Assistance for the marriage of orphan girls	50.00	....
10. Payment of subsidy to Tamil Nadu Corporation for development of women	0.05	....
11. Grants to Voluntary Organisation run by Service Homes at Erode and Coimbatore	6.10	To continue the Institution.
12. Starting of the Secondary Grade Course at service homes, Cuddalore	2.63	....
13. Training Programme to women for self employment opportunities in various trade	70.22	....

<i>Serial number and name of the programme/Schemes.</i>	<i>Seventh Five-Year Plan Outlay 1985-90.</i>	<i>Physical Target for Seventh Five-Year Plan. 1985-90</i>
(1)	(2)	(3)
	(RS. IN LAKHS)	(IN UNITS)
14. Revamping of Mahalir Mandrams	1,00.04	..
15. Starting of Women Councillng Bureau.. .. .	27.51	....
16. Working Women Hostel for low income group	15.67	....
17. Strengthening of staff at field level	1,66.36	....
18. Strengthening of staff at Government orphanage	8.98	....
19. Starting of vocational training at Government orphanages	1.80	....
20 Starting of Teachers' Training Institutes	14.68	320 beneficiaries.
21. Strengthening of staff at Teachers Training Course, Pallava- ram,	0.39	....
22. Strengthening of Service Home, Tambaram	0.48	....
Total II— Women's Welfare ..	6,93.66	
IV. Family and Child Welfare—		
1. Grants to Voluntary Organisations through Social Welfare Department	25.00	750 Institutions.
2. Starting of institute for mentally retarded	2.05	..
3. Social-input in Area development programme in Sivakasi.. .. .	1,77.65	....
4. Assistance to Social Welfare Board through State Government	136.37	....
.. .. . Total IV—Family and Child Welfare ..	341.07	
V. Welfare of Poor and Destitute.—		
1. Orphanage for the age group of 5-18 years	260.00	10,000 Beneficiaries.
2. Programme for care of Destitute Children (State Share of 50 per cent)	207.50	
Total V—Welfare of poor and Destitute ..	467.50	
VI. Tribal Sub-Plan—		
Opening of Tailoring Centre	5.96	4 Tailoring Centres.
Total VI—Tribal Sub-Plan ..	5.96	
VII. Capital Outlay—		
1. Construction of office building for the Directorate	50.00	.. ..
2. Construction of Compound wall and Chain link fencing for Service Home Cuddalore	0.84	.. ..
3. Construction of Balwadis	19.00	.. ..
Total VII—Capital Outlay ..	69.84	

Serial number.	Name of the Scheme.	Seventh Five-Year Plan Outlay. 1985-90 (3) (RS. IN LAKHS)
(1)	(2)	(3)
<i>VIII. Correctional Administration—</i>		
1	Training of Juvenile Delinquents discharged from Approved Schools in Industrial Training Institutions	1.00
2.	Assistance to the Tamil Nadu Welfare Fund for the rehabilitation of victims of moral exploitation	12.50
3.	Enhancement of monetary ceiling on dietary charge of inmates in Government Reception Homes, Vigilance Rescue Shelters in After Care Homes	10.62
4.	Take-over of private Reception Home under Tiruchirappalli Children Aid Society, Tiruchirappalli	8.67
5.	Take-over of Private Reception Home under North Arcot District Children Aid Society, Vellore	8.52
6.	Construction/Special repairs to Buildings in Government Senior and Junior Approved School for Boys, Panchampalli.. .. .	3.68
7.	Starting of a Co-operative rehabilitation centre with sheltered workshop for discharges of Correctional Inspections	20.10
8.	Construction of dormitory block in Government Junior Approved School for Boys, Ranipet (I Floor)	10.00
9.	Strengthening of Probation Wing in the Department of Approved Schools and Vigilance Service	9.92
10.	Enhancement of per capita (Grant) maintenance charges of Private Approved Schools at Rs. 75 per boy per month	13.20
11.	Construction of Class rooms, Workshops, Store-rooms, Dormitories, etc., in Government Senior and Junior approved Schools for Boys, Panchampalli ..	40.00
12.	Starting of a Regional Office for the Department in Northern Region	6.73
13.	Starting of a Junior Approved School for Boys, at Coimbatore]	38.22
14.	Construction of Dormitories, kitchen, Overhead Tank, etc., in Government Junior Approved Schools for Boys, Madras.	40.00
15.	Starting of a Printing Press in Government Senior Approved School, Tattaparai	13.45
16.	Starting of a Power Loom in Government Junior Approved School for Boys, Mallipudur	14.76
17.	Purchases of one Tractor with implements for Agricultural operations in Government Senior Approved School, Tattaparai	1.70
18.	Provision of mini buses to Government Approved Schools	10.83
19.	Starting of Government Junior Approved School for Boys at Madurai ..	29.58
20.	Starting of Juvenile Guide Units in the Districts	21.52
Total VIII—Seventh Five-Year Plan Outlay—Approved Schools and Vigilance Services		3,15.00
GRAND TOTAL—SEVENTH FIVE-YEAR PLAN OUTLAY, 1985-1990— (I to VIII)		30,00.00 or Rs. 30.00 crores

ABSTRACT

SOCIAL WELFARE—SEVENTH FIVE-YEAR PLAN, 1985-90.

S. No.	Name of the scheme.	1985-86	1986-87	1987-88	1988-89	1989-90	Seventh Five-Year Plan Outlay Total. (1985-90)
		Outlay.	Outlay.	Outlay.	Outlay.	Outlay.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
(RS. IN LAKHS)							
I	DIRECTION AND ADMINISTRATION	0.61	16.60	11.84	12.43	13.05	54.53
II	EDUCATION AND WELFARE OF HANDICAPPED	44.11	2,33.20	2,38.38	2,57.81	2,78.94	1,052.44
III	WOMEN'S WELFARE ..	57.60	1,50.46	1,57.66	1,61.67	1,66.27	6,93.66
IV	FAMILY AND CHILD WELFARE	40.94	79.72	73.47	73.47	73.47	3,41.07
V	WELFARE OF POOR AND DESTITUTE	88.61	90.96	93.41	96.06	98.46	4,67.50
VI	TRIBAL SUB-PLAN ..	1.08	1.13	1.19	1.25	1.31	5.96
VII	CAPITAL OUTLAY ..	0.84	34.75	24.75	4.75	4.75	69.84
VIII	CORRECTIONAL ADMINISTRATION ..	10.07	84.11	1,00.83	69.96	50.03	3,15.00
TOTAL—SEVENTH FIVE-YEAR PLAN OUTLAY— SOCIAL WELFARE .. }		2,43.86	6,90.93	7,01.53	6,77.40	6,86.28	30,00.00

CHAPTER 43.

NUTRITION.

Present Status :

43.0 The Education Department and the Social Welfare Department implement Nutrition Programmes for children and school boys and girls in the age group of 2 to 15 years under the Chief Minister's Nutritious Meal Programme Scheme to tackle the problem of mal-nutrition and to provide facilities for pre-school education and health coverage. The Social Welfare Department caters to the Nutrition of the children from 6 months to 2 years under, and from 2+ to 4+ under the I.C.D.S. and CMNMP Programmes respectively. The Education Department provides nutritious meals to children from 5 to 15 years of age. During the current year, 80,000 children of 6 months to 2 years of age, and 23.30 lakhs of children of the age group 2+ to 4+ are covered under the programme administered by the Social Welfare Department. At present there are 23,040 childwelfare centres (22,840 CMNMP; 200 ICDS Centres) in rural areas and 5,065 child welfare centres (3344 ICDS ; 145 MUDP ; 1,576 Non ICDS Centres) in urban areas wherein supplementary nutrition is being provided to children through ICDS, CMNMP and Social Support Scheme. In addition to these centres, 9,000 Community Nutrition Centres are functioning under TINP, with the assistance of World Bank in Madurai, Ramanathapuram, Pudukkottai, Tirunelveli, North Arcot and Chengalpattu Districts. Under the CMNMP, as many as 55 lakh of pupils in Standards 1 to 10 in schools are fed through 37,447 school feeding centres.

Goals of Nutrition Policy in Tamil Nadu for VII Plan :

43.1 Nutrition is fundamental to life, health, work and well-being. Inadequate nutrition results in malnutrition, which is responsible for much human misery and economic losses. Malnutrition is the cause for a substantial number of deaths in childhood. Inadequate diet and related illnesses interfere with the learning ability, capacity to work, behaviour and well being of large segments of the population. These consequences hinder national development. The nutritional profile of different population groups influence, and also reflect, levels and paces of national development. The synergistic action between malnutrition and population explosion leads to insufficient intake

of food energy (calories) and nutrients in the absence of adequate income. Steps must, therefore, be taken to increase the per capita incomes of the poor. They should include not only increased employment, but also reduced population growth. These along with nutrition education, will have a powerful positive effect on the nutritional status of the population. 'Adequate Nutrition for All' therefore, must be the objective, as well as the means, towards economic development. '*Nutrition and Health For All*' will be the goal of Tamil Nadu in the Seventh Plan.

43.2 Nutrition is one of the key determinants of growth in infancy and childhood, and life expectancy. Good nutrition in childhood and throughout the life span is of paramount importance in fostering the physical, mental, emotional and social growth of the population. Nutrition plays a pivotal role towards the fullest expression of the genetic potentials for physical and intellectual capacities in man. This consciousness is particularly significant for the future of the nation. Nutritional status and its improvement are not simply availability and intake of food. They are the end results of many interacting factors operating simultaneously and synergistically on the individual in the particular physical, ecological and cultural environment of the community. The amount of various foods and nutrients reaching the different segments of the population depend on food production, availability, logistics of distribution, cultural and economic systems, educational levels and food habits of the people. All these factors contribute towards the total nutritional and health status. The complementary effects of these factors in bringing about the totality of health and nutritional well-being in humans are, therefore, achieved by realizing the fact that nutrition cannot be viewed in isolation. It is a multidisciplinary science linked with agriculture, food, science and technology, food laws, food distribution, family size, education and the social cultural and anthropological aspects of life. Good nutrition is like a fulcrum balancing the health and well being of the population group by synthesising the practical applications of several disciplines, coupled with the eco-technological development.

43.3 Nutritional problems, therefore, must be viewed not in isolation but along with their linkages with the policies in regard to food, nutrition, agriculture development, education, rural development, social welfare, employment generation, health improvement and the income-generation—distribution measures. Being not based on such an understanding, our present approaches towards the problems of nutrition and health are rather fragmentary, sporadic, intermittent and isolated, leading to duplication and avoidable waste in effort and expenditure. Integration of educational, medical, nutritional and public health, including family planning services is, therefore imperative. These linkages are sought to be established through pragmatic policies and programmes in the Seventh Plan.

Coverage during Seventh Plan :

43.4 During the Seventh Five-Year Plan, 200 Projects are to be started under ICDS Programme. For the year 1985-86, Government of India have approved the starting of 13 projects with 1,079 centres in Pudukottai District. An addition of 1,33,000 children in the age group of 0 to 2 and, 33,000 pregnant and lactating mothers, will benefit under this programme in 1985-86.

43.5 The Child Welfare Centres in the village and Urban areas are meant to be a focal point where the children will not only receive Nutrition but also pre-school education and health care. Under pre-primary education, education is being

imparted by non-formal methods using educational equipments, charts and books. Child Welfare Organisers who have received special training in this, impart pre-school education to the children. In these centres, they also develop their minds on a good community basis. These centres are also meant to be community education centres for mothers in the matter of child care and nutrition. By the formation of local committees, the community participation and involvement is ensured. The scheme has gone a long way to bring about classes/casteless society.

43.6 Medical Officers/Municipal Health Officers make regular visits to the centres to conduct health check up and conduct immunisation programmes to the children.

43.7 The children covered under these schemes are supplied with cooked food constituting 80 grams of rice, 10 grams of dhall, 3 grams of oil and 50 grams of locally procured fresh vegetable, greens and condiments. The nutritional experts have calculated that a cooked meal provides 411 calories to child every day. Cooking is done in a hygienic way and the delicious meal is served hot and fresh to the children. For children below 2 years of age, the commodities supplied by CARE viz., CSM Powder, Bulgar Wheat and Salad Oil are given. Each child is given 80 grams of CSM Powder and 7 grams of oil per day. Each mother (Pregnant/Lactating), is provided with 120 grams of Bulgar Wheat and 7 grams of Salad Oil per day.

TABLE 44—1.
NUTRITION UNDER CMNMP AND ICDS PROGRAMMES
Calorific Value

Beneficiary.	CMNMP Scheme (Indigenous food) Rice and Dhall.		CARE Food.	
	Quantity.	Nutrition Value.	Quantity.	Nutrition value.
(1)	(2)	(3)	(4)	(5)
0—2 years of Child.	..	..	80 grams of CSM 7 grams of Oil	366 Calories
2+ to 4+ Years of Child.	{ 80 grams of Rice. 10 grams of Dhall 50 grams of vegetable 3 grams of oil }	411 Calories—9	..	..
Pregnant and Lactating mothers.	..	..	120 grams of BW 7 grams of Oil	472 Calories

Shift in Emphasis :

43.8 So far, 37 out of 39 projects have been located in urban areas. The Seventh Plan has been envisaged to cover pregnant and lactating mothers and children of the age group 6 months to 4 years, mostly in rural and tribal areas. The coverage of beneficiaries is expected to be stepped up from the current annual level of 5—6 lakhs to 32 lakhs at the end of the Seventh Plan.

43.9 At present, CARE supplies commodities for supplementary nutrition for children in the age group 6 months to 2 years under the ICDS Programme. The commodities are supplied free of cost. The future pattern of CARE assistance is at present a little uncertain. Hence, alternative measures are being formulated to provide supplementary nutrition to the children under 2 years of age.

43.10 The energy food prepared by the Karnataka Agro-Industries Corporation is being supplied to the pregnant and lactating mothers and children in TINP Project, assisted by the World Bank. The viability of providing this food to the children under 2 years to be covered in the Seventh Plan period, in ICDS and CMNMP Schemes, is being studied. The composition of energy food was evolved after extensive consultation with the Central Food Technological Research Institute, Mysore. The suitability of this food to these children will be examined. Tamil Nadu Agro-Industries Corporation has come forward to produce the energy food.

43.11 The incidence of mortality, morbidity and malnutrition among children continues to be high. Although, the infant mortality rate varies in different parts of the country and is influenced

among others by physical, geographical, economic and social factors, and the level of social and economic development, it is more than 100 per thousand in most areas. Various surveys have indicated a fairly high incidence of malnutrition among pre-school children. In the 28,105 Child Welfare Centres functioning under the Chief Minister's Nutritious Meal Programme in Rural and Urban areas of Tamil Nadu, children in the age group of 2+ to 4+ years are provided with a nutritious noon meal. In the centres where the Integrated Child Development Services Scheme has been introduced children below 2 years are given ICSM/CSM and Salad Oil under CARE feeding programme. But in the Non-Integrated Child Development Services Scheme centres, children below 2 years are not given any energy food. It is now proposed to bring the infants also under the Chief Minister's Nutritious Meal Programme. Under the proposed Nutrition Programme for infants, children in the age group of 6 months to 24 months will be provided with 40 grams of energy food through the Child Welfare Centres at a cost of 30 paise per child per day. This scheme is proposed to be implemented in 24,503 Chief Minister's Nutritious Meal Programme pre-school centres in Rural and Urban areas. Thirty children will be enrolled in each centre and will be given feeding for 300 days in a year at the rate of 25 days per month. For proper implementation of the scheme, an additional Child Welfare Assistant is required to assist the Child Welfare Organiser in feeding the infants.

43.12 An outlay of Rs. 540.00 crores is proposed for the Seventh Plan for different Programmes under Nutrition sub-sector as detailed below :—

THE NUTRITION PLAN AT A GLANCE.	
(RS. IN LAKHS)	
Seventh Plan Outlay	540,00.00

List of Schemes.**(A) ON-GOING SCHEMES :**

1. Social Support Schemes This is a integrated programme to deliver a package of services to children in the age group of 6 months to 3 years and 3 to 5 years and pregnant and lactating mothers, with the assistance of the world Bank under the MUDP. The scheme contemplates supplementary nutrition, health check-up, referral services, health and nutrition education and non-formal education in an integrated manner. At present, 180 Child Welfare Centres are functioning under MUDP I & MUDP II areas. During the Seventh Five-Year Plan, in addition to the existing 180 Child Welfare Centres, it is proposed to bring additional 242 Child Welfare Centres under this Scheme.

Seventh Plan—

Outlay .. Rs. 149.58 lakhs.
 Target .. 422 Centres with an average beneficiaries of 100 in each Centre.

2. Pre-School in Tribal Areas The Centres are situated in hill areas to uplift the tribal children (Primitive tribes) in the age group of 2 + to 4 + by providing indigenous food with 411 calories and pre-school education and health care. The existing scheme is to be continued during the Seventh Five-Year Plan.

Seventh Plan—

Outlay .. Rs. 127.70 lakhs.
 Target .. 47 Centres with an average strength of 100 children in each centre.

3. Opening of Balwadies in Tribal Areas .. These pre--schools are situated in tribal areas to give indigenous nutritious food to the children in the age group of 2+to 4 + and pre-school education and health care. At present 169 centres (Balwadies) are functioning and these centres will be continued during the Seventh Five-Year Plan also.

Seventh Plan—

Outlay .. Rs. 69.93 lakhs.
 Target .. 169 Centres with an average strength of 100 children in each Centre.

4. Pre-primary schools The Child Welfare Centres situated in rural and urban areas provide at present, pre-school education, health care and indigenous nutritious food. Education is imparted through educational equipments, charts and books. The Child Welfare Organisers who have received special training for teaching pre-primary Children impart teaching to children in these centres. This programme implemented during Sixth Five-Year Plan, will be continued during the Seventh Five-Year Plan also.

Seventh Plan—

Outlay .. Rs. 19,477.65 lakhs.
 Target .. 15,717 pre-schools with an average strength of 100 children in each Centre.

5. Supplementary Nutrition in ICDS } These centres are situated in rural and urban areas under the ICDS Project to provide supplementary nutrition to the children in the age group of 6 months to 2 years and from 2 years to 5 years and pregnant and lactating mothers apart from providing package of services such as health care, pre-school education and immunisation in an integrated manner. This is an ongoing scheme and it will be continued during the Seventh Five-Year Plan also. The number of beneficiaries will be 3,55,20

Seventh Plan—

Outlay .. Rs. 688.95 lakhs.

Target .. 3,552 centres with an average strength of 70 children (30 in the age group of 6 months to 2 years, 40 in the age group 2 years to 5 years) and 30 pregnant and lactating mothers in each centre.

6. Applied Nutrition Programme with UNICEF Assistance. } Under this scheme, the children are provided with CARE balahar food for 240 days and indigenous food for 125 days. From 1st July 1982, children are provided with indigenous food for all the 365 days under the Chief Minister's Nutritious Noon Meals Programme. The food consists of 80 grams of rice, 10 grams of dhall, 3 grams of oil and 50 grams of vegetables and condiments. Pre-school education is imparted through educational equipments and charts. Health coverage of children is also undertaken through primary health centres. This is an ongoing scheme and it will be continued during the Seventh Five-Year Plan also at the same level.

Seventh Plan—

Outlay .. Rs. 228.15 lakhs.

Target .. 514 Child Welfare Centres with an average strength of 100 children in each centre.

7. Feeding in Kuzhandaigal Kappagam .. Under this programme, children are given balahar food supplied by CARE for 300 days in a year. From 1st July 1982, the children are provided with indigenous food consisting of 80 grams of rice, 10 grams of dhall, 3 grams of oil and 50 grams of vegetables and condiments everyday. It has been calculated by nutrition experts that the cooked food provides about 411 calories per day to the child. Pre-school education is imparted through educational equipments and charts. Health coverage of children is also taken up through Primary Health Centres. This scheme will be continued at the same level during 1985-90.

Seventh Plan—

Outlay .. Rs. 447.36 lakhs.

Target .. 1,002 Child Welfare Centres with an average strength of 100 children in each centre.

3. Starting of Integrated Family and Child Welfare Centres. }

The objective of the scheme is the twin purpose of serving the rural women and their children between the ages 2½ and 5 years in the first phase to relieve them of their anxiety of looking after their children during their working hours by leaving them in the child welfare centre. The second objective is to teach these children, through play the good habits of politeness, discipline, integrity, obedience, etc. The children are also taught nursery rhymes, action, song, stories with moreal apart from community indoor and outdoor game.

From 1st July 1982 the children are provided with indigent food consisting of 80 grams of rice, 10 grams of dhall 3 grams of oil and 50 grams of vegetables and condiments every day. The cost of nutritious meal is 44 paise per child per day. It has been calculated by nutrition experts that the cooked food provides about 411 calories per day to the child. Pre-school education is imparted through educational equipments and charts. Health coverage of children is also taken up through primary Health Centres. The existing 810 Child Welfare Centres will be continued during the Seventh Five-Year Plan also.

Seventh Plan—

Outlay .. Rs. 366.81 lakhs.

Target .. 810 child welfare centres with an average strength of 100 children in each centre.

9. Nutrition Delivery Services (TINP) .. Energy food is distributed under the TINP to the children in the age group of 6-36 months and pregnant and lactating women to improve their nutritional status. The Project will improve the focus, quality and reach of nutrition related schemes for the other groups at high nutritional risk, Pregnant and lactating women and older pre-school children. This programme is implemented in the villages of 173 Blocks in Madurai, Ramanathapuram, Pudukottai, Tirunelveli, North Arcot and Chengalpattu districts with the credit assistance of World Bank. Under this scheme, 9,000 Community Nutrition Centres are functioning now. The scheme will be continued during 1985-90. The centres will be converted into ICDS in a phased manner.

During 1985-86 the centres of Pudukkottai district (674) will be converted as ICDS centres and balance of 8,326 centres will continue under TINP.

During 1986-87 the centres at Ramanathapuram district (1,600 centres) will be brought under ICDS and balance of 6,726 will continue under TINP.

During 1987-88, the centres at Tirunelveli district (1,650 centres) will be brought under ICDS and balance of 5,076 centres will continue under TINP.

During 1988-89, the centres at Madurai district (1,966) will be brought under ICDS. The balance of 3,110 centres will continue under TINP.

During 1989-90, the balance of 3,110 centres in North Arcot Chengalpattu and part of Ramanathapuram districts will continue under TINP.

Seventh Plan—

Outlay .. Rs. 2,748.07 lakhs.

Target .. During 1985-86—8,326 centres.
During 1986-87—6,726 centres.
During 1987-88—5,076 centres.
During 1988-89—3,110 centres.
During 1989-90—3,110 centres.

10. Training in Nutrition (TINP) .. This component deals with imparting of training in nutrition to the staff recruited for the implementation of Nutrition Delivery Services Programme at village level in the selected five districts in Tamil Nadu. The scheme will also be continued during the Seventh Five-Year Plan.

Seventh Plan—

Outlay ..	Rs. 26.30 lakhs.
Target ..	During 1985-86, 8,326 Centres. During 1986-87, 6,726 Centres. During 1987-88, 5,076 Centres. During 1988-89, 3,110 Centres. During 1989-90, 3,110 Centres.

11. TINP—Co-ordination Office Project Co-ordination is co-ordinating the activities of the other components in the TINP Project. This component also will be continued during 1985-90.

Seventh Plan—

Outlay .. Rs. 182.77 lakhs.

12. Administration of TINP Communication.. This component is : (a) to promote short and long term acceptance of improved nutrition health practices included in the nutrition and health components. (b) to motivate target population to change the traditional family feeding patterns to provide better nutrition for the 6-36 months old children and expectant and nursing mothers. This programme will be continued.

Seventh Plan—

Outlay .. Rs. 209.48 lakhs.

13. Evaluation in Research Base line survey in each project district is conducted and the terminal evaluation will be done at the end of the project. The aim is to study the results and put the scheme in broader perspective. This programme will be continued.

Seventh Plan—

Outlay .. Rs. 10.00 lakhs.

14. Special staff for Execution of TINP.. (Highways & Building Works). The buildings are meant for Health Sub-Centres. Out of 1,600 buildings, 795 buildings have already been constructed. The balance 805 buildings are to be constructed by Highways and Building works. The cost also includes the salaries, etc., of the special staff.

Seventh Plan—

Outlay .. Rs. 532.00 lakhs.

Target .. 805 buildings.

- 15 Payment of cost to Civil Supplies Corporation. } Payment of differential cost of rice supplied by the Tamil Nadu Civil Supplies Corporation for CMNMP Programme is met out of this provision.

Seventh Plan—

Outlay .. Rs. 20,000.00 lakhs.

(B) NEW SCHEMES :

16. Opening of 110 ICDS Projects During the Seventh Five-Year Plan period, 110 ICDS (6,109 Centres) projects are to be opened by way of converting the CMNMP Centres including TINP Centres in rural areas of Pudukkottai, Tirunelveli, Madurai and Ramanathapuram districts as indicated below.

At present in Pudukkottai district, there are 1,079 CMNMP Centres and 674 Community Nutrition Centres. The beneficiaries of both the CMNMP Centres and TINP Centres will be merged and covered under ICDS (1,079 Centres) during 1985-86.

During 1986-87, in a similar manner the CMNMP Centres (1,724 Centres) and TINP Centres (1,600 Centres) at Ramanathapuram District will be brought under ICDS with a target of 1,724 centres.

During 1987-88, the CMNMP Centres (1,538) and TINP Centres (1,650) of Tirunelveli District would be brought under ICDS Scheme with a target of 1,538 centres.

During 1988-89, the CMNMP rural centres (1,918) and TINP Centres (1,966) of Madurai District will be brought under ICDS scheme with 1,768 centres.

During 1989-90 the whole converted centres numbering 6,109 will be continued as ICDS Centres. Under this programme 6.11 lakhs of children in the age group of 2+ to 4+, 1.83 lakhs of children in the age group of 6 months to 2 years and 1.83 lakhs of pregnant mother and lactating mothers are to be covered. The total beneficiaries will be 9.77 lakhs.

Seventh Plan—

Outlay ... Rs. 6,996.34 lakhs.

Target ... 6,109 centres with 130 children (100 children in the age group of 2+ to 4+ and 30 children below 2 years) and 30 mothers in each centre.

17. Feeding of infants The infant mortality rate varies in different parts of the Country and is influenced among others by physical, geographical, economic and social factors and the level of social and economic development. It is more than 100 per thousand in most areas. Various surveys have indicated a fairly high incidence of mal-nutrition among infants. In the Child Welfare Centres where the ICDS scheme has been introduced, children below 2 years are given ICSM/CSM and Salad Oil under CARE feeding programme. But in the Non-ICDS Centres, Children below 2 years, are not given any energy food. It is now proposed to bring the infants also under Chief Minister's Nutritious Meal Programme, in Madurai, Ramanathapuram, Thanjavur, South Arcot and Nilgiris districts.

Under the proposed nutrition programme for infants, children in the age group of 6 months to 24 months will be provided with 40 grams of energy food through the Child Welfare Centres at a cost of 30 paise per child per day for 300 days in a year, at the rate of 25 days a month.

Seventh Plan—

Outlay ... Rs. 1,738.90 lakhs.

Target ... 12,158 centres with 30 infants each.

18. Opening of 90 additional ICDS Projects ... In addition to the 110 ICDS Projects proposed in four districts, 90 additional ICDS Projects will also be taken up during the Seventh Five-Year Plan, depending on the assistance available from Government of India.

Seventh Plan—

Outlay ... Rs. 0.01 lakh.

TABLE 44-II.

PHASING OF OUTLAYS WITHOUT FREE CARE FOOD AND TINP IN PHASE
CONVERSION.

Programme.	Year.					Total for 1985-90
	1985-86	1986-87.	1987-88.	1988-89.	1989-90.	
	(2)	(3)	(4)	(5)	(6)	
	(RUPEES IN LAKHS)					
1. Social Support Schemes ..	42.37*	24.92	25.70	26.60	29.99	1,49.58
2. Pre-School in Tribal Areas ..	28.70*	22.90	24.05	25.25	26.80	1,27.70
3. Opening of Balwadies in Tribal Areas	14.51*	12.85	13.50	14.15	14.92	69.93
4. Pre-Primary School	38,77.65*	39,00.00	39,00.00	39,00.00	39,00.00	19,477.65
5. Supplementary Nutrition in ICDS Projects	1,24.81*	1,31.05	1,37.60	1,44.49	1,51.00	6,88.95
6. Applied Nutrition Programme with UNICEF Assistance ..	41.29	43.35	45.53	47.80	50.18	2,28.15
7. Feeding in Kuzhanthaigal Kappagam	80.96	85.01	89.26	93.72	98.41	4,47.36
8. Starting of Integrated and Child Welfare Centres ..	66.38*	69.70	73.19	76.85	80.69	3,66.81
9. Nutrition Delivery Services ..	8,13.35	6,43.76	5,23.52	3,74.37	3,93.07	27,48.07
10. Training in Nutrition	8.75	6.40	4.85	3.15	3.15	26.30
11. TINP—Co-ordination Office ..	37.09	37.16	36.66	35.14	36.72	1,82.77
12. Administration of TINP Communication	49.65	44.77	41.77	37.12	36.17	2,09.48
13. Evaluation in Research ..	6.56	1.00	1.00	1.00	0.44	10.00
14. Special Staff for Execution of TINP (Highways and Building works)	1,31.23	4,00.77	..	..	..	5,32.00
15. Payment of cost to Civil Supplies Corporation	40,00.00	40,00.00	40,00.00	40,00.00	40,00.00	20,000.00
<i>New Schemes.</i>						
16. Opening of 110 ICDS Projects ..	3,84.44	9,77.11	14,90.61	20,89.77	20,54.41	69,96.34
17. Feeding of Infants .. ..	..	4,30.40	4,35.90	4,35.90	4,36.70	17,38.90
18. Opening of 90 additional ICDS.	..	..	0.01	..	..	0.01
Total—Nutrition ..	97,07.74	10,831.15	10,843.15	11,305.31	11,312.65	54,000.00

*Exhibited in the Social Welfare Sector Budget.

Part B

SECTORAL PLANS

VII Economic Services

CHAPTER 44.

SECRETARIAT-ECONOMIC SERVICES.

A. EVALUATION AND APPLIED RESEARCH DEPARTMENT.

Evaluation Programme :

44.0. Evaluation is recognised as an integral part of planning process. Timely and useful information on performance of plans/programmes and also feed back information, about the problems of execution, reasons for shortfall in achieving targets, etc., are necessary for successful implementation of developmental schemes by the Government. With the growth in Public Expenditure the need for having an effective system of evaluation is increasingly felt. This department can identify new areas and initiate evaluation studies which are expected to confer greater benefits to public as a whole. }

Regional Units :

44.1. It is proposed to strengthen the evaluation machinery by organising regional units at Madurai, Coimbatore, Tiruchirappalli and Vellore for giving feed back information to the Government and District Collectors about the performance efficiency of different development programmes.

Assisting the individual department :

44.2. This department has proposed to assist individual departments in a bigger way in preparing feasible project reports. Further new projects funded by World Bank are attended to by this Department. It is proposed to have a senior level officer for monitoring different projects.

Training Wing :

44.3. Under the scheme it is proposed to organise a training wing with the purpose of organising suitable training programmes to the various levels of Research Personnel. The training wing will be assisted by a Deputy Director.

Purchase of Mini Computer/Installation of inter-com/Diesel jeep staff car to Head quarters/Calculators :

44.4. It is proposed to purchase a Mini Computer for quick processing of data collected, and for preparing cross tables. Further it is proposed to provide inter-com facilities in the Headquarters office and for purchase of one diesel jeep each for Regional unit and staff car for Headquarter Office.

B. STATE PLANNING COMMISSION.

44.5. The State Planning Commission is the central agency in the State charged with the responsibility of formulation of long-term, Five-Year Plans and Annual Plans of the State. The State Planning Commission has to be strengthened suitably in order to enable it to carry out effectively, the increasing responsibilities devolve on it.

Monitoring and Evaluation Division.

44.6. The Government have entrusted to State Planning Commission the function of monitoring and evaluation of the plan schemes/programmes. The proper approach for Monitoring and concurrent Evaluation require undertaking special studies or field surveys. A Division on Monitoring and Evaluation may be created in State Planning Commission which will be responsible for conducting field studies in the Districts to assess the performance of the plan schemes both in terms of the physical and financial achievements and bring out study reports of the scheme. Sophisticated techniques such as PERT (Programme Evaluation Review Techniques) and CPM (Critical Path Method) will be used to assess the plan programme relating to power and irrigation projects. This Division will give information not only of what the project/programme has achieved in terms of growth but also how the project has helped the people in improving their economic condition and in reduction of poverty.

A Perspective Planning Division :

44.7. The State Planning Commission is now familiar with Annual Plans and Five-Year Plans, but these plans must be part of a long-term perspective. Also there are many development projects - irrigation, power, etc., with a gestation period longer than five years. It is, therefore, necessary to take a long range view, and formulate the Five-Year Plans in a continuing perspective.

44.8. It is proposed to set up a "Perspective Planning Division" in State Planning Commission. The Division will make careful assessment of the State's resources, focus attention on problems and formulate plans for the optimum exploitation

of its development possibilities. The Division will also workout Investment Programme on the basis of past structure of the economy, resource availability, future pattern of demand and Incremental Capital-Output Ratios (I.C.O.R.) with due regard for output employment and investment employment ratios. The Division will have a planning and statistical base, and frame input-output matrix, assess inter-industry dependance, etc., while formulating the five-year and long term plans. The Division will maintain data base for time series on social and economic indicators. The Perspective Planning Division proposed in State Planning Commission may also take up study on the various aspects of (Regional) District Planning and formulate such plans for consideration of Government. This will be in accordance with the priority allocated to decentralised planning by the Government of India in its approach paper to the Seventh Plan.

Establishment of D.P. Cell :

44.9. The State Planning Commission has proposed to use a Micro Processor, to begin the process of modernisation in its own premises and to begin in a small way the use of Computers to keep in step with the other organisations. It is therefore proposed to buy an Electronic Multiple Access Central Data Processing Unit (Micro Processor) with accessories.

C. PLANNING AND DEVELOPMENT DEPARTMENT. Strengthening the Data Bank and Plan Model Building for Monitoring and Review :

44.10. In order to develop an organised data base for perspective planning and also develop a plan model to give an over view and help in decision making for plan allocation, a small unit was functioning in the Planning and Development Department since 5th March 1985. In addition, the unit was involved in target fixation and review of all the 152 Government Departments and Public sector undertakings. To begin with Commissioner of Statistics has lent a small micro processor TANDY with a dot matrix printer. This very small system is now being used only for monitoring the work of different departments through targets and achievements every quarter. The system has been working fully for eight hours on all days and even on holidays. The work load is, as it is, very heavy for this small system. In addition, Chief Secretary is interested in graphics for submission to Honourable Chief Minister so as to give him an ocular picture of the growth of each department periodically. For some departmental activities

like Family Welfare, I.R.D.P., Health, Chief Secretary wants that districts/blocks performance also should be assessed and the districts/blocks are arranged in the order of this performance. Such volume of work requires some dedicated computer system.

44.11. It is proposed to acquire an integrated Micro System with some what, greater capacity than the present one and return the existing unit which is on loan basis from Commissioner of Statistics.

44.12. This system is capable of handling monitoring the work of each of the 152 departments every quarter. For each department, depending on the size, plan schemes and regular activities, indicators have been identified. Data on both financial and physical indicators of each department have to be collected, keyed in and processed for getting four or five major tables. These tables are the basis for critical review by the Chief Secretary. The graphics giving overview of the programmes will be submitted to the Honourable Chief Minister for his review. In addition, it is proposed to study in great detail all schemes costing over Rs. 50 lakhs for assessing the performance and for suggesting modification in the programme content. This requires large amount of data to be collected and processed. The system has been designed to take care of this item of work also. To a limited extent this system can also help in development of data bank plan model building which require huge volume of data. Initial processing of large volume of data will be done in a large computer and the system proposed will be utilised to carry out subsequent analysis in batches. Thus the system can take care of 60 to 70 per cent of the work contemplated by the Data Bank and Plan Model Division of Planning and Development Department. In addition to the existing staff one System Specialist may be needed to cope with the increased volume of work. After computer output is taken, it is necessary to take 30 copies of the output along with graphs and charts for circulation to the Secretaries and Heads of Department. Plain paper copier will be useful to take copies immediately for circulation. It will also be part of the computer system. Provision has also been made for this item.

44.13 An amount of Rs. 100.00 lakhs has been proposed for the above schemes in the Seventh Plan.

ANNEXURE

<i>Serial number.</i>	<i>Scheme</i>	<i>Allocation for the Seventh Plan (Rs. in lakhs)</i>
(1)	(2)	(3)
<i>I. Evaluation and Applied Research</i>		
	1. Scheme for opening Regional Offices.	} 50.00
	2. Scheme for Assisting Individual departments.	
	3. Scheme for framing up of training wing.	
	4. Scheme for purchase of Mini—Computer/Installation of Inter.coms/Diesel/Jeep Staff Car, etc.	
<i>II. State Planning Commission</i>		
	1. Establishment of a D P Cell for Monitoring and Evaluation of Plan Schemes.	} 25.00
	2. Scheme for undertaking Special Studies etc.	
	3. Establishment of a Perspective Planning Division.	
<i>III. Planning and Development Department</i>		
	1. Expansion of Data Processing Centre,	} 25.00
	2. Strengthening of Data Bank and Plan Model Building for Monitoring and Review.	
Total		100.00

CHAPTER 45.

ECONOMIC ADVICE AND STATISTICS.

Introduction :

45.0. An efficient Statistical System for timely supply of qualitative data on various aspects of the economy is an essential pre-requisite for planning and formulation of policies by Government. In Tamil Nadu, official Statistics on several aspects of economy such as Agriculture, Industry, Prices, State Income, Trade, Manpower, Employment, etc., are now being collected, processed and released by the Department of Statistics at frequent and regular intervals. In certain fields, statistics furnished need improvement in quality so as to make them reliable. Similarly in certain other sectors like Industries, extension of coverage is also essential.

Objectives towards formulation of Statistical Schemes 1985-90 :

45.1. In the context of growing stress on grass-root level planning, more reliable and detailed data at district and lower levels are essential. It is necessary that the scope and activity of the Department of Statistics is enlarged to facilitate the collection of data at grass-root level itself. As regards yield statistics, more important crops have to be objectively assessed by bringing them under the fold of crop estimation surveys so that existing gaps in such sectors can be bridged. Even at Block level, production estimates are more often required at present. Other statistics at Block level, which are not available at present, have to be collected and processed. For framing State Income and District Income estimates, a large number of field studies have to be carried out to fill up the gaps in the availability of data.

45.2. The Department of Statistics is represented in all Minimum Wages Advisory Committees for different trades constituted by the Government of Tamil Nadu. As such in the Prices Sector, it is proposed to compile and publish the Minimum Wages for various employments every month inclusive of Dearness Allowance permissible for respective trades as per Government Orders notified from time to time.

45.3. The Committee on National Statistical System recognised that if the Statistical System is to serve the policy makers effectively, it has to devise ways and means of giving to the policy makers some basic useful statistical material in time for decision making.

45.4. The delays generally occur in (i) transmission of data from the point of collection to the tabulation centres ; (ii) checking and tabulation (iii) data processing and preparation of tables in standard formats and finally the unusual delay taken in printing and releasing the publication so as to make them available to all those who want them in the different parts of the State.

45.5. Comparatively little attention has so far been paid to quality in data or non-sampling error. Adequate training of staff involved in data collection and efficient supervision by having sufficient manpower at the lower levels would alone result in the improvement of quality of data and reduce the non-sampling errors.

45.6. The broad objectives towards formulation of new schemes under the Seventh Five-Year Plan (1985-90) are (i) to strengthen the Department of Statistics at different levels namely Divisional, District, Regional and State Headquarters, (ii) to strengthen the DCM Galaxy Computer System functioning in the Department by creation of Data Communication Net Works connecting District Headquarters with State Headquarters through Computer Terminals with a view to enabling the organisation to process and tabulate the data collected quickly with a minimum time lag and to create a Data Bank in the Department of Statistics and (iii) to provide the Department of Statistics with In-house Printing facilities to meet the Printing and Publication needs of the Department.

The Schemes to be included in the Seventh Five-Year Plan :

45.7. Under the circumstances explained above, the following Statistical Schemes are required to be implemented during the Current Plan period. The order of priority of each scheme along with the Financial Outlay during the Seventh Plan period is furnished below with the nature of output and its utility.

(1) Scheme on In-House Printing Facilities and Publication of Reports.

Object :

45.8. The object of the Scheme is to have its own Printing Facilities in the Department of Statistics in order to eliminate delays in printing statistical Publications and forms and Schedules for various census and Surveys taken by the Department from time to time.

Nature of the Output :

45.9 Printing of Statistical Publications, forms and Schedules.

Utility of the Output :

45.10 The printed publications would be made available for use in time to Government and other Agencies. These are vital for planning and decision making.

45.11 Printing of Schedules and instructions for the conduct of Surveys under taken will enable initiation and completion of the surveys in time. This will in turn, prove to be of great help to arrive at the results of the survey quickly and make them available to Government in time.

45.12 The outlay proposed for this scheme in the Seventh Five-Year Plan is Rs. 12.69 lakhs.

*(2) Scheme for strengthening the Data Processing Unit (Computer Centre) :**Object :*

45.13 Fuller utilisation of the costly computer and data entry facilities for processing the vast mass of data collected under different schemes.

Nature of the Output :

45.14 Generation of various tables of the collected data on various schemes.

Utility of the Output :

45.15 The processed data will be made available in time to prepare final reports and publications without any backlog.

45.16 An amount of Rs. 9.26 lakhs is provided in the Seventh Five-Year Plan for this scheme.

*(3) Scheme on Strengthening of Demographic Unit :**Object :*

45.17 To cater to the day to day requirement of population Statistics, it is proposed to extend the scope and activities by conducting a series of sample surveys, research programmes and in-depth studies in areas much wanted.

Nature of the Output :

45.18 By undertaking a series of sample surveys during the inter-censal periods information in the changes of various demographic variables over time are derived. A strong data base will be created for a system of social and demographic activities for building up a series of social indicators.

Utility of the output :

45.19 The surveys and research programmes throw light on pattern and trends of urbanisation, migratory movements, unemployment situation and their characteristics on the growth of population and social and economic life of the community which are vital for formulation of policies in Planning.

45.20 Rs. 3.12 lakhs is earmarked in the Seventh Five-Year Plan for this scheme.

*4. Scheme for Improvement of Rainfall Statistics**Object:*

45.21 The object of the Scheme is to carry out research work in the field of rainfall statistics which will enhance the utility of the rainfall statistics.

Nature of the output:

45.22 Frequency distribution of rainfall will be computed from the rainfall data collected in 515 raingauge stations and the data will be processed and analytical studies undertaken. Analysis of wet and dry spells will also be done.

Utility of the output:

45.23 Monthly, seasonal and annual average rainfall are computed and will be furnished to various agencies. Also station-wise daily rainfall data for each months will be consolidated and sent to India Meteorological Department. Results of the Analytical Studies will prove to be useful to the Government for policy decisions.

45.24 During the Seventh Five-Year Plan it is proposed spend Rs. 2.39 lakhs on this scheme.

*5. Scheme for Strengthening the State Income Unit**Object:*

45.25 The Scheme envisages to strengthen the existing Statistical Machinery at the Headquarters for attending to the works connected with compilation of State Income, Per Capita Income, Capital Formation Statistics and Regional Accounts Statistics.

Nature of the output:

45.26 From time to time certain research type of studies are also undertaken to improve the data base and also the methodology adopted for compilation of above Statistics. More research type of studies are necessary for improving the methodology and also data-base. For this concerted

efforts are to be taken on proper lines. Hence, it is considered that the appointment of Joint Director of Statistics as the Head of this wing will prove to be very effective for this purpose. He will be in a position to organise the work in this wing on right lines and also hold discussion with various officials of the different Departments of the State and Central Government and find out ways and means for improving the quality of data collected. An office of higher status (in the cadre of Joint Director) will be able to sit across the table and discuss various problems connected with the State Income Statistics and State Accounts Statistics with his counterparts in the Central Statistical Organisation.

Utility of the output:

45.27 The quality of the data collected will be improved and the State Income Estimates and District Income Estimates will be framed in time with the proper direction that would be provided by the Joint Director.

45.28 An amount of Rs. 3.07 lakhs is proposed in the Seventh Five Year Plan for this scheme.

6. Data Communication Networks connecting District Headquarters with State Headquarters through Computer Terminals.

Object.

45.29 The object of the Scheme is to install a Main Frame Computer at State Headquarters connecting all the District Headquarters in the State through Computer Terminals for collecting up-to-date information from various sources in the districts, for consolidation of vital information for use by Government.

Nature of the Output.

45.30 Up-to-date information from various sources in the districts will be collected and passed on to the State Headquarters after punching the data on tape-drives for processing and tabulation. The main Frame System consisting of Sixteen remote batch terminals with printers in all the sixteen District Headquarters of the State and Interactive terminals with printers at State Headquarters will be installed. On installation the following facilities will be available such as Multi-terminals, Multi-user, Multi-base data, Base Management System, Batch Processing, Communication software for remote and local terminals, interactive job submission facility, Input/Output spooling, etc.

Utility of the Output.

45.31 The system consolidates the vital information readily available to Government to assess the progress of Plan and Development Programmes. The system also eliminates delay in receiving information from districts with time-bound results.

45.32 Rs. 43.00 lakhs has been provided in the Seventh Five Year Plan for this scheme.

7. Scheme for Strengthening the Statistical Machinery in Tamil Nadu by creating Divisional Statistical Units.

Object.

45.33 In order to have a close, properly co-ordinated supervision of Statistical data collected and for proper analysis, the technical staff at Revenue Divisional and Revenue District level will have to be strengthened by upgrading the posts of Divisional Statistical Officers as Assistant Directors of Statistics.

Nature of the output.

45.34 Collection of Statistics at the grass-root level in time and accurately under the various schemes and also to collect data in the fields where data are not at present forthcoming.

Utility of the Output.

45.35 By upgrading the posts of personnel, timely flow of data to the Headquarters of the Department is ensured to implement all the Schemes sanctioned with greater effectiveness and efficiency. This will also take care of the requirements of the data collection connected with the estimation of State Income/District Income.

45.36 During the Seventh Five Year Plan it is proposed to spend Rs. 93.64 lakhs on this scheme.

8. Scheme for Training Statistical Personnel.

Object.

45.37 The object of the scheme is to impart training to the Statistical Personnel in Statistical Methodology, Official Statistics, Processing of data and interpretation of tabulated data and conduct of Seminars and Workshops on Man Power Planning.

Nature of the Output.

45.38 The training programme will be a system of three tier one at three different levels (i.e.), (i) field (ii) Scrutiny and computation at Headquarters

(iii) interpretation and writing of Reports at the higher level. Training on Computer Technology is also envisaged.

Utility of the Output :

45.39 The competence of the Statistical Personnel can be improved to the desired level.

45.40 An amount of Rs. 10.00 lakhs is provided for this scheme in the Seventh Five-Year Plan.

9. The Scheme on Block Level Yield Estimates of Principal Agricultural Crops.

Object.

45.41 The object of the Scheme is to increase the number of crop cutting experiments, at least to the extent of twice the present scale of experimentation in order to estimate yield rates with a reasonable degree of precision at the State/District level for principal crops.

Nature of the Output :

45.42 Generation of block level yield estimates principal crops.

Utility of the Output :

45.43 In view of the decentralisation of planning and the need for conversion of short-term loans into medium and long term loans in the case of natural calamities, the estimates will be of much use to Government.

45.44 The outlay proposed for this scheme in the Seventh Five-Year Plan is Rs. 11.00 lakhs.

10. Scheme for Creating Twelve Mini-Man Power Cells in important Government departments/Undertakings concerned with the Technical and Professional Personnel.

Object :

45.45 The Scheme envisages the creation of 12 Mini-Man power Cells in Important Government Departments/Undertakings with one Statistical Inspector drawn from the cadres of the Department of Statistics and one supporting staff from the Departments/Undertakings concerned. The cells will function as feeder cells to the State Man-Power and Employment Cell supplying the data required by it from time to time.

Nature of the Output :

45.46 The Mini-Man Power Cells will collect and compile all relevant Man Power and Employment data such as age, qualification, education, employment and occupational pattern, spatial and

temporal characteristics, present strength and composition, future needs etc., on a continuing basis.

Utility of the Output :

45.47 The data will help to workout employment norms with a view to assessing employment potential under Plan and Non-Plan Schemes of the Departments.

45.48 An amount of Rs. 7.91 lakhs has been provided in the Seventh Five-Year Plan for this scheme.

11. Strengthening of Consumer Price Index Section.

Object :

45.49 The object of the Scheme is to compile and publish every month the Minimum Wages inclusive of Dearness Allowance applicable for various employments scheduled under the Minimum Wages Act 1948 for the use of certain establishments coming under Minimum Wages Act and to attend to the work of Minimum Wages Advisory Committee Meetings.

Nature of the Output :

45.50 The Consumer Price Index numbers will be compiled and released by this Department and the work connected with Minimum Wage Advisory Committee Meetings such as compilation of data required for Meetings, calculation of revised rates of wages to be recommended based on Consumer Price Index numbers will be attended to. The estimated annual consumption expenditure particulars will be worked out for the families of the accused officers and will be furnished to the Vigilance and Anti-corruption Department.

Utility of the Output :

45.51 Compilation and publication of the Minimum Wages inclusive of Dearness Allowance applicable for various employments scheduled under the Minimum Wages Act, 1948 every month are useful for regulating monthly wages of employees in the unorganised sector. This is being done every month by the Government of Maharashtra for all the trades included in the Minimum Wages Act, 1948.

45.52 During the Seventh Five-Year Plan a provision of Rs. 5.00 lakhs has been made for this scheme.

12. Scheme for Improvement of Net State Domestic Product (State Income) from Registered Factory Establishments in Tamil Nadu.

Object :

45.53 To firm up estimates of Net State Domestic Product (State Income) and to build estimates at district level, it is proposed to undertake the survey of the residual factories, about 5,500 in number not covered by National Sample Survey Organisation (Field Operation Division) under Non-Census Sector, by this Department.

Nature of the Output :

45.54 The detailed statistical data relating to the manufacturing activity of the factories, not covered by National Sample Survey Organisation (F.O.D.) under Non-Census Sector, will be collected in the prescribed return which includes particulars like capital structure, labour employed, Input, Output and value added by manufacture. The estimates of Net State Domestic Product (State Income) and District Income from this sector will be worked out from these returns.

Utility of the Output :

45.55 The present method of estimating from the residual factories can be dispensed with and more reliable data will be available through the Survey. The results are used by the Government for taking Policy decisions.

45.56 A provision of Rs. 30.00 lakhs has been made for this scheme in the Seventh Five-Year Plan.

13. Improvement in Prices Statistics at District Level.

Object :

45.57 In order to collect reliable prices Statistics and also to ensure timeliness in sending the periodical reports, it is proposed to strengthen the Statistical machinery by appointing one more Assistant Statistical Investigator and one Statistical Officer in certain districts where the work load is too heavy.

Nature of the Output :

45.58 The weekly price reports received from the field staff will be scrutinised and tabulated and the consolidated prices data will be furnished to the Collectors, State Government and Central Government.

Utility of the Output :

45.59 Accurate price data and other market information will be useful for formulation of policies in matters of price support, fixation of prices during procurement, valuation of goods produced etc., and also for construction of various index numbers of prices. The basic data will be furnished to Agriculture Department for fixation of procurement, sale price of seeds etc. The other agencies like State Public Works Department, Directorate of Agricultural Marketing, State Agricultural Marketing Board, Commissioner of Civil Supplies, etc., also obtain data on prices for their own use from this Department.

45.60 Rs. 10.00 lakhs has been earmarked for this scheme during the Seventh Five Year Plan period.

14. Survey on Distributive Trade in Tamil Nadu.

Object :

45.61 The survey will confine to the collection of data for estimating the following items:—

(1) The number of trading estimates by type of main commodity traded in various turnover ranges.

(2) Fixed and working capital employed and their sources of Finance.

(3) Employment of full and part time persons by different categories and emoluments paid to employees.

(4) Turnover of Establishments.

(5) Purchases, inventories and consumption of services.

(6) Nature and value of commodities imported and exported.

(7) Value added.

Nature of the output.

45.62 Enumeration work will be done by listing of Traders and commodities dealt with by them and their annual sales turnover and the traders will be classified into approximately fifty commodity groups and also into turnover groups.

Utility of the Output :

45.63 The survey will throw light on the various organisational and operational aspects of distributive trade such as Investment, Employment, Salaries and Wages, Cost Structure, Annual Sales Turnover, Stockheld, Profit and Loss

etc., that would go to help to arrive at reliable estimate of value added. The survey will also be useful to frame reliable State Income Estimates under Trade Sector.

45.64 An amount of Rs. 10.00 lakhs has been provided for this scheme during the Seventh Five-Year Plan.

On-Going Schemes :

45.65. Apart from the above schemes the following on-going schemes will be continued during the Seventh Five-Year Plan with the outlays noted against each:

Serial number and Schemes.	Seventh Plan 1985-90 Outlay. (2) (RUPEES IN LAKHS.)
(1)	(2)
1 Setting up of Man Power and Employment Cell.	11.25
Scheme on Study of Constraints Transfer of New Technology under field conditions	1.36
3 Setting up of a Data Bank ..	3.97
4 Scheme for Timely Reporting of and Area and Production of Crops.	18.05
5 Improvement of Crops Statistics ..	11.35
6 Scheme for Strengthening Agricultural Statistics.	2.60

Outlay

45.66. Summing up the total outlay for the Seventh Five-Year Plan period is Rs. 299.66 (or) Rs. 300.00 lakhs of which Rs. 48.58 lakhs is for on-going schemes and Rs. 258.08 lakhs is for new schemes as indicated in the Table

TABLE.

LIST OF STATISTICAL SCHEMES IN THE SEVENTH PLAN, 1985-90.

Serial number and Schemes.	Seventh Plan, 1985-90 Outlay. (2) (RUPEES IN LAKHS.)
(1)	(2)
<i>I. New Schemes.</i>	
1 Scheme on In-house printing Facilities and Publication of Reports.	12.69

TABLE.
LIST OF STATISTICAL SCHEMES IN THE SEVENTH PLAN, 1985-90—cont.

Serial number and Schemes.	Seventh Plan, 1985-90 Outlay. (2) (RUPEES IN LAKHS.)
(1)	(2)
<i>I New Schemes.</i>	
2 Scheme for Strengthening the Data Processing Unit (Computer Centre)	9.26
3 Scheme on Strengthening of Demographic Unit.	3.12
4 Scheme for Improvement of Rain-fall Statistics.	2.39
5 Scheme on Strengthening State Income Unit.	3.07
6 Scheme on creation of Data Communication Net Works connecting District Headquarters with State Headquarters through Computer Terminals.	43.00
7 Scheme for Strengthening the Statistical Machinery in Tamil Nadu by creating Divisional Statistical Units.	93.64
8 Scheme for Training Statistical Personnel.	10.00
9 Scheme for Block-level Yield Estimates of Principal Agricultural Crops.	11.00
10 Scheme on Creating Twelve Mini-Man-Power Cells in important Government Departments/Under-takings concerned with the Technical and Professional Personnel.	7.91
11 Scheme for Strengthening Consumer Price Index Section.	5.00
12 Scheme for Improvement of Net Domestic Product (State Income) from Registered Factory Establishments.	30.00
13 Scheme on Improvement of Prices Statistics at District-level.	10.00
14 Scheme on Distributive Trade in Tamil Nadu.	10.00

TABLE.
LIST OF STATISTICAL SCHEMES IN THE
SEVENTH PLAN, 1985-90—cont.

<i>Serial number and Schemes.</i>	<i>Seventh Plan. 1985-90 Outlay (2) (RUPEES IN LAKHS.)</i>
(1)	(2)
<i>I New Schemes.</i>	
<i>On-going Schemes.</i>	
15 Setting up of Man-Power and Employment Cell.	11.25
16 Scheme on Study of Constraints in transfer of New Technology under field conditions.	1.36
17 Setting up of a Data Bank ..	3.97
18 Scheme for Timely Reporting of Area and Production of Crops.	18.05

TABLE.
LIST OF STATISTICAL SCHEMES IN THE
SEVENTH PLAN, 1985-90—cont.

<i>Serial number and Schemes.</i>	<i>Seventh Plan. 1985-90 Outlay (2) (RUPEES IN LAKHS.)</i>
(1)	(2)
<i>I. New Schemes.</i>	
19 Improvement of Crop Statistics ..	11.35
20 Scheme for Strengthening Agri- cultural Statistics.	2.60
	Total .. 299.66
	Rounded to 300.00

Part B

SECTORAL PLANS

VIII General Services

CHAPTER 46.

STATIONERY AND PRINTING.

Present Status—

46.0. Activities of the Tamil Nadu Government in respect of Printing and Stationery are undertaken by Stationery and Printing Department at the Central Press and its Branches in the City and Districts. The Director of Stationery and Printing has also been acting as an adviser to the Government among other responsibilities in respect of adopting latest techniques in the Printing trade. Modernisation and augmentation of capacity of the Central Press at Madras and Regional Press at Madurai were taken up in the Sixth Plan. The main object of increasing the capacity is to strengthen the areas which require improvement with modern and advanced techniques.

Broad Thrust during the Seventh Plan—

46.1. The object is to improve the capacity through expansion and modernisation of the existing units and to house the established Units at Tiruchirappalli and Choolai, Madras in the new buildings and to improve the overall efficiency in all the areas in keeping with the modern development in printing technology.

Policies and Programmes—

46.2. During 1985-86, two numbers of press have been identified and provision of Rs. 13 lakhs made for two programmes i.e., to increase the efficiency and capacity of the Binding Department and improve the activities of production in Hot-Metal process into interlinked process with the offset method for the Government Central Press at Madras. A provision of Rs. 12 lakhs has been made to increase the production in the Regional Press at Madurai by implementing modern techniques. In all, Rs. 25 lakhs has been proposed for the Annual Plan, 1985-86.

46.3. An amount of Rs. 24.74 lakhs has been apportioned for the year 1986-87 for construction of new building for the Regional Press at Tiruchirappalli and staff for Central Press and Units.

46.4. During 1987-88, the machine capacity of the Regional Press at Salem will be improved. Apart from this, a token provision has also been made for construction of new building for the Branch Press at Choolai.

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46.5. It has been proposed to improve the optimum capacity of the machine power at Regional Press, Tiruchirappalli during 1988-89.

46.6. An amount of Rs. 10.26 lakhs has been proposed for purchase of machinery to the machine department to improve the efficiency in the Regional Press, Tiruchirappalli during 1989-90.

46.7 Proposals under Plan involve largely of capital investment on modern machinery and equipments. The continuous installation of modern machinery will definitely cope with the demands of the Government for multifarious activities in the years to come. However, efficiency in quality of service is also dependent upon a number of measures namely construction of new buildings and streamlining the production in the plan period.

46.8 The annual break up details for the Seventh Five-Year Plan period are furnished in Table below :—

ANNUAL BREAK UP DETAILS.

<i>Programme</i> (1)	<i>Outlay.</i> (2) (RUPEES IN LAKHS.)
1985-86—	
1 Augmentation of the capacity with modern techniques —, Central Press, Madras and Regional Press, Madurai.	25.00
1986-87—	
2 Construction of Building for Regional Press, Tiruchirappalli and staff for Central Press and Units.	24.74
1987-88—	
3 Expansion of Regional Press, Salem and construction of Building for Branch Press, Choolai (Token provision), Madras.	13.01
1988-89—	
4 Expansion of Regional Press, Tiruchirappalli.	11.99
1989-90—	
5 Expansion of Regional Press, Tiruchirappalli.	10.26
Total—VII Plan outlay ..	85.00

CHAPTER 47.

PUBLIC WORKS.

47.0. Over the years developmental activities have grown under the various plans. And as a corollary to the overall growth of plan activities, the need for more administrative and other buildings including inspection Bungalows and Circuit Houses for touring Government officials have also arisen. The Seventh Five-Year Plan Programme (i.e.) from 1985—90, covers the following schemes, to meet the above needs.

Inspection Bungalows—

47.1. There are more than 100 Taluks in the State and every year bigger Taluks are bifurcated and new taluks formed to meet the needs of the growing population and their developmental activities. Most of the taluk headquarters lack proper accommodation facilities for touring Government officials and Hon'ble Ministers, who visit these places for inspection.

47.2. To meet this contingency, on a phased programme, it is proposed to have inspection bungalows at 16 places in the State at an estimated cost of Rs. 128 lakhs at the current schedule of rates. The scheme is phased over the plan period 1985—90 and the project cost is distributed equally for every year i.e., $\frac{128.00}{5} = \text{Rs. } 25.60$ lakhs

and with probable escalation of 10 per cent for successive years the project cost works out to Rs. 155 lakhs [(i.e.) Rs. 25.00 lakhs + 28.00 + 31.00 + 34.00 + 37.00].

Administrative Office Building in Madras City and Mofussil Towns—

47.3. For reasons explained earlier, the need for new administrative office buildings in Madras City and various mofussil towns is felt more acutely. The space is not adequate in existing Government buildings and rents paid for private buildings cost the State exchequer heavily. The nature of accommodation available and the location of the block are often not conducive for the day to day discharge of administrative duties. Hence, the following administrative buildings are proposed to be constructed :

	(RUPEES IN LAKHS.)
1 Multi-storeyed building to House I.G. of Prisons office and other offices at Egmore, Madras.	30.00
2 Office building of Police Commissioner and other offices at Madras.	60.00
3 Additional accommodation for FWD offices at Chepauk, Madras-5.	50.00
4 District Head quarters offices of various departments in other districts.	20.00
Total ..	160.00

Office Buildings in Trifurcation Districts—

47.4. Trifurcation of Ramanathapuram District with headquarters at Ramanathapuram, Sivaganga and Virudhunagar has been taken up in the current year.

47.5. For proper functioning of the above district office complexes and other infrastructure amenities such as, road, electrification, etc., are proposed at a cost of Rs. 40 lakhs for each.

47.6. The total cost of the administrative buildings and other infrastructure facilities in Madras City and in various district headquarters is estimated at Rs. 1,360 lakhs. The scheme is phased over the five year plan and with probable escalation of 10 per cent for every year. The total cost of the project works out to Rs. 1,660 lakhs.

Judicial Buildings—

47.7. Many courts do not have buildings of their own and are functioning in private rental buildings. Creation of additional accommodation is urgently needed for many judicial buildings. An amount of Rs. 471.50 lakhs is proposed for this. To maintain law and order and to assure security to citizens new Police Stations, outposts and Jails have to be constructed and a token provision is proposed for the same.

Outlay—

47.8. The Annual break up details for the Seventh Five Year Plan period are furnished in Table below:

PUBLIC WORKS.

<i>Details of schemes.</i>	1985-86.	1986-87.	1987-88.	1988-89.	1989-90.	<i>Total.</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(RUPEES IN LAKHS.)					
1 Inspection Bungalows and Circuit houses.	25.00	28.00	31.00	34.00	37.00	155.00
2 For spill over works of Sixth Plan.	7.25	..	..	..	..	7.25
3 Office buildings	272.00	299.00	329.00	362.00	398.00	1,660.00
4 For spill over works of Sixth Plan.	56.24	..	..	..	..	56.24
5 Administration of Justice	74.22	97.28	100.00	100.00	100.00	471.50
6 Police Stations and Outposts, Jails.	..	0.01	..	..	..	0.01
Total ..	434.71	424.29	460.00	496.00	535.00	2,350.00

CHAPTER 48.

FOOD.

Background :

48.0. The persistent problem in a developing country like India is not only one of higher production but also of a proper distribution of the goods produced in the society. The distribution of essential commodities assumes greater importance in our country where majority of the people live below the poverty line and also lack purchasing power, in general. A public distribution system is the whole or a part of the distribution system in principle owned and controlled by the public authorities on behalf of the general public and run by them for the good of the general public or a specific group thereof. In the past, the public distribution system was evolved as a short-term strategy to meet the war-time needs and famine conditions. Since the planning era, it has been assigned a prominent role in providing a better distribution of essential commodities. The broad objectives of the public distribution system can be enumerated as follows ;

1. To ensure the availability of foodgrains at reasonable prices, especially to the vulnerable sections of the population.

2. To hold up hoarding and blackmarketing in essential commodities.

3. To prevent creation of artificial scarcities and black-market prices prevailing in the open market, with the sole intention that the poorer sections of the society should not be made to suffer and that they should be provided atleast a basic minimum quantities of essential commodities at reasonable prices.

4. To rectify the existing imbalance between the supply and demand for consumer goods.

5. To ensure social justice in the distribution of the basic necessities of life.

6. To even out the fluctuations in prices of mass consumption goods.

The following are the various strategies deployed to achieve the above mentioned objectives ;

(i) Nationalisation of the wholesale trade of foodgrains.

(ii) Compulsory procurement of marketable surplus.

(iii) Categorisation of essential items of consumption.

(iv) Building-up of buffer stock.

(v) Statutory rationing.

(vi) Dual pricing, support pricing, etc.

48.1. An efficient Public Distribution System requires a nexus between production, procurement, transportation, scientific storage and distribution of selected commodities. The essential commodities to be covered under the system has to be determined with reference to the needs of the common man. Applying this criterion, cereals, sugar, edible oils, kerosene, soft coke, controlled cloth, tea, coffee, toilet soap, match boxes and exercise books for children, etc., can be treated as essential items for public distribution.

48.2. The Government of India have time and again exhorted the State Governments to implement the Public Distribution Scheme to serve the cause of the rural people without the financial assistance on its part. Expansion of Public Distribution System through more fair price shops, including mobile shops in far-flung areas is one of the points included in the New Twenty-Point Programme (Point 17).

48.3. Keeping in mind the above factors and also fully aware that the opening of several thousands of shops in the villages will result in enormous expenditure to the Government, the Government of Tamil Nadu, took a bold policy decision in June 1977 to cover the entire State under Public Distribution System and came forward to implement the scheme "one village one shop" during the year 1978. The unique feature of the Public Distribution System in Tamil Nadu is that the private trade is not associated in running the Fair Price Shops.

48.4 The Fair Price Shops are run mainly by the Co-operatives in the districts of Chengalpatu, North Arcot, Salem, Coimbatore, Periyar, Nilgiris, Tiruchirappalli, Pudukkottai, Ramanathapuram, Madurai and Kanyakumari. The Tamil Nadu Civil Supplies Corporation is entrusted with the retail distribution of essential commodities in the districts of South Arcot, Thanjavur, Tirunelveli and Dharmapuri. The commodities distributed in these shops are rice, sugar, kerosene and edible oils. There were 18,009 Fair Price Shops in the

State as on 1st January 1984. Out of these, 1,956 shops function in urban areas and the remaining 16,053 Fair Price Shops are in the rural areas. Out of 18,009 shops, the Tamil Nadu Civil Supplies Corporation runs 5,036 shops. The Co-operatives run 12,905 shops and other agencies run 68 Fair Price Shops. In 1984, the Government took another major decision to expand and strengthen the Public Distribution System by bifurcating the ration shops which had more than 1,000 family cards attached to them to avoid over-crowding in front of fair price shops. The Government of Tamil Nadu have also decided to transfer all the Fair Price Shops run by the Civil Supplies Corporation to the Co-operatives with effect from 1st July 1984 and restricting the role of the Tamil Nadu Civil Supplies Corporation to that of a wholesaler. This has resulted in the creation of 2,714 new shops being opened by the Co-operatives following the directives of the Government. Now there are 20,723 fair price shops in this State serving 119.65 lakhs cardholders. Government are extending subsidies to the Co-operatives and also for supervisory staff ranging between Rs. 2 crores to 4 crores every year under the Plan.

Sixth Plan Financial and Physical Performance :

48.5. No outlay was fixed for the scheme "one village one shop" under the Sixth Five-Year Plan period. However an amount of Rs. 12.90 crores was incurred for the above scheme. The Union Planning Commission approved an amount of Rs. 100.00 lakhs to establish a Modern Rice Mill with a milling capacity of 100 tonnes per day and a solvent extraction plant at a total estimated cost of Rs. 2.00 crores at Erukkur Village, Sirkazhi taluk, Thanjavur district.

The amount has been utilised by the Tamil Nadu Civil Supplies Corporation and the work is in progress. The important feature of the scheme is to establish a solvent extraction plant to manufacture edible grade rice bran oil.

Seventh Five-Year Plan Proposals :

48.6. The Tamil Nadu Civil Supplies Corporation has proposed to construct two Modern Rice Mills at a cost of Rs. 200.00 lakhs. The Corporation also proposed to install edible oil tank with a capacity of 3,000 M.T. at Tuticorin Port at a cost of Rs. 15.00 lakhs. During the period of Kuruvai and Samba cultivation in Thanjavur district, the Corporation finds it difficult to procure and store the arrival of paddy in bulk quantities. Hence, it is proposed to construct 50 Direct Purchase Centres at the rate of Rs. 2.50 lakhs in Thanjavur district.

48.7. The Civil Supplies department has proposals to expand the existing Laboratory for analysis of samples of wheat products, etc. in the Seventh Five-Year Plan. The department proposes to implement Huller Subsidy Scheme introduced by the Government of India to 450 units at Rs. 5,000 per unit as subsidy. Subsidy is to be shared by the Centre and the State Government equally. Provision of funds towards construction of building and the recurring grant to the Regional Centre for Extension Service, Annamalai University is also suggested, by the department.

48.8. Scheme-wise financial outlays for the Seventh Five-Year Plan under various departments implementing under the Head "Food" are given in the tables.

TABLE NO. 49.1.

FOOD.

SEVENTH FIVE-YEAR PLAN SCHEME-WISE FINANCIAL OUTLAY.

Serial number.	Name of the scheme.	Seventh Plan Financial Outlay (1985-90).
(1)	(2)	(3)
(RUPEES IN LAKHS)		
<i>Tamil Nadu Civil Supplies Corporation.</i>		
1	Construction of 50 Direct Purchase Centres at the rate of Rs. 2.50 lakhs per Centre in Thanjavur district.	1,25.00
2	Installation of 3,000 Metric Tonnes Edible oil Tank at Tuticorin Port	15.00
3	Construction of 2 new Modern Rice Mills	2,00.00
	Sub-Total ..	3,40.00
<i>Civil Supplies Department.</i>		
4	Expansion of the existing Laboratory for analysis of samples of wheat products, etc.	1.00
5	Huller Subsidy Scheme	6.00
6	Purchase of mini Computer	1.00
7	Provision of funds towards construction of building and recurring grant to the Regional Centre for Extension Service, Annamalai University.	37.00
8	Promoting and nurturing Consumer Protection Forums and imparting consumer education to the masses.	5.00
	Sub-Total ..	50.00
<i>Registrar of Co-operative Societies.</i>		
9	Construction of shops in developing urban areas and semi-urban areas	5.00
10	Purchase of oil tankers, replacement of existing barrels, provision of Mini Kit Boxes. etc.	5.00
11	Subsidy to village Co-operatives for the Public Distribution System	16,00.00
	Sub-Total ..	16,10.00
GRAND TOTAL—FOOD.		20,00.00

Part C

SPECIAL PROGRAMMES

CHAPTER 49.

MINIMUM NEEDS PROGRAMME.

49.0. One of the objectives of plans is to improve the quality of life of rural poor. The problem of poverty has to be tackled not only in economic terms of provision of employment opportunities, but also in social terms by providing the social infrastructure necessary for improving the quality of life of the deprived and depressed. The Minimum Needs Programme has, therefore, been introduced as a part of the plan, with a view to provide basic amenities of life to the rural poor. An important feature of this programme is that, the various schemes included in it, should be viewed as an integral part of a package of facilities. This programme aims at providing the minimum requirements of social consumption items. The content of the programme is as follows :—

(i) The provision of facilities for elementary education for children upto the age of 14 at the nearest possible place to their homes ;

(ii) Ensuring in all areas, a minimum uniform availability of Public Health facilities which would include Preventive Medicine, Family Planning and provision of adequate infrastructure in the rural areas ;

(iii) Supplying drinking water to villages suffering from Chronic scarcity or having unsafe sources of water ;

(iv) Provision of all weather roads to all villages including inaccessible and tribal areas ;

(v) Provision of developed house-sites to rural landless labourers ;

(vi) Carrying out environmental improvement to slums, and

(vii) To attack the problem of mal-nutrition at its very root taking care of pregnant women and lactating mothers, and pre-school children of weaker sections through an integrated programme of supplementary feeding, health care, Immunisation and nutrition education.

49.1. Tamil Nadu was ahead of other states in terms of achievement of the many components of the Minimum Needs Programme, when this was launched in the Fifth Plan. Therefore, the State had to make marginal deviation from the all India norms under this programme. To-day, almost all the villages in the State are electrified and, therefore, rural electrification is excluded from the Minimum Needs Programme.

Performance in the Sixth Plan :

49.2. The Sixth Plan agreed outlay for Minimum Needs Programme was Rs. 241.82 Crores which is 7.68 per cent of the total plan size (Rs. 3,150 crores) of the State. The Expenditure incurred was Rs. 343.61 crores i.e., 9.43 per cent of the total plan expenditure (3,644.62 crores). The table below, gives a broad break up of the outlay earmarked for different programmes under Minimum Needs Programme and expenditure incurred in the Sixth Plan. The State has performed higher outlays against the approved outlays under all the minimum needs programme components during the sixth Plan period.

TABLE :—OUTLAY AND EXPENDITURE.

<i>Name of Programmes.</i>	<i>Sixth Plan 1980-85 outlay.</i>	<i>Sixth Plan Expenditure.</i>	<i>Percentage.</i>
	(RUPEES IN CRORES.)		
1. Elementary Education	20.00	32.81	164.05
2. Adult Education	4.00	7.79	194.75
3. Rural Health	21.82	39.30	180.11
4. Rural Water Supply	50.00	61.95	123.90
5. Rural Roads	70.00*	46.05	106.08
6. Rural Housing	25.00	56.06	224.24
7. Environment Improvement of Slums	25.00	25.79	103.16
8. Nutrition	26.00	73.86	284.08
Total	241.82	343.61	142.09

* The total approved outlays during the respective annual plan periods is Rs. 43.41 crores.

49.3. A brief resume of the progress made in respect of the various programmes are given below :—

Elementary Education:

49.4. Elementary Education is an important input for social awareness and receptivity to modern ideas, improvement in quality of life, widening of mental outlook and development of human resources. The number of pupils, additionally enrolled in schools during the Sixth Plan was 13.67 lakhs (7.99 lakhs in the age group 6-11, and 5.68 lakhs in the age group 11-14) as against the target of 10 lakhs pupils. The achievement in the case of enrolment in Tamil Nadu was 98.66 per cent in the age group 6-11, and 72.18 per cent in the age group 11-14 as against the all India target of 95 per cent and 50 per cent respectively. The actuals arrived for the sixth plan was Rs. 32.81 crores which includes the expenditure of Rs. 6.32 crores incurred under CMNMP towards feeding children in Govt. aided schools.

Adult Education:

49.5. Out of the total population of 484 lakhs in Tamil Nadu as per the 1981 census, only 226 lakhs were

literate. About 15 lakhs of illiterates in the age group 15-35 have been made literate by the end of 1984-85. The number of Adult Education centres functioning as on March 1985 was 8,821, of which, 1,500 centres are run by State, 4,800 centres by centre, and 2,521 centres by other agencies. The number of adults studying in all these centres is 5.85 lakhs, of whom, as many as 5.02 lakhs are women and 2.91 lakhs belong to Adi-Dravidar and scheduled tribes. The active efforts of the State Government in the field of Adult Literacy have won international recognition. The State Department of Adult and non-formal Education has won from UNESCO, the prestigious Nadezda Krupskaya literacy award for 1982. Tamil Nadu has won an award of Rs. 25 lakhs for each year from Government of India for the excellent performance in enrolling women in Adult Education during 1982-83 and 1983-84.

49.6. The progress made in the field of Adult Education is indicated below :—

Item.	Level of achievement upto base year.	
	1979-80.	1984-85.
	(IN NUMBERS).	
(a) Number of participants (15-35 years)]	1,97,155	693,000
(b) Number of Centres—		
(i) Centre	3,600	8,100
(ii) State	6,100	11,500
(iii) Voluntary Agencies	1,751	1,782
(iv) Other Programmes	965	739

Rural Health:

49.7. Rural Health Care facilities are provided by maintaining the Primary Health Centres already functioning, and by establishing additional Primary Health Centres, organising Mobile Health Teams, Mini Health Centres and by up-grading, Primary Health Centres to offer specialist services. In Tamil Nadu, 434 Primary Health Centres are functioning as on 31st December 1984, out of 436 Primary Health Centres sanctioned. Of the 434 Primary Health Centres now functioning, 383 primary Health Centres deliver preventive, promotive, curative and Family Welfare Services, while the 51 additional Primary Health Centres, which were upgraded into Community Health Centres, provide specialist services with the additional employment of qualified doctors together with operation facilities. The Mobile Health Services has been extended to 274 Primary Health Centres in a phased manner.

49.8. With the object of delivering Health Care and Medical Services even to the remotest parts of the villages, voluntary agencies are encouraged to deliver the services on a co-operative basis. Two-thirds of the expenditure is given by the Central and State Governments to a voluntary agency as a grants-in-aid, and the voluntary agencies meet the remaining expenditure of Rs. 9,000 out of the total expenditure Rs. 27,000 per mini Health Centre per annum. Out of 264 Mini Health Centres sanctioned so far, 251 centres are functioning as on March 1983.

49.9. Schemes to provide drinking water to the problem villages are executed from the funds, provided under Minimum Needs Programme and the Central Assistance given under the Accelerated Rural Water Supply Programme. There are 7,226 villages identified as problem villages. At the commencement of the Sixth Plan, i.e., on 1st April 1980, the total number of problem villages to be covered

was 6,649. Upto the end of the Sixth Plan, 7,030 problem villages have been provided with at least one good source of drinking water.

Rural Roads.

49.10. This programme contemplates construction of all weather roads to habitations having a population of 1,500 and above and 50 per cent of habitations having a population between 1,000 and 1,500 from the main road nearby during the Sixth Plan. This population criteria is relaxable in respect of habitation in hilly, tribal, coastal and backward areas. Under the "Rural Roads Scheme", so far, 1,610 works

have been sanctioned in six phases for improving 6,364 kms. of Panchayat and Panchayat Union roads at a cost of Rs. 75.76 crores to benefit, 4,645 habitations (2,495 main habitations + 2,150 incidental habitation). Of these 6,014 kms. (94.5 per cent) of all weather roads have been laid upto the end of 31st March 1985 at a total cost of Rs. 58.31 crores (77.1 per cent) from 1972 onwards, benefitting 4,225 habitations (2,248 main habitations + 1,977 incidental habitations).

49.11. The progress of achievement made in the Sixth Plan is shown below:—

Description.	Position as on 31st March.	
	1980.	1985.
(a) Length (in Km.)	3,516	6,014
(b) Total number of habitations in the State (Nos.)	23,047	23,047
(i) with population of 1,500 and above ..	3,762	3,762
(ii) with population of 1,000—1,500 ..	2,568	2,568
(iii) with population less than 1,000 ..	16,717	16,717
(c) Habitations connected—		
(i) with population of 1,500 and above ..	1,234	2,498
(ii) with population of 1,000—1,500 ..	539	911
(iii) with population less than 1,000 ..	9,365	9,808

Rural Housing :

49.12. The rural Housing Scheme is implemented through 104 Primary Co-operative Housing Societies all over the State, and it was targeted to construct 2 lakh houses during the course of the Sixth Plan Period. During the first two years of the Sixth Plan, the Government got sizeable financial assistance from the General Insurance Corporation, Life Insurance Corporation, etc., under the Rural Housing Scheme, and provided the amount fully to the Tamil Nadu Co-operative Housing Society for the implementation of the Rural Housing Scheme. Thereafter, due to the very limited resource, the Government have decided to implement the Rural Housing Scheme with the financial assistance from Housing and Urban Development Corporation.

49.13. During the years 1980-81 to 1983-84, the Tamil Nadu Co-operative Housing Society had disbursed an amount of Rs. 4,485.11 lakhs and 1,58,516 houses were constructed out of which 1,32,151 houses were constructed by Adi-dravidars, and the balance of 26,365 houses by others. The housing requirements of Adi-dravidars in rural areas are taken care of by TADHCO.

Environment Improvement of Slums :

49.14. The Government of Tamil Nadu is keenly aware of the thrust of the environmental improvement of slums like roads, public fountains and public conveniences, and has a number of State aided and externally aided schemes, sought to provide very basic needs now beyond the reach of the slum. Slum Improvement works are done under three categories of schemes, viz. (1) Accelerated Slum Improvement Scheme, (2) Slum Improvement under Madras Urban Development Projects (World Bank Scheme) and (3) Slum Improvement Programme in the Mofussil areas, through various local bodies. The Sixth Plan target and the achievement made during the plan period are indicated below :

Target fixed for Sixth Plan ..	10,75,000	Beneficiaries
Achievements during 1980-81..	1,93,000	"
1981-82..	2,36,000	"
1982-83..	2,18,740	"
1983-84..	1,67,670	"
1984-85..	2,62,927	"
	<u>10,78,337</u>	"
Percentage of achievement ..	100.31	Per cent.

49.15. During the Sixth Plan, the Tamil Nadu Slum Clearance Board had proposed to provide improvements to slums covering 50,000 families under MUDP at an average cost of Rs. 1,351 per family. During the Plan, 6,500 families were covered at a cost of Rs. 1,29.35 lakhs under, MUDP-I and 48,500 families at a cost of Rs. 14,15.77 lakhs under MUDP-II.

ASIS is restricted only to those slums which could not be covered either under MUDP or the slum clearance scheme. Under this scheme, cost per family is limited to Rs. 1,250. During the Sixth Plan 32,488 families were benefited at a cost of Rs. 2,61.69 lakhs. So far 255 number of slums have been improved against the target of 250 slums fixed for the Sixth Plan period.

Nutrition :

49.16. The Sixth Five-Year Plan emphasised the need for a co-ordinated and well directed nutritional intervention programme. The Government of India formulated a package of schemes such as ICDS for improvement of the nutritional status of children in the vulnerable age group 0-6 years, pregnant women and nursing mothers and other sections of the community. The Education Department and Social Welfare Department implement Nutrition Programmes within the State for children and school boys and girls in the age group of 2 to 15 years under the Chief Minister's Nutritious Meal Programme to tackle the problems of mal-nutrition, and to provide facilities for pre-school education and health coverage. This scheme was launched in Tamil Nadu from 1st July 1982, and 15th September 1982 for the age group 2+ to 9+ and from 15th September 1984 for the age group 10+ to 15. At present, there are 23,040 centres in rural areas and 5065 centres in urban areas wherein supplementary nutrition is being provided to children through ICDS, Chief Minister's Noon Meals Programme and social support scheme. Under the Chief Minister's Noon Meals Programme, as many as 55 lakhs of pupils in Standards 1 to 10 in schools are fed through 37,447 school feeding centres. This scheme has been extended to the old age pensioners from 15th January 1983. About 2,80,032 old age pensioners benefit from this scheme.

49.17. The physical achievement of the programme is shown below :

Programme.	Level of Achievement (cumulative)		
	1979-80.	1984-85.	1980-85. (Target)
(1)	(2)	(3)	(4)
	(in .000)		
(a) Beneficiaries under Special Nutrition Programme outside ICDS—			
(i) Children 0—6 years	21.0	273.0	82.95†
(ii) Women	9.0	117.0	193.55†

† From 1982—83 onwards, the scheme has been merged with CMNMP.

(b) Beneficiaries under Special Nutrition Programme in ICDS—

(i) Children 0—6 years ..	36.0	60.6	260.8
(ii) Women	16.6	24.2	96.5

(c) Beneficiaries under Midday Meals Programme ..

2,025	2,525	55,00
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Programmes for the Seventh Plan :

49.18. The total approved outlay for the schemes under the Minimum Needs Programme during Seventh Five-Year Plan (1985—90) is Rs. 1,013.25 crores, i.e. 17.62 per cent of the total plan allocation. The outlay earmarked for the programmes are given below :—

Programme.	Seventh Plan approved outlay. (Rupees in crores)
1. Elementary Education	90.00
2. Adult Education	14.45
3. Rural Health	50.00
4. Rural Water Supply	175.00
5. Rural Roads	70.00
6. Rural Housing	35.00
7. Environmental Improvement of Slums.	40.00
8. Nutrition	538.80
Total	1,013.25

49.19. While the funds required will be met from the States sources to a very large extent the funds available from other agencies will also be mobilised to ensure achievement of targets under this programme without making any cut in the allocation of ongoing activities.

49.20. The programme-wise details under the Minimum Needs Programme are discussed in the following paragraphs.

Elementary Education :

49.21. Over-riding priority will be given to universal elementary education for children in the age group 6—14 years by 1990. This will call for additional enrolment of children during the Seventh Plan period. Both full and part time systems and formal and non-formal methods have to be adopted with the emphasis to ensure that children attain the basic learning objectives. The education of girls and education of

children belonging to Scheduled Castes/Scheduled Tribes would be specially promoted. The dropout rate among girls enrolled for primary education will have to be drastically brought down through suitable measures.

49.22. The estimated school age population in 1989-90 under the age group 6-11 and 11-14 will be 77.86 lakhs and 35.04 lakhs respectively. Till 1984-85, 70.44 lakhs pupils in the age group 6-11 and 23.19 lakhs pupils in the age group 11-14 have been enrolled. Therefore, the additional enrolment to be made during the plan period will be 7.42 lakhs in the age group 6-11 and 11.85 lakhs in the age group 11-14, totalling about 19 lakhs. It may not be possible to enrol the additional 19 lakhs of pupils under the formal school system before 1990. It is proposed that only about 12 lakhs pupils will be covered under the formal school system during the plan period. The constraints on resources may not permit the appointment of all the teachers required. Hence, it is proposed to keep the requirements of additional secondary grade teachers to 5,000 only during the plan period at the rate of 1,000 teachers per year.

49.23. The scheme of free supply of uniforms and free supply of text books to all deserving poor children in Standards I-VIII will be implemented to reduce the dropout percentage during the Seventh Plan period.

Adult Education :

49.24. A large number of people have by passed formal education, and they can be covered only by non-formal and adult education. There are about 64 lakhs illiterate adults in the age group 15-35 in the State. The Government of India have fixed the targets to cover all the illiterate adults in Tamil Nadu during the period from 1982-83 to 1989-90. For this an operation plan was drafted and was sent to Government of India. According to the proposal, it has been suggested that nearly 50 lakhs adults illiterates would be covered during the Seventh Plan. The year-wise coverage is shown below :

Year.	Illiterates to be covered.	Men.	Women.	SC/ST
(1)	(2)	(3)	(4)	(5)
		(IN LAKHS)		
1985-86	7.00	2.90	4.10	2.70
1986-87	9.00	3.75	5.25	3.50
1987-88	10.00	4.00	6.00	3.90
1988-89	12.00	5.00	7.00	4.70
1989-90	12.00	5.00	7.00	4.70
Total	50.00	20.65	29.35	19.50

49.25. It is proposed to open 40 new projects in addition to the existing 115 State Adult Education Programme now functioning in the State, and it is also proposed to continue the 115 State Adult Education Project throughout the Seventh Plan.

49.26. The target proposed for the Seventh Plan is shown below :-

Items.	Seventh Plan target (in numbers).
Adult Education—	
(a) Number of participants (15-35 years)	50,00,000
(b) Number of Centres—	
(i) Centre	40,500
(ii) State	1,10,000
(iii) Voluntary Agencies	23,900
(iv) Other Programmes	5,450

Rural Health :

49.27. During the Seventh Plan period, it has been proposed to establish 238 additional subsidiary health centres and 82 Community Health Centres in the State. The Scheme of establishment of Mini Primary Health Centre for encouraging voluntary agencies to deliver comprehensive Health Care Services to the rural population in the remotest part of the villages in a co-operative manner, will be continued in the Seventh Plan Period. The scheme of Mobile Health services in rural areas will also be continued. Out of 6,095 health sub-centres established, 4,297 have been provided with buildings up to the end of 1985 and 500 centres will be taken for construction during the Seventh Plan.

Rural Water Supply :

49.28. As on 1st April 1985, i.e., at the beginning of the Seventh Plan there will be about 974 problem habitations and 9,076 reclassified and new habitations left to be provided with water supply. During the Seventh Plan, those "Problem villages" would be covered in the first instance. Further, every effort would be made to provide adequate and safe drinking water facilities to every habitation so as to cover 100 per cent of the rural population in keeping with the objective of the International Decade of water supply and sanitation 1981-91.

49.29. It is proposed to undertake an immediate survey of all the habitations in the State from the point of view of adequacy of existing drinking water sources and to identify the problem villages. Based on the results of the re-survey, problem habitations will be taken up and covered in a phased manner from the funds provided under the Minimum Needs Programme.

Rural Roads :

49.30. Tamil Nadu has a good network of roads. Most of the hill-erlands are connected with district roads and State Highways. Government of India expects that 100 per cent habitations in population group 1,500 and above and 50 per cent habitation in the population group 1,000 to 1,500 shall be connected with all whether roads by the end of Seventh Plan, i.e. by 1990. Priority has been given for physical completion of on-going schemes. The State Public Works Department will undertake improvement of 1,600 kms. of roads during the Seventh Plan period.

49.31. The target proposed for the Seventh Plan is given below :—

<i>Details.</i>	<i>Terminal year level 1989-90.</i>
(1)	(2)
Rural Roads :	
(a) Length (in km.)	7,614
(b) Habitation to be covered—	
(i) with a population of 1500 and above (in numbers)	3,762
(ii) with a population between 1000--1500 (in numbers)	1,284
(iii) with a population below 1000 (in numbers)	10,242

49.32. Rural roads are also constructed under other programmes like National Rural Employment Programme (NREP) and Rural Landless Employment Guarantee Programme (RLEGP). During the Sixth Plan, 63,639 Kms. of fair weather roads under NREP and 237 construction works for link roads under RLEGP have been completed.

Rural Housing :

49.33. Wherever available Government Poramboke lands are assigned as house sites to rural landless poor by the Revenue Department. Where such Government lands are not available, private lands are acquired and distributed as house sites to Adi-dravidars and Tribals by the Social Welfare Department. During the Seventh Plan it is proposed to allot 10.50 lakh house sites to Adi-dravidars and tribals.

49.34. Under Rural Housing Scheme loans are given to the individual members of the Rural Co-operative Housing Societies, repayable in a period of 20 years for the construction of houses by them. The Ceiling cost of each house with a plinth area of 200 sq. ft. is Rs. 6,000 of which, 25 per cent has to be

borne by the individual members by cash or building materials or physical labour. The Adi-dravidar beneficiaries are eligible for a capital subsidy of Rs. 1,000 for each house and loan given to them are interest free. During the Seventh Plan period, it is proposed to construct 2 lakh houses.

Environmental Improvement of Slums :

49.35. During the Seventh Plan, the Slum Improvement Programme has to be expanded. The components of the programme are water-supply, sewerage, paving of streets and provision of community latrines. There is necessity for providing security of tenure to the slum dwellers so that they develop a stake in maintaining and improving their habitat. Provision of infrastructure services of reasonable quality and adequate civic amenities would ensure safe and healthy environment.

49.36. There will be a judicious mix of clearance/improvement Project in Seventh Plan period so that people living in objectionable areas are rehabilitated to safer places and people living in acceptable areas without basic amenities and shelter will be provided with the service.

49.37 There are 1,100 slum in 106 municipalities covering population of about 12 lakh families. So far 255 number of slums benefiting 3.10 lakh families have been covered. During the Seventh Plan 200 slums will be improved and nearly 1.29 lakh families will be benefited by ASIS.

Nutrition :

49.38. Malnutrition among children and pregnant and lactating women calls for proper attention. The Seventh Plan has been envisaged to cover pregnant and lactating mothers and children of the age group 6 months to 4 years, mostly in rural and urban areas. The coverage of beneficiaries is expected to be stepped up from the current annual level of 5-6 lakhs to 32 lakhs at the end of the Seventh Plan. Nutrition Delivery Services is provided in the villages of 173 blocks with the credit assistance of World Bank. Under this scheme, 9,000 Community Nutrition Centres are functioning now. During the Seventh Plan period, the centres will be converted into ICDS in a phased manner. 110 ICDS (6,109 centres) Projects are to be opened by way of converting the Chief Minister's Noon Meals Programme Centres including TINP Centres in rural areas of Pudukkottai, Tirunelveli, Madurai and Ramanathapuram districts. Under this programme, 6.11 lakhs of children in the age group of 2+ to 4+, 1.83 lakhs of children in the age group of 6 months to 2 years, and 1.83 lakhs of pregnant mothers and lactating mothers are to be covered. The total beneficiaries will be 9.77 lakhs.

CHAPTER 50

SPECIAL COMPONENT PLAN.

50.0 The population of Scheduled Castes in Tamil Nadu, according to 1981 census is 88.81 lakhs. This represents 18.35 per cent of the States total population and is composed of 45.85 lakhs males and 43.96 lakhs females with the largest concentration in South Arcot and Chingleput districts. Kanyakumari district has the smallest number of Scheduled Caste population. According to the census, 67.05 per cent of the States total population live in rural areas and 32.95% live in urban areas, Whereas 79.84 per cent of Scheduled Castes population live predominantly in rural areas and only 20.16 per cent live in urban areas which shows that the Scheduled Castes depend mainly on agriculture and allied activities for their livelihood. The rate of literacy in Tamil Nadu is 46.76 per cent and among Scheduled Castes, it is 29.67 per cent. Out of 190.26 lakhs of main workers, the Scheduled Castes constitute 40.73 lakhs which works out to 21.41 per cent. Further, among 55.59 lakhs of cultivators 7.40 lakhs are from Scheduled Castes. The Scheduled Castes constitute 43 per cent of the agricultural labour force and 13.3 per cent of the cultivators.

50.1. To accelerate the phase of development of Adi-Dravidar in Tamil Nadu, the Government are implementing the Special Component Plans since 1980-81. All efforts are taken to quantitatively and qualitatively improve the status of Scheduled Castes through the Special Component Plan. Keeping in view the needs and hardships faced by them, efforts, such as assignment of lands for cultivators, cash grants for bringing the lands under plough, assistance for adoption of Scientific agricultural practices, supply of subsidised inputs, soil conservation measures and extension services, etc., have helped them to stabilise their economy. Supply of milch animals, poultry, sheep, piggery, etc., are some of the other measures that are supported and encouraged.

Performance during the Sixth Plan :

50.2. The special feature of the Sixth Plan was the formulation of the Special Component Plan and its aim was to help 50 per cent of Adi-Dravidar families to cross the poverty line and also to provide basic amenities and facilities to Adi-Dravidar colonies. The strategy adopted to achieve the

goal was multifaceted. Out of the total of 55.59 lakhs of cultivators in the State, 7.40 lakhs are Scheduled Castes. Therefore efforts were taken to improve the economic status of the Scheduled Castes through suitable programmes under agriculture and allied activities. For improving the productivity, high yielding varieties of seeds, seedlings, fertilisers, etc., were distributed to Scheduled Castes farmers at 25 per cent subsidised cost. During 1984-85 more than 2 lakhs of Adi-Dravidar farmers have been benefitted. During the Sixth Plan period, in order to bring the surplus lands under plough 39,428 Scheduled Castes have been assigned, with a total area of 43,735 acres of surplus land. Under IRDP scheme, 3.13 lakhs of Scheduled Castes families have been assisted with subsidy. Small farmers are eligible for a subsidy of 25 per cent and marginal farmers 33.1/3 per cent. The Scheduled Castes youths were given training in trades like carpentry, blacksmithy, etc. During the period 1980-84, 65,698 Scheduled Castes youths were assisted and given training in different trades under TRYSEM programme.

50.3. The Command Area Development Programme is being implemented in Tamil Nadu from the year 1982-83 onwards as a Centrally Sponsored Scheme. The Government of India have so far approved 5 Commands in Tamil Nadu viz. Cauvery, Periyar, Vaigai, Lower Bhavani, Sathanur Reservoir Project and Parambikulam Aliyar Project, and its aim is to improve the water use efficiency at field level to optimise crop production, and to ensure equitable, timely distribution of water among the beneficiaries in the command. Under this programme nearly 3000 Scheduled Castes farmers are benefitted. Soil Conservation measures were carried out in the land holdings of 4,014 Adi-Dravidar farmers. Under the Programme of sericulture 997 Adi-Dravidar families were covered during 1984-85. 100 Veterinary Dispensaries have been opened for provision of health facilities for animals. The Scheduled Castes people were also given assistance for augmenting their income through sheep units, Poultry units, dairying, etc. During 1984-85, 12,469 Adi-Dravidar families have been covered under this programme. 2376 Adi-Dravidar families have been assisted to establish petty trades with liberal financial assistance.

50.4. One backward block in each district has been identified and 1000 Adi-Dravidar families in each block living below the poverty line in clusters are selected for extending benefits through various programmes to ensure that at least one member in each family gets employment throughout the year. Accordingly, 30 blocks have been identified so far, and a sum of Rs. 474.52 lakhs have been sanctioned to benefit 6,875 Adi-Dravidar families.

50.5. Social Forestry scheme provides employment opportunities to Scheduled Castes. Nearly 40 per cent of the beneficiaries are from the Scheduled Castes. Co-operatives play a vital rôle in the economic betterment of the weaker sections in general and Scheduled Castes families have been brought under co-operative fold. In rural electrification Tamil Nadu stands in the forefront. About 619 Adi-Dravidar colonies and 22 newly sprung up scheduled Castes colonies and 26,137 huts owned by them have been electrified in the Plan period. About 372 Adi-Dravidar colonies were provided with link roads and 26,000 colonies have been provided with drinking water facilities. Free legal aid to the Scheduled Castes are also provided by the State legal aid and Advisory Board. Mobile Medical units attached to the Primary Health Centres have been visiting the Adi-Dravidar Colonies at regular intervals and provides health coverage to the Scheduled Castes people.,

50.6. For the Scheduled Castes/Scheduled Tribes students free education is provided upto postgraduate degree level and tuition fee is not collected from them irrespective of the annual income of parents. All the Scheduled Castes/Scheduled Tribes children studying in Standard I to III are supplied with text books and slates by the Education department free of cost. About 9.50 lakhs of Scheduled Castes/Scheduled Tribes students studying in Standards from IV to X are supplied text books free of cost by the department of Adi-Dravidar and Tribal Welfare. An adhoc merit grant of Rs. 300 each is being granted for Scheduled Castes/Scheduled Tribes students who secure 60 per cent or more in X Standard examination to pursue their Higher Studies and the coverage is about 2363 students. Above all, 18 per cent of the seats are reserved for Scheduled Castes/Scheduled Tribes in all educational institutions. During the Sixth Plan Period, 4.15 lakhs of Scheduled Castes/Scheduled Tribes children have been enrolled additionally. The non-formal education is provided to dropouts and non-starters in the age group of 6-14 years who are not able to attend regular schools due to their

socio-economic conditions. The number of beneficiaries brought under this scheme up to the year 1983-84 were 2,40,720 of which the Scheduled Castes pupils were 71,181 and the Scheduled Tribes pupils were 1774. Under the State Adult Education programme, there are 11500 centres functioning. About 51 per cent of the centres have been located in the Scheduled Castes colonies and the total beneficiaries covered were 11,80,383 of which, Scheduled Castes numbered 6,22,298.

50.7. Nutrition is of vital importance to the school children for their proper growth and development. The Government of Tamil Nadu are implementing a massive Nutritious meal programme. Under this scheme, 27,846 centres have been started to cover about 24.34 lakhs of children (Scheduled Castes—9.11 lakhs) in the age group of 2-4 years. Besides noon meal is provided to 38.65 lakhs of children (Scheduled Castes—10.38 lakhs) in the age group of 5 to 9 in 33,800 schools. This programme has been extended to students in the age group 10 to 15 years in high schools and the beneficiaries are about 15.53 lakhs of students. They are fed for all the 365 days in a year. Since the Scheduled Castes are below the poverty line, more than 40 per cent of children covered are from Scheduled Castes. This programme has generated employment to 1,85,025 women in the rural areas, of this 33,755 women belong to Scheduled Castes/Scheduled Tribes.

50.8. Significant achievements have been recorded in the economic development of Adi-Dravidar, and programmes to ensure their socio-economic integration with general population have been pursued vigorously by the Government of Tamil Nadu. During the plan period 8.90 lakhs of Adi-Dravidar families were covered as against the target of 9 lakh families.

Approach to the Plan 1985-90.

50.9. The advent of the Special Component Plan has further narrowed down the developmental gap by pumping in more efforts and resources. Priority is therefore given to the task of the rapid socio-economic development of the Scheduled Castes. The main objectives of the Special Component Plan for the VII Five-Year Plan period would be (i) to help 50 per cent of the Scheduled Castes to be brought above the poverty line in the course of VII Plan and (ii) to provide necessary infrastructure facilities like drinking Water, Electricity, Health Schooling, etc., in all the Scheduled Castes, es, habitations.

Programmes for the Seventh Plan :

50.10. To augment the income of the Scheduled Castes farmers, subsidiary occupations will be offered and encouraged by providing a package of services through IRDP, NREP, RLEGP and OJOF programmes. A concerted effort will be made for diversifying their occupational pattern to enable them to earn a steady income. The Scheduled Castes youths will be given training through TRYSEM programmes. Cycle rickshaws owned by Scheduled Castes will be motorised. Scheduled Castes artisans will be given tools and appliances free of cost and Scheduled Castes families will be assisted to start Petty trades and bonded labourers will be rehabilitated. Adi-Dravidar colonies will be provided with drinking water, and link roads facilities.

50.11. Newly sprung up Scheduled Castes colonies will be electrified and Public latrines will be constructed in the Adi-Dravidar colonies. Nearly 1,25,000 house sites will be given to Adi-Dravidar families. To encourage backward Poultry rearing among villages, it is proposed to supply birds at 50 per cent subsidy. During the Seventh Plan period it is proposed to raise block plantations over an area of 1,76,450 lakhs hectares and strip plantations along road margins, canals banks and railway lines over a length of 6275 Kms. under the social forestry scheme. Further 373 lakhs seedlings are to be distributed to the public for planting in their own lands. With the funds of NREP, all the Scheduled Castes colonies left over during the sixth plan period will be provided with pathways to burial grounds during the plan.

50.12. To improve the level of literacy among Scheduled Castes/Scheduled Tribes about 23.36 lakhs of Scheduled Castes/Scheduled Tribes children will be brought into the educational stream against the proposed total enrolment of 116.70 lakhs children during the VII Plan period. 9.50 lakhs of Scheduled Castes students will be supplied with free books and note books and nearly 12.50 lakhs of children will be distributed free uniforms. 27.00 lakhs of Scheduled Castes children will be provided with the mid-day meals under CMNNMP. About 5,000 Pre Primary Schools will be started in

Scheduled Castes Colonies. Chief Minister's Nutritious Noon Meals Programme has been extended to students of 10+ to 15 age group. About 44 per cent of the students covered, will be Scheduled Castes. All the above programmes will be implemented in a co-ordinated manner for which the administrative machinery will be streamlined. The Special feature of the component plan will be to ensure that at least 18 per cent of the Seventh Plan outlay from the different sectors of development is directed to benefit the Scheduled Castes.

50.13 *Monitoring*:—Due importance has been given to effective monitoring thereby ensuring that benefits reach the Scheduled Castes. At the State level, the Commissioner and Secretary to Government, Social Welfare department reviews the progress with Heads of Departments to speed up the implementation of the schemes. Periodical review meetings are also held by the Chief Secretary to Government. At the district level, the Collectors who co-ordinate the implementation of the Special Component Plan, review the progress as part of their plan review meetings. The evaluation of Special Component Plan are done by the E & AR Department and Statistics Department in close liaison with the monitoring cell of the Social Welfare Department in Secretariat.

50.14. *Flow of funds*:—The flow of funds under the Special Component Plan has been quantified only from divisible schemes. Schemes which are not divisible have not been taken into account even though benefits really flow to Scheduled Castes from these sectors also. Against the State Plan outlay of Rs. 5,750.00 crores for the Seventh Plan, the flow to Special Component Plan is reckoned as Rs. 686.25 crores or 12 per cent of the total outlay. In addition to the flow from the State Plan, Special Central Assistance is released by the Government of India. This assistance will be utilised for implementing income generating, economic development and Employment oriented programmes. Besides a part of the project cost is by way of Institutional Finance from Banks.

50.15. The sectoral break up of outlay and physical targets are shown in Annexures I and II.

ANNEXURE I

THE SECTORAL BREAKUP OF OUTLAY FOR SEVENTH PLAN.

Serial Number and Head of Development.	Agreed State Plan outlay.	Flow to SCP.
(RUPEES IN LAKHS.)		
1 Crop Husbandry	2,00,00.00	3,817.75
2 Land Reforms	1,20.00	11.00
3 Soil and Water Conservation	30,00.00	1,23.75
4 Animal Husbandry	30,00.00	1,68.06
5 Dairy Development	5,00.00	0.15
6 Forests	70,00.00	22,00.00
7 Special Area Programme	1,81,50.00	51,15.00
8 Community Development	1,40,50.00	30,80.00
9 Co-operation	35,00.00	9.47
10 Power Development	20,15,00.00	14,35.50
11 Village and Small Industries	1,30,00.00	25.30
12 Roads and Bridges	1,30,00.00	3,71.00
13 General Education	2,80,00.00	51,96.50
14 Medical and Public Health	1,50,00.00	17,82.00
15 Sewerage and Water Supply	6,00,00.00	84,33.50
16 Housing	1,65,00.00	22,99.00
17 Urban Development	1,60,00.00	27,22.00
18 Welfare of Scheduled Castes, Scheduled Tribes/Other Backward Classes.	1,05,00.00	54,90.25
19 Social Welfare	30,00.00	1,12,86.50
20 Nutrition	5,40,00.00	1,37,06.99
21 Labour and Labour Welfare	15,00.00	13,50.00
22 Others	73,680.00	....
Total	57,50,00.00	6,86,24.57

ANNEXURE II.

SEVENTH PLAN: SPECIAL COMPONENT PLAN.

PHYSICAL TARGETS.

Serial number and items.	Unit.	Seventh Five-Year Plan.	1984-85 Achieve- ment.	Physical target.		1986-87 Target.
				1985-86 Target.	1985-86 Achieve- ment. (up to Dec. 1985).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 Land Reforms ..	Families	2,000	1,761	400	445	400
2 Integrated Rural Development Programme.	Do.	7,50,000	1,02,409	1,35,000	46,025	839.00
3 Soil Conservation ..	Do.	15,000	6,884	3,000	3,144	3,000
4 Animal Husbandary ..	Do.	10,550	120	1,500	204	1,600
5 Co-operation ..	Do.	250	14	50	..	..
6 Village and Small Industries.	Do.	6,500	1,579	1,100	1,016	1,900
7 Welfare of SCs, STs and OBCs.	Do.	29,569	4,131	5,289	2,306	7,495
8 Special Central Assistance.	Do.	1,86,131	92,761	3,189	77,307	95,925
9 Dairy Development ..	Do.	..	9,910	6,450	901	5,780
10 Social Welfare ..	Do.	..	344	..	..	..
11 House sites ..	Do.	..	..	..	..	..
12 Housing ..	Do.	..	..	..	..	..
Total ..		10,00,000	2,19,913	2,00,000	1,31,348	2,00,000

CHAPTER 51.

TRIBAL SUB-PLAN.

51.0. The Tribal population of this State is 5.20 lakhs as per 1981 census of which 2.64 lakhs are males and 2.56 lakhs are females. This works-out to 1.07 per cent of the total population. The level of literacy is 20.45 per cent as against 46.76 per cent of the general population. Though the population of the Scheduled Tribes is small, their problems are unique and complex in nature. They are scattered over a wide area. There are as many as 36 Tribal Communities living in Tamil Nadu. To accelerate the development of Tribal people in Tamil Nadu, a separate plan called "TRIBAL SUB-PLAN" has been in implementation from the year 1976-77 onwards. The size of the plan has increased steadily from Rs. 101.82 lakhs in the year 1976-77 to Rs. 761.57 lakhs in the year 1985-86.

51.1. The Tribal Sub-Plan is an area oriented plan with focus on the tribals. The tribal sub-plan is implemented in 9 identified pockets of tribal concentration in Salem, South Arcot, Tiruchirapalli, Dharmapuri and North Arcot districts. About 2.10 lakhs of Tribals living in the 9 integrated Tribal Development Project areas are benefitted by the Sub-Plan. The object of the Tribal Sub-Plan is to economically assist 46,979 Tribal families (ITDP 31979 + IRDP 15,000). Under the plan, economic development programmes like horticulture, animal husbandry, soil conservation, Minor Irrigation, Sericulture small-industries, bee-keeping, etc., and areas development programmes like provision of drinking water, formation of roads, electrification, schooling and health facilities, forestry, communication, co-operation and social services are taken up for around development of Scheduled Tribes.

Performance during Sixth Plan :

51.2. During the Sixth Plan period, out of the total outlay of Rs. 2,167.00 lakhs, an amount of Rs. 2,036.80 lakhs have been spent through several sectors for the benefit of tribals. Sector-wise expenditure under Tribal sub-plan is shown in the Table :—

Sixth Plan—Tribal Sub-Plan Allocation and Expenditure.

<i>Serial number and name of sector.</i>	<i>Sixth Plan outlay.</i>	<i>Actual expenditure.</i>
(1)	(2)	(3)
	(RUPEES IN LAKHS)	
1 Agriculture	228.90	165.93
2 Animal Husbandry ...	162.05	127.90
3 Forestry	253.71	206.75
4 Co-operation	307.60	150.11
5 Minor Irrigation	51.65	50.65
6 Communication	326.48	722.28
7 Village Industries	176.41	78.85
8 Education	214.95	186.22
9 Health	237.30	147.61
10 Social Welfare		
11 Electrification	73.25	70.04
12 Housing	12.85	4.20
13 Drinking Water	121.85	111.37
14 Tribal Research and Development.	..	6.86
15 Other Schemes .. ..	..	8.03
Total	2,167.00	2,036.80

51.3. Under the integrated Tribal Development Programme, nearly 28,884 scheduled tribe families have been assisted through a package of family oriented programmes. Forty per cent of the assisted families have actually crossed the poverty line (i.e. 6,224 families) and the remaining families will be given second and third doses during the seventh plan period. Inputs have been distributed to the tribals at 50 per cent subsidised cost in all areas except the Kabayan hills of South Arcot where the subsidy is 75 per cent.

Brief Review of Achievements :

51.4. The achievements under each sector during the Sixth Plan period is set out below:—

Horticulture:

51.5. Of the outlay of Rs. 228.90 lakhs provided a sum of Rs. 165.93 lakhs has been spent. A Giant Orchard has been newly established at Tagarakuppam in North Arcot district and 9,400 hectares have been brought under high yielding varieties. A State Horticultural Farm at Pachamalai in Tiruchirapalli district has also been newly established and land reclamation work is being done.

Animal Husbandry :

51.6. A sum of Rs. 127.90 lakhs has been spent against an outlay of Rs. 162.05 lakhs. 2,154 milch animals, 2,988 work bullocks and 4,728 sheep have been distributed to 9,870 beneficiaries. Nine veterinary dispensaries, 9 mobile units and 6 sub-centres have been opened. Horticulture and Animal Husbandry programmes have given maximum benefit to scheduled tribe families.

Forestry :

51.7. The forestry programmes mainly consists of afforestation under which various kinds of seedlings are supplied to the tribals. 600 hectares have been planted. A sum of Rs. 206.75 lakhs have been spent as against the outlay of Rs. 253.71 lakhs.

Small Industries :

51.8. Bee hives were supplied for 1,576 tribals at subsidised rate. Tamarind fruit processing unit at Javadhu hills was established in 1983-84. During 1982-83 three sub-units of the Khadi and Village Industries Board were started in Kolli hills and Kalrayan hills of Salem district and Javadhu hills of North Arcot district. 620 Scheduled Tribe families were technically trained and given tools and appliances free of cost and 85 families were given loans for running petty trades. The women belonging to tribal families were given training in T.V. and Radio mechanism. A sum of Rs. 78.85 lakhs was spent, out of the outlay of Rs. 176.41 lakhs provided.

Sericulture :

51.9. Sericulture was introduced among 405 Tribal families and 1,585 tribals have benefitted upto 1983-84. This scheme is becoming increasingly popular with the tribals. 1,373 acres of

land have been brought under mulberry cultivation in the plan period.

Co-operation :

51.10. In order to free the tribals from the clutches of various exploiters and also with a view to enable them to market their forest produces and to improve their economic conditions, the government have organised two co-operative marketing societies, 5 forest labour contract co-operative societies and two multi-purpose co-operative societies for Scheduled Tribes in the State. To provide alternative credit to the scheduled tribes through the financing institution at reasonable rate of interest, 13 LAMPS (Large sized multi-purpose co-operative societies) have been organised for the welfare of all the tribal in tribal areas. These LAMPS not only provide production credit, but also provide consumption credit. Out of the provision of Rs. 307.60 lakhs a sum of Rs. 150.11 lakhs has been spent.

Minor Irrigation :

51.11. Out of 96 minor irrigation works, 82 works have been completed, benefiting an ayacut of 1,173 hectares. A sum of Rs. 50.65 lakhs was spent as against the provision of Rs. 51.65 lakhs

Communication :

51.12. Road works have been completed for a length of 152 km. duly connecting the inaccessible areas and a sum of Rs. 722.28 lakhs has been spent for communication works.

Social Welfare :

51.13. 169 pre-schools have been opened under Tribal Sub-Plan upto 1983-84. Four Tailoring centres have been started in Kalrayan Kolli, Yercaud and Javadhu hills to train 65 tribal women every year. Under primitive tribes programme, 47 pre-schools have been opened.

Education:

51.14. For the benefit of 10,200 Scheduled Tribes Children, 160 schools and 22 hostels (with a strength of 1,005 boarders) including those in non-tribal sub-Plan area are maintained. Education is free to all Scheduled Tribe students upto Post Graduate Degree. During the Plan period 300 pre-matric and 1,397 post-matric scholarships were given to Scheduled Tribe students to pursue their higher studies. Two sets of dresses to all boarders and text books and note books to all students were provided in the Plan period. Special coaching

and training are given to SC/ST students for appearing in I.A.S., I.P.S., T.N.P.S.C., and Type writing/C.A. examinations.

51.15. The C.M.N.N.M. Scheme has been implemented and noon meal is provided to scheduled Tribe students studying in standards I to V for all the 365 days in a year and the scheme has been extended to students studying in Standard VI to X with effect from 15th September 1984.

Health and Nutrition:

51.16. 14 Government dispensaries, 36 sub-centres, one maternity child welfare centre and 216 pre school (47 pre-schools for primitive tribes) are functioning in Tribal areas. Out of the provision of Rs. 237.70 lakhs, a sum of Rs. 1,47.61 lakhs has been spent towards this.

Electrification:

51.17. So far, 146 villages and 70 hamlets have been electrified and a sum of Rs. 70.04 lakhs has been spent on this account.

Drinking Water:

51.18 308 Tribal habitations were provided with protected drinking water facilities, and a sum of Rs. 111.37 lakhs has been spent for this purpose.

Housing :

51.19. The problem of housing is very acute among tribals. They live in ill constructed huts put up in an unhygienic condition. The construction of houses for scheduled Tribes was undertaken by THADCO. During the Sixth Plan period, 76 houses were constructed, and 45 houses are under construction in Nilgiris and Salem districts.

Monitoring:

51.20. As far as monitoring is concerned, the chief project co-ordinators, viz., the District Collectors are constantly monitoring the progress of schemes at the district level. The physical and financial targets assigned to the various departmental officers are also reviewed by their respective Heads of Departments. The progress is watched and reported to Government by the Director of Adi-Dravidar and Tribal Welfare. Under the new Twenty Point Programme, coverage of Scheduled Tribe families is watched every month and monthly reports are sent to Government of India. The Tamil Nadu Tribal Development Authority is headed by the Chief Minister. This is a policy making body. There is a high level committee under the Chairmanship of the Chief Secretary,

to Government to Review the Tribal sub-plan schemes. The Commissioner and Secretary Social Welfare Department also conducts periodical meetings to review the sub-plan schemes. In addition to this, there is also a Tamil Nadu Tribes Advisory Council under the Chairmanship of Minister for Adi Dravidar Welfare to advise Government on matters relating to the welfare of scheduled tribes.

Approach to the Seventh Plan:

51.21. The main objective of the Seventh Plan would be to focus on the weaker and less articulate groups of the tribals. The second objective would be to make up for the developmental lag between the tribal areas and other areas during the Plan period. The Third would be to ensure a cent per cent coverage of the tribals in the State under planned development. This will be achieved through the implementation of (i) the programme for the Primitive Tribes (ii) and the programme for the Dispersed groups. The gains already achieved during the past years of implementation of Tribal Sub-Plan Schemes will be further consolidated during the Seventh Plan period. The concept of family approach to tribal development has been emphasised and programmes have been given such an orientation. Nearly 2.10 lakhs of tribals are residing in the nine Integrated Tribal Developmental Project areas in the districts, viz. (1) Salem, (2) North Arcot, (3) South Arcot (4) Dharmapuri and (5) Tiruchirappalli.

51.22. The Tribal Sub-Plan has been accepted as a Plan for the development of the area with a focus on the tribals. Therefore, the infrastructure facilities provided under Tribal Sub-Plan will cover the non-tribals also who are below the poverty line. The Plan will concentrate on helping 46,979 families including Integrated Rural Development Programme Schemes, and it is expected that at least 23,240 families are likely to cross the poverty line during the end of the Plan period. This can be achieved by administering a package of programmes depending on the additional income a family will get. The tribal sub-plan schemes will be supported by the proposed amended legislations contemplated, viz. (i) to effect debt relief to tribals, and (ii) to prevent alienation of lands from tribals to non-tribals.

Plan Programme:

51.23. Distribution of agricultural inputs at 50 per cent subsidised cost, excepting South Arcot Kalrayan Hills where the subsidy is 75 per cent conducting farmers training

programme, supply of sheep, bee-hives, milch-animals, organisation and bifurcation of Lamps, Co-operatives for providing production credit, medium term loan for subsidiary occupations, consumption loan and undertaking to market the produce of the tribals, will be taken up during the Plan period. Opening of one Veterinary dispensary, establishing a mobile veterinary units opening of 145 sub-centres, construction of wards in the existing 14 dispensaries, opening of two primary health centres, distribution of bee-hives for 2,565 tribals, imparting training to 500 tribals in Cane and Bamboo making, opening of 50 Government Tribal Residential Schools, 150 adult education centres, and supply of protected water supply to 461 habitations, electrification of tribal hamlets, provision of houses for 230 tribals, construction of check dams and percolation ponds, provision of pump-sets for irrigation, formation of access-cum-link roads are the schemes intended for the betterment and development of tribals. The respective departments assume full responsibility for the implementation and development of their schemes in the tribal areas. Implementation will be co-ordinated by Tamil Nadu Tribal Development Authority at State level and by sub committees at District level.

Primitive Tribes and Dispersed Tribes.

51.24. Considering the level of technology literacy and ecological balance, six primitive tribes have been identified and separate projects are taken up for their welfare and development under the Primitive Tribes Programme. The main stress is on development of the individual house-holds. Therefore, the scheme will be

family oriented. Stress will be laid on the problem of health and education. Nearly about 45,000 families are residing who are all primitive tribes. It is expected to cover all the families and specific family oriented schemes have been drawn up to cover the 332 primitive tribes families living in and around Dharmapuri District at a cost of Rs. 51.52 lakhs. The Primitive Tribes Programme qualify for 100 per cent central assistance.

51.25. The dispersed tribals are generally extremely poor, illiterate and unskilled. They are about 2.34 lakhs and live widely scattered throughout the State. Specific schemes have been drawn up during the plan period to assist 58 families living in Tirunelveli district by a package of family based schemes at a cost of Rs. 3.74 lakhs. Further programmes will be drawn up for their welfare by identifying the families during the plan period.

Outlay.

51.26. The outlay for the Tribal sub-plan, for the Seventh Five Year Plan, is Rs. 69.99 crores, of which, a sum of Rs. 18.48 crores will be the Special Central Assistance. The flow from the State Plan will be of the order of Rs. 50.34 crores. The investment to the Integrated Tribal Development Project Area flows from the State Plan, Special Central Assistance, Central Ministries/Departments and from Institutional Finance.

51.27. The details of the sector-wise allocation and the physical targets for the seventh plan are given in Annexure I and II.

ANNEXURE I

SEVENTH PLAN SECTOR-WISE OUTLAYS, 1985-90 (RS IN LAKHS)

Serial number and name of the Scheme.	I.T.D.P. Area.					Non-I.T.D.P. Area.		
	Flow from State Plan.	Special Central assistance.	Institutional assistance.	Expected outlay from the Central sector Centrally-Sponsored Schemes.	Total.	State flow.	Expected Central assistance.	Total.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Primitive Tribes .. ..	..	63.00	..	..	63.00	..	..	..
2. Agriculture and Allied Sectors -								
(a) Horticulture	1,78.37	1,46.00	62.20	..	3,86.57	..	..	.
(b) Minor Irrigation ..	1,04.00	..	..	..	1,04.00	..	.	.
(c) Animal Husbandry ..	84.93	1,30.00	1,07.00	..	3,21.93	..	..	..
(d) Soil and Water Conservation	1,21.82	..	..	..	1,21.82	..	..	..

Serial number and name of the Scheme.	I.T.,D.P. Area.					Non-I.T.,D.P. Area.			
	Flow from State Plan.	Special Central assistance.	Institutional assistance.	Expected Outlay from the Central sector Centrally Sponsored schemes.	Total.	State flow.	Expected Central assistance.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
3. Co-operation	3,10.97	2,30.00	4,80.00	..	10,20.97	..	..	..
4. Forestry	4,73.00	1,00.00	..	..	5,73.00	20.00	..	20.00
5. (a) Village Industries ..	1,55.37	13.00	70.00	..	2,38.37	..	..	..
(b) Sericulture	3,24.70	18.00	1,70.00	..	5,12.70	..	..	..
6. Education (CMNMP) ..	3,59.65 32.85	50.00 ..	.. ..	.. ..	4,09.65 32.85	2,22.45 1,46.84 (CMNMP)	..	2,22.45 1,46.84 (CMNMP)
7. (a) Director of Medical Services and Family Welfare	2,20.70	80.00	..	..	3,00.70	..	11.48	11.48
(b) Director of Public Health and Preventive Medicine	69.25 *1,80.00	16.00	..	..	85.25 *1,80.00	..	..	..
(c) Director of Primary Health Centres.. ..	57.88	14.00	..	..	71.88	..	..	..
(d) DANIDA .. ..	..	11.40	..	..	11.40	..	21.16	21.16
8. Infrastructure Development—									
(a) Roads	7,00.00	..	..	..	7,00.00	..	..	..
(b) Drinking Water ..	1,50.00	..	..	..	1,50.00	..	..	..
(c) Electrification	1,46.00	..	..	..	1,46.00	..	..	..
9. Housing	20.63	..	..	..	20.63	..	..	..
10. Labour Employment (Man Power and Employment)	16.75	..	..	..	16.75	..	..	..
11. Women and Children Nutrition CMNMPS ..	1,15.00 1,54.63	.. ..	.. ..	.. ..	1,15.00 1,54.63	43.00	..	43.00
12. Voluntary Organisation ..	..	..	..	..	..	..	..	..
13. Technology and Research Development (AD & TW)	48.00	..	..	17.75	65.75	..	..	..
14. Customs of Tribal Communities .. ..	..	..	..	..	..	..	..	..
15. Monitoring and Evaluation.	4.80	..	..	..	4.80	..	..	..
16. I.R.D.P.	9,77.00	*9,77.00	..	..	19,54.00	14,65.00	14,65.00	29,30.00
17. Community Development	24.80	..	..	..	24.80	..	..	..
<i>ESTERN GHATS—</i>									
18. Dispersed Groups (Bothamalai)	3.74	..	..	..	3.74	..	13.69	13.69
19. N.R.E.P. .. ..	..	..	..	..	..	..	..	..
20. R.L.E.G.P. .. ..	..	..	..	..	..	..	..	..
Total ..	50,34.84	18,48.40	8,89.20	17.75	77,90.19	18,97.29	15,11.33	34,08.62	

*Central Share.

ANNEXURE II

TRIBAL SUB-PLAN—TENTATIVE PHYSICAL TARGET FOR 1985-90

Serial number and Item.	Unit.	1979-80 level (Sixth Plan.)	Seventh Plan 1985-90.	1984-85 Achieved.	1985-86		1986-87 Target.
					Target.	Likely achievement.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I. General—							
Total number of Scheduled Tribes Families in Integrated Tribal Development Project area.	Number of families.	218,69	469,79	58,50	93,09 (I.R.D.P. 3,000).	93,09 (I.R.D.P. 3,000).	93,09 (I.R.D.P. 3,000).
Number of families actually crossed the poverty line.	Do.	..	..	58,50	..	..	..
Number of families to be assisted including Integrated Rural Development Project.	Do.	..	469,79	..	93,09 (I.R.D.P. 30,00).	93,09 (I.R.D.P. 30,00).	93,09 (I.R.D.P. 30,00).
Number of families expected to cross the poverty line.	Do.	..	232,40	..	37,20 (40 per cent).	37,20 (40 per cent).	37,20 (40 per cent).
(i) Horticulture—							
Area under High Yielding Varieties.	Hec.	171,23	220,00	30,00	30,00 (30,00 families.)	30,00 (30,00 S.T. families.)	32,00 (32,00 S.T. families)
(ii) Soil Conservation—							
Soil Conservation undertaken.	Hec./ (families)	46,55	28,89	10,00 (20,00 S.T. families).	150 (20,00 S.T. families).	150 (3,00 S.T. families).	150 (30,0 S.T. families).
(iii) Animal Husbandry—							
1. Live Stock distributed	Nos.	154,73	77,62	11,99	1,332	1,332	1,245
2. Veterinary dispensaries	Do.	9	9	8	1	1	..
3. Veterinary Sub-Centres	Do.	3	3	3	..	..	..
4. Mobile Units	Do.	9	..	9	1	1	..
5. Frozen Semen Centre	Do.	9	..	9	..	..	..
6. Poultry Centre at Kalrayanhill	Do.	..	..	..	..	..	30 S.T. families.
(iv) Forestry—							
1. Planting	Hec.	5,981	8,770	1,506	1,585	1,585	1,585
2. Avenue Planting	Km.	55	105	33	19	19	19
3. I.G.O.	Hec.	3,500	4,320	302	790	790	790
4. Seedling	Nos.	..	..	105,000	..	..	..
5. Sandalwood Forest	Hec.	..	..	..	..	..	3,000
(v) Minor Irrigation—							
1. Minor Irrigation	Hec.	325	425	178	147	147	143
2. Works Completed	Nos.	..	..	..	9	9	13

Serial number and item.	Unit.	1979-80	Seventh	1984-85	1985-85		1986-87
		level (Sixth Plan.)	Plan 1985-90	Achieved.	Target.	Likely achievement.	Target.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(vi) Village Industries—							
Beneficiaries under Beehives	Nos.	2,450	3,250	507.00	331	331	331
(vii) Sericulture—							
1. Area brought under mulberry cultivation	Acres.	536	2,075	950	300	300	300
2. Number of Families benefitted	Nos.	1,740	1,650	950	300	300	300
(viii) Co-operation—							
1. Number of LAMP Co-operative Societies	Nos.	5 (4+1)	5 (4+1)	..	1	..	4
(One in Non-I.T.D.P. area under Primitive Tribes Programme at Masinagudi.)							
2. Issue of Loans	Rs. in lakhs.	2,69.84	3,75.00	75.00	23.91	23.91	23.91
3. Purchase of Agricultural Produce	Do.	34.64	1,25	25	1.83	1.83	1.83
4. Supply of Agricultural inputs	Do.	57.49	75	15	6.37	6.37	6.37
5. Collection of M.F.P.	Do.	60.69	1,25	25	7.35	7.35	7.35
6. Distributing Consumer Goods	Do.	2,84.57	3.50	70	39.13	39.13	39.13
(ix) Education—							
1. Number of G.T.R. School opened	Nos.	56	60	10	10	10	..
2. Already in existence	Nos.	24	..	..	..	..	..
(x) Health—							
1. Number of Government Dispensaries already functioning	Nos.	14	..	..	..	..	..
2. Number of Tribal Sub-Centres (30 under the Centre of D.P.H., P.M. 4 under the control of D.M.S.)	Nos.	30+4	45	30	3	3	5
3. Mobile Medical Units	Nos.	1	..	..	..	..	..
4. Provision of Ambulance Van to Government Dispensary	Nos.	4	6	4	..	..	3
(xi) Social Welfare—							
1. Pre-Schools	Nos.	80	10	10	10	10	10
2. Tailoring Centre	Nos.	4	30	..	..	..	10
3. Pre-Schools for Primitive Tribes	Nos.	47	..	..	..	..	..

Serial number and item.	Unit.	1979-80 level (Sixth Plan.)	Seventh Plan 1985-90.	1984-85 achieved.	1985-86		1986-87 Target.
					Target.	Likely achieve- ment.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(xii) Electrification—							
1. Number of Village/ Hamlets electrified ..	Nos.	101/213	..	..	..	..	3
2. Number of Villages/ Hamlets to be electrified.	Nos.	..	16	22	9	9	329
(xiii) Drinking Water	Habi- tations.	1,114	466	140	125	125	50
(xiv) Community Development—							
Radio	Nos.	75	200	45	40	40	40
Television	Nos.	..	200	14	20	20	20
(xv) Housing	Nos.	87	230	29	65	65	31
(xvi) Communications ..	Km.	2,62.22	1,40.02	92	32	32	2
(xvii) Man power and employ- ment (Vocational Guidance Centre) ..	Nos.	1	..	1	..	..	1

CHAPTER 52.

NEW TWENTY POINT PROGRAMME.

52.0. The Twenty Point Programme originally commissioned from the year 1975 is an agenda for national action to promote social justice and economic growth. The programme have been dovetailed into the over all plan of development so as to provide special thrust in critical areas in order to achieve immediate results for various segments of the population. The programme is being implemented in all the states and union territories for the tenth year in succession. With a little modifications to the original plan, the programme has been revised as New Twenty Point Programme from 14th January 1982. The emphasis on the revised Twenty Point Programme is on schemes and measures which will take the benefits of development directly to the weaker sections. While the rural poor will be the principal beneficiaries of the revised Twenty Point Programme as a whole the unprivileged group in urban areas will be helped by specific programmes like slum improvement, E.W.S. housing, etc.

52.1. The Tamil Nadu Government has adopted the New Twenty Point Programme in its true spirit and has taken effective measures to ensure smooth and time-bound implementation of the programme so that the targets set at national and State level are achieved and objectives of the programme fulfilled. In 1982-83, it secured the first place in the country. In 1983-84, it slipped to the fourth position and with special efforts and constant monitoring, the state has once again regained first position in the country in 1984-85.

52.2. Brief write up on the performance of the New Twenty Point Programme during the Sixth Plan period and proposals for the Seventh Plan is given below :—

POINT 1.—INCREASE IRRIGATION POTENTIAL, DEVELOP AND DISSEMINATE TECHNOLOGIES AND INPUTS FOR DRY LAND AGRICULTURE.

Major and Medium Projects :

52.3. Increase in irrigation potential is directly related with the increase in agricultural production and as such the highest priority has been attached to this programme. The irrigation branch of the Public Works Department is implementing the irrigation projects for creating irrigation potential. In Tamil Nadu, most of the surface waters have been utilised by implementing various major and medium irrigation projects. Till the beginning of the First Five-Year Plan, an irrigation potential of 1101 thousand

hectares was under operation in the state. During the Five-Year Plan and Annual Plan periods, upto 1979-80, an additional irrigation potential of 288.30 thousand hectares was created. During the Sixth Plan a target of 66 thousand hectares has been fixed. The achievement made during the plan was 72.72 thousand hectares. During the seventh plan an additional irrigation potential of 40 thousand hectares has been targetted to be created. During the first year, the target of additional irrigation potential is fixed as 20 thousand hectares. All efforts are being taken to achieve the target in full during the Seventh Plan period also.

Minor Irrigation (Surface water) :

52.4. By implementing Minor Irrigation schemes, viz. SMIP, new areas are brought under Irrigation besides bridging the gap and stabilising the existing cultivation which is not getting sufficient supply. D.C.R. schemes contemplate desilting the tanks to restore capacity lost due to siltation and reclamation of foreshore lands. The Minor Irrigation wing of Public Works Department has achieved 10.90 thousand hectares during the Sixth Plan period as against the target of 10.73 thousands hectares. The outlay approved for SMIP and DCR in Seventh Plan period is Rs. 13.83 crores. This will create an additional potential of 10,982 hectares.

Minor Irrigation (Ground water) :

52.5. The Department of Agricultural Engineering is also doing major role in creation of irrigation potential through implementing ground water schemes under Minor Irrigation programme. During the Sixth Plan period, this department has created potential for irrigation in 143 thousand hectares of net area against the target of 133 thousand hectares. During the Seventh Plan, the department has programmed to create irrigation potential for 140 thousand hectares of net area. Out of this, creation of additional irrigation potential in new areas will be 71 thousand hectares and stabilisation of potential will be 69 thousand hectares.

Dry land farming :

52.6. Tamil Nadu, with its 160 lakh hectares of geographical assets, devotes her attention in cultivating food crops and non food crops in about 69 lakh hectares. Millets like cumbu, cholam, ragi, cotton and pulses are cultivated as Dry lands agriculture and is carried out in about 52 per cent of the cultivated area and

hence improved dry land technology is the need of the hour. The new 20 Point Programme aims at improving the dry land farms by adopting latest agricultural technologies and judicious use of inputs.

POINT 2.—MAKE SPECIAL EFFORTS TO INCREASE PRODUCTION OF PULSES AND VEGETABLE OIL SEEDS.

Pulses.

52.7. Tamil Nadu is not self sufficient in pulses production and have to depend on other states. The average productivity is lower than the national average. The year 1980-81 was the best productivity year in the Sixth Plan period in which the recorded productivity was 381 kgs. per hectare. In 1983-84 pulses were cultivated in an area of little over 8 lakh hectares, and recorded a 2.5 lakh tonnes production, by registering a productivity of 340 kg. per hectare. But in the year 1984-85, Tamil Nadu has produced 3.7 lakh tonnes over an extent of 10.9 lakhs hectares.

52.8. To maximise the yield of pulses over increased area of cultivation, number of productive programmes are being implemented in the state. Selection of right seed treatment, using of bacterial culture, application of recommended doses, chemical fertilisers, weed control, timely plant protection, DAP spraying are some of the technologies advocated to augment the pulses yield. Many farmers take active part in the implementation of the 20 Point Programme by cultivating more area under pulses. Even small farmers are benefitted to larger extent by adopting the technology in dry lands.

52.9. During the Seventh Plan, it is proposed to increase the area in order to raise the production to about 6 lakh tonnes.

Oil Seeds.

52.10. Production of vegetable oils is a source of fat to human body. A productive scheme envisaging the increase in cultivation area of oilseeds crops and also to improve the productivity is launched in Tamil Nadu as a part of implementation of New 20 Point Programme. The country's total annual production of the major oilseeds which is about 114 lakhs tonnes forms nearly 9 per cent of the agricultural production. Tamil Nadu occupies a significant place next only to Gujarat in the production of oilseeds. Normally oilseeds are grown in about 12 lakh hectares with an annual production of 12 lakh tonnes in the state. Groundnut is the major oilseed crop cultivated in about 80 per cent of the total area cultivated, and accounts for 90 per cent of vegetable oil production. The other oilseeds crops are sun flower, gingelly and castor.

52.11. Concerted efforts are being taken to increase the area under oil seed crop and increase the yield potentially both under irrigated and rainfed condition. By utilising water potential and perennial wells, tanks and diverting surplus water under the command area projects, successful oilseed crops will be raised. Developmental activities under the 20 Point Programmes are as follows :—

1. Maintenance of adequate plant population by adopting recommended seed rate and seed drill for sowing.
2. Using high yielding variety seeds.
3. Seed treatment with fungicides.
4. Timely plant protection.
5. Summer ploughing maintaining the optimum soil moisture.
6. Application of balanced fertiliser.
7. Use of micro nutrient mixture.
8. Application of Gypsum as top dressing.
9. Protective irrigation.
10. Inter cropping of pulses and millets.

52.12. During the base year of the Sixth Plan i.e., 1979-80, a total area of 11.83 lakh hectares was covered under all oil seeds with a production of 11.13 lakhs tonnes. During 1984-85, the base year for the Seventh Plan, it is programmed to cover a total area of 14.67 lakhs hectares with a production of 14.60 lakh tonnes under all oil seeds. It is programmed to increase this to 17.10 lakhs hectares with a total production of 19.98 lakh tonnes during 1989-90, the terminal year of the Seventh Plan, as detailed below :—

<i>Serial number and crop.</i>	<i>Area.</i> (lakh ha.)	<i>Production.</i> (lakh tonnes)
1. Groundnut	12.50	17.00
2. Gingelly	1.60	0.81
3. Sunflower	1.50	1.02
4. Castor	0.25	0.15
5. Soyabean	1.25	1.00
Total	17.10	19.98

52.13. The yield of oil seeds obtained so far is encouraging and it is no doubt a success in implementing new Twenty Point Programme.

POINT 3.—STRENGTHEN AND EXPAND COVERAGE OF INTEGRATED RURAL DEVELOPMENT AND NATIONAL RURAL EMPLOYMENT PROGRAMMES.

(a) Integrated Rural Development Programme.

52.14. Integrated Rural Development Programme is being implemented in all the 378 development block

of the State from October 2, 1980 with 50 per cent assistance from Government of India. The aim of the programme is to bring the rural poor, especially small and marginal farmers, landless labourers and rural artisans above the poverty line by providing them additional income. Poverty line has been defined to be a per capita annual income of Rs. 700 and for an average family of five, it is Rs. 3,500 per annum. The allocation under this item is mainly utilised in sanctioning subsidy, assistance to the targetted beneficiaries for taking various schemes under Agriculture, Minor Irrigation, Animal Husbandry, Forestry, Fisheries and Sericulture sectors. Generally the maximum subsidy for creating an income earning asset for a family is 33 per cent of the value of the asset and the remaining value is raised as a loan to the family from the Bank. Thus bank finance plays a major role. Assistance is also provided for industries, services, business sectors and TRYSEM training.

52.15. During the Sixth Plan, assistance was provided to 600 families on an average in each block every year. Phased coverage was replaced by total coverage. Details of assistance made during the Sixth Plan are given below :—

Year.	Subsidy.	Credit mobilisation.
(1)	(2)	(3)
	(RUPEES IN LAKHS)	
1980-81	16,91	29,67
1981-82	28,10	47,36
1982-83	34,16	62,87
1983-84	33,69	59,75
1984-85	33,75	57,63
Total	1,46,61	2,57,28

Total.	Target of families to be assisted.	Families assisted.
(4)	(5)	(6)
46,58	22,56,00	25,53,23
75,46	22,56,00	35,82,25
97,03	22,56,00	27,15,63
93,44	22,66,50	27,76,41
91,38	22,66,50	23,32,64
Total 4,03,89	1,13,01,00	1,39,60,16

52.16. Out of 13.96 lakhs beneficiaries assisted, 4.85 lakhs (34.74 per cent) belonged to scheduled castes and scheduled tribes and 3.30 lakhs (23.64 per cent) were women.

52.17. Government of India have since decided that the beneficiaries who have not crossed the poverty line during the years 1980-81 and 1981-82, should be

assisted again during 1985-86 to enable them to go above the poverty line once and for all. Accordingly 1.18 lakh beneficiaries would be given second dose of assistance in 1985-86. In addition 68,353 new families below the poverty line would also be assisted to come above the poverty line.

52.18. An outlay of Rs. 128.75 lakhs has been provided in the Seventh Plan to assist 16.63 lakh beneficiaries both new and old families with second dose of assistance put together.

(b) National Rural Employment Programme :

52.19. National Rural Employment Programme, a centrally sponsored scheme, is being implemented in this State from October 1980 onwards. The objectives of the scheme are generation of additional gainful employment for the unemployed and underemployed persons, and creation of durable community assets in the rural areas and improving nutritional status and living standards of rural poor. Against the Sixth Plan outlay of Rs. 4,370.94 lakhs, the total investment is Rs. 16,418.00 lakhs, and 1,798.05 lakh mandays of employment was generated.

52.20. During the sixth plan 1,73,265 works such as rural roads, community centres, group housing for Scheduled Caste/Scheduled Tribes were completed. Among the works completed, specific mention may be made of the following important works :—

	Number of works completed.
1. School Buildings	2,000
2. Community centres	5,429
3. Construction of group houses for SC/STs	9,358
4. Roads	63,639 km.
5. Afforestation	37,460 hectares
6. Minor Irrigation works	4,361

52.21. This programme will be continued in the Seventh Plan as a major programme of providing rural landless agricultural labour and marginal farmers with employment in lean seasons. An outlay of Rs. 10,250 lakhs is provided for the Seventh Plan as state's share and 1,218.75 lakhs man days of employment will be generated.

(c) Rural Landless Employment Guarantee Programme :

52.22. Rural Landless Employment Guarantee Programme is implemented from the year 1984-85 with

cent per cent assistance from Government of India. The objectives of this programme are—

(i) to provide with at least one job for each totally unemployed landless family ; and

(ii) to create durable infrastructure assets in backward areas.

52.23. Government of India have approved works to the tune of Rs. 6,982.02 lakhs under this programme. The total expenditure upto 31st March 1985 was Rs. 5,724.32 lakhs. 314.43 lakhs of mandays were generated, as against the target of 302 lakhs.

52.24. The total number of works completed as on March 1985 are given below :—

(i) Construction of link roads ..	237
(ii) Surface water and Minor irrigation	535
(iii) Percolation ponds	1,035
(iv) Group housing for SC/ST ..	19,042

52.25. An amount of Rs. 97,600 lakhs is provided for this programme in the Seventh Plan to be entirely financed by the centre and 4,635.06 lakh mandays (at the rate of Rs. 10 per labour) of employment is likely to be generated during the Seventh Plan.

52.26. This programme has generated great enthusiasm in rural areas. There is demand for more and more works being taken up under this programme.

**POINT 4.—IMPLEMENT AGRICULTURAL LAND CEILINGS
DISTRIBUTE SURPLUS LAND AND COMPLETE
COMPILATION OF LAND RECORDS BY REMOVING
ALL ADMINISTRATIVE AND LEGAL OBSTACLES.**

52.27. The land assignment is made with reference to the following priority :—

(i) Persons who has been cultivating the land on the date of commencement of the Act and who is completely dispossessed of the land ;

(ii) Person whose holding is reduced below three acres of dry land and 1.5 acres of wet land ;

(iii) Landless agricultural labourers of Scheduled Castes and Scheduled Tribes attending to direct cultivation ;

(iv) Member of armed forces ;

(v) Repatriate from Burma or Srilanka ;

(vi) Landless agricultural labourers of other community attending to direct cultivation ;

(vii) Cultivating tenant holding land of less than three acres of dry or 1.5 acre of wet ; and

(viii) Co-operative farming society.

52.28. The conditions of assignment include non-alienation for 15 years, payment of land value instal-

ments regularly, enjoying himself in direct cultivation of land, etc.

52.29. The revised pattern of assistance under the Tamil Nadu Land Reforms (Fixation of Ceiling on Land) Act, 1961 is being implemented from the year 1980-81 onwards. As per the revised pattern of assistance, the entire assistance given by the Government is treated as grant. Subsequently from the year 1984-85 onwards, the quantum of grant has been enhanced from Rs. 100 to 2,500 per hectare and is being given as assistance to the allottees of surplus lands for development and cultivation of surplus lands, since the assignees would mostly be landless poor, agricultural labourers, belonging to Scheduled Castes/ Scheduled Tribes and other communities. The expenditure on account of this scheme is being shared, equally between the State and the Central Government. During the year 1984-85, the entire grant was given in the form of cash. From 1985-86 onwards the old pattern of providing financial assistance to the assignees at 80 : 20 ratio (in kind and costs), which was adopted upto 1983-84, is being followed.

52.30. Upto the end of March 1985 as a result of the implementation of the ceiling laws, a total extent of 1,62,631 acres was notified (less cancelled) as surplus. So far, Government have taken possession of 1,53,266 acres. 23,199 acres which were notified as surplus would not be taken over by the Government due to certain legal hurdles but are being proceeded with for purpose of assignment. The total extent of land assigned is 1,19,079 and the number of beneficiaries is 93,167. Out of the above extent, 45,330 acres were assigned to 40,914 persons belonging to Scheduled Castes.

52.31. A concerted effort is being made to distribute the lands to the landless people and in particular to the persons belonging to the weaker sections of the society. A sum of Rs. 120.00 lakhs has been provided in the Seventh Plan enabling a coverage of 10,000 acres to be assigned to the landless poor.

POINT 5.—REVIEW AND EFFECTIVELY ENFORCE MINIMUM WAGES FOR AGRICULTURAL LABOUR.

52.32. In Tamil Nadu, minimum rates of wages for agricultural labourers were initially fixed in 1959 under the provision of the Minimum Wages Act, 1948. These rates were being revised periodically on the basis of recommendation made by the Advisory Committee headed by the Commissioner of Land Reforms. The Government have further revised the minimum wages with effect from 5th April 1983. The details of the revised minimum rates in respect of different classes of employees as compared to the pre-revision rates are indicated below :—

<i>Class of employees.</i>	<i>Before revision.</i>	<i>After revision (with effect from 5th April 1983)</i>
	(Rupees per day)	
1. Employees engaged in ploughing with bullocks and ploughs supplied by him	12	18
2. Employees engaged in ploughing with bullocks and ploughs not supplied by him	7	11
3. Employees engaged in harvest in respect of paddy, crop (reaping, thrashing, winnowing, measuring, bagging)	Rs. 7 or cash value of the worker's share in 1/8 gross yield produce whichever is higher.	Rs. 11 or cash value of the worker's share in 1/8 of the gross yield of produce whichever is higher,
4. Employees engaged in harvest in respect of crops other than paddy	7	11
5. Employees engaged in transplanting or weeding ..	5	8
6. Employees engaged in other operations like trimming bunds and fields, beekeeping, poultry farming, etc.	7	10
7. Attached labourers/Resident labourers	Not fixed.	210 per month.

52.33. In fixing the minimum wages, no distinction in the payment of wages has been made in the case of men and women where the same work or work of a similar nature is performed. Further, the Government have also fixed the number of hours of work for the class of employees engaged in agricultural operations.

52.34. The Revenue Department has been entrusted with the responsibility of enforcement of minimum rates of wages and penal provision against under payment and non-payment of these rates. District collectors have been asked to give wide publicity to the enforcement of minimum wages. All India Radio and Television Station have been requested to give publicity through periodical broadcasts/telecasts to the minimum rates of wages for agricultural labourers.

Point 6 : REHABILITATE BONDED LABOUR :

52.35. The Government of India strives hard to eradicate the bonded labour system in our country. The State Government also has fallen in line with Union Government in identifying the bonded labourers of Tamil Nadu origin in neighbouring States, to liberate

them and to rehabilitate them by providing attractive welfare measures. Various schemes such as provision of dwelling houses, distribution of milch animals, distribution of agricultural implements, stone cutting implements, grant of subsidy for cultivation, purchase of plough bulls, poultry, etc., at a cost not exceeding Rs. 4,500 per beneficiary is sanctioned, depending on the aptitude of the labour. The amount will be shared equally by the State and the Centre.

52.36. The bonded labourers identified in these State, and rescued from other States brought to the State are 32,615 as on December, 1984. So far 30,108 bonded labourers were rehabilitated under various schemes. The process of identification of bonded labourers are still going on in Andhra Pradesh, Madhya Pradesh and Maharashtra States, and as and when labourers are identified they will be rescued and allotted to this State for rehabilitation in respective districts of the State.

52.37. To speed up the rehabilitation work in our State, the State Level Screening Committee with the Chief Secretary as the Chairman has been formed in 1984. The Committee meets frequently and approves

he schemes sent by the Collectors to rehabilitate the bonded labourers. Various schemes with an expenditure of Rs. 8.95 lakhs were approved by the above screening committee.

52.38. A sum of Rs. 50.00 lakhs has been earmarked for the Seventh Plan, as the State share for the rehabilitation of 5,000 freed bonded labourers.

Point 7 : ACCELERATED PROGRAMMES FOR THE DEVELOPMENT OF SCHEDULED CASTES AND SCHEDULED TRIBES.

(a) Scheduled Castes :

52.39. The population of Scheduled Castes in Tamil Nadu is 88.81 lakhs, i.e., 18 lakhs of families. Most of them depend on agriculture and allied activities. Therefore the strategy adopted to improve their economic conditions is through agriculture and allied activities. More than a lakh of small and Marginal Farmers were given improved varieties of seeds, seedlings, fertilisers and Plant Protection chemicals at a subsidised cost. Small farmers are eligible for a subsidy of 25 per cent and marginal farmers 33-1/3 per cent. To fill up the income gap, their families were given assistance for subsidiary occupations like dairy development, sheep and poultry farms, etc.

52.40. During the Sixth Plan, 8.90 lakhs Scheduled Caste families have been assisted for their economic betterment as against the target of 9 lakh families. Under IRDP Scheme 3.13 lakh scheduled Caste families have been assisted. In order to bring the surplus lands under plough 39,428 Scheduled Castes have been assigned 43,735 acres of surplus land. Social forestry and sericulture schemes provide employment opportunities to Scheduled Castes. Nearly 40 per cent of the beneficiaries are from Scheduled Castes. Under the State Adult Education Programmes, there are 11,500 centres functioning. About 51 per cent of the centres have been located in the Scheduled Caste colonies and the total beneficiaries covered were 11.80 lakhs of which, Scheduled Castes numbered 6.22 lakhs. Under the Nutritious Noon Meal Programme, 9.11 lakhs scheduled Castes children, out of 24.34 lakhs beneficiaries in the age-group 2-4 years and 10.38 lakhs Scheduled castes children, out of 38.65 lakhs beneficiaries in the age-group to 5 to 9 have been covered in 27,846 centres in 33,800 schools.

52.41. During the Seventh Plan, a concerted effort will be made for diversifying the occupational pattern of the Scheduled Castes to enable them to earn a steady income. To augment their income, subsidiary occupation will be offered and encouraged by providing package of services through I.R.D.P., N.R.E.P., R.L.E.G.P. and O.J.O.F. programmes. All the above programmes will be implemented in a co-ordinated manner for which the administrative machinery will be

streamlined. Nearly 10 lakh Scheduled Caste persons are expected to be benefitted through various package of economic programmes. It will be ensured that at least 18 per cent of the Seventh Plan outlay from the different sectors of development is directed to benefit the Scheduled Castes.

52.42. (b) **Scheduled Tribes :** The population of Scheduled Tribe in Tamil Nadu is 5.20 lakhs. Of this about 2.14 lakhs live in the Tribal Sub-Plan areas and the rest in other areas. The Tribal Sub-Plan implemented by this Government concentrates on the socio-economic development of Scheduled Tribes besides aiming the development of the area where the Scheduled Tribes are in concentration. Horticulture, sheep rearing forestry, village industries like honey making are given due importance. Improved seedling, seeds, high yielding varieties of sheep and milch animals are distributed at 50 per cent subsidised cost. Sericulture has been successfully introduced and Soil conservation measures are carried out free of cost. The Scheduled Tribes have been given the rights to collect the minor Forest Products. LAMPS established in these areas ensure a reasonable return for their minor forest products.

52.43. Tribal Sub-Plan is implemented in 9 identified pockets of Tribal concentration in Salem, South Arcot, Tiruchirappally, Dharmapuri and North Arcot districts. Under I.T.D.P., nearly 28,884 Scheduled Tribes families have been assisted through a package of family oriented programmes against a target of 19,000 families. 40 per cent of the assisted families have actually crossed the poverty line (i.e., 11,554) and the remaining families will be given second and third doses during the Seventh Plan to economically assist 46,979 Tribal families (I.T.D.P. 31,979 plus I.R.D.P. 15,000).

Point 8 : SUPPLY DRINKING WATER TO ALL PROBLEM VILLAGES :

52.44. There are 7,226 villages identified as problem villages. At the commencement of the Sixth Plan i.e., on 1st April 1980, the total number of problem villages to be covered was 6,649. Schemes to provide drinking water to the problem villages are executed from the funds, provided under M.N.P. and the Central assistance given under the Accelerated Rural water Supply Programme. Upto the end of 31st March 1985, 7,030 problem villages have been provided with atleast one good source of drinking water.

52.45. The total number of problem habitation left out to be covered during the Seventh Plan is 13,023 (reclassified habitation 9,933 plus 3,088 problem habitations). During the Seventh Plan it is proposed to cover 10,900 habitations with an outlay of Rs. 2,50 crores. The yearwise financial allocation and physical target for the total amount of Rs. 2,50 crores is furnished below along with the expected population to be benefitted.

Year.	Financial input allocation. (RS. IN LAKHS)			Physical target to be achieved in habitations.			Expected populated to be benefitted (in lakhs.)
	ARWP.	MNP	Total.	ARWP.	MNP.	Total.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1985-86	1,341.53	3,024.52	4,366.05	600	1,400	2,000	25.00
1986-87	2,000.00	3,480.83	5,480.83	750	1,700	2,450	30.00
1987-88	2,218.47	2,830.65	5,049.12	750	1,400	2,150	26.00
1988-89	2,220.00	2,830.00	5,050.00	750	1,400	2,150	26.00
1989-90	2,220.00	2,834.00	5,054.00	750	1,400	2,150	26.00
Total ..	10,000.00	15,000.00	25,000.00	3,600	7,300	10,900	133.00

Point 9 : ALLOT HOUSE-SITES TO RURAL FAMILIES WHO ARE WITHOUT THEM AND EXPAND PROGRAMMES FOR CONSTRUCTION ASSISTANCE TO THEM.

(a) House-sites to be allotted

52.46. There are two schemes under this point. Wherever available, Government poramboke lands are assigned as house-sites to rural landless poor by the Revenue Department. Where such Government lands are not available private lands are acquired and are distributed as house-sites to Adi-Dravidars and Tribals by the social welfare department. The projected figures for families without house-sites in the State by March 1983 is 743,474. During the Sixth Plan it was proposed to provide house-sites to these families. As against the Sixth Plan target, the achievement was 788,471.

52.47. During the Seventh Plan, it is proposed to allot 10.50 lakh house-sites to Adi-Dravidar/Scheduled Tribes.

(b) Construction Assistance to be provided.

52.48. The State Government implements the programmes through the house construction co-operative societies and have fixed a target of 2 lakh houses for the Sixth Plan. Under the Rural Housing Scheme, loans are given to the individual members of these societies repayable in a period of 20 years for the construction of houses by them.

52.49. The ceiling cost of each house with a plinth area of 200 sq. ft. is Rs. 6,000 from April 1983 out of which, 25 per cent has to be borne by the individual member on cash or building materials or physical

labour. The Adi-Dravidar beneficiaries are eligible for a capital subsidy of Rs. 1,000 for each house and loans are given to them interest free.

52.50. Against the Sixth Plan target of 2,00,000 houses the recorded achievement during the plan period was 2,00,992. The State Government have programmed to give construction assistance for 2,00,000 houses for the Seventh Plan.

Point 10: IMPROVE THE ENVIRONMENT OF SLUMS, IMPLEMENT PROGRAMMES OF HOUSE BUILDING FOR ECONOMICALLY WEAKER SECTIONS, AND TAKE MEASURES TO ARREST UNWARRANTED INCREASE IN LAND PRICES.

(a) Slum population to be covered :

52.51. Slum improvement works are done under three categories of schemes, viz., (i) Accelerated slum improvement scheme. (ii) slum improvement under M.U.D.P (World Bank Schemes), (iii) Slum improvement programme in Mofussil areas done through various local bodies.

Nearly 10.78 lakhs slum population have been covered during the Sixth Plan as against the target of 10.75 lakhs.

52.52. During the Seventh Plan it is proposed to cover an additional 2.72 lakhs slum population.

(b) Economically Weaker Sections House to be provided :

52.53. Under the scheme housing for economically weaker sections, the Government of Tamil Nadu has two significant schemes. Both of them emphasis self reliance and self-help. The first scheme is to provide constructed houses and developed sites with service.

The other is the "sites and service approach." where in the developed plans, loan assistance are made available to EWS, with small business and Industry Development in the area so as to stimulate employment opportunities.

52.54. During the Sixth Plan 93,299 houses were constructed as against the target of 1,13,810 houses. During the Seventh Plan it is proposed to construct 60,000 houses for Economically Weaker Sections.

Point 11 : MAXIMISE POWER GENERATION, IMPROVE THE FUNCTIONING OF ELECTRICITY AUTHORITIES AND ELECTRIFY ALL VILLAGES.

52.55 The installed generating capacity in the State is 3,344 MW comprising 1,369 MW from 18 hydel stations, 1,740 MW from four thermal stations including 600 MW thermal station at Neyveli under Central Sector and 235 MW from the Nuclear Plant at Kalpakkam. In addition, the State is entitled for an allotment of 132 MW from Ramagundam Super Thermal Station-Stage I (600 MW) in Andhra Pradesh. The anticipated addition to the installed capacity during the Seventh Plan will be 1,976 MW in the State sector and 1,075 MW under the Central sector. The total installed capacity in the State at the end of the Seventh Plan is expected to be 6,395 MW.

(a) Rural Electrification :

52.56. In Tamil Nadu, out of 15,735 census villages, 15,700 villages have been electrified upto 31st March 1985. Out of 15,700 villages electrified so far, 20 total villages in Kalrayan Hills in South Arcot and Salem districts have been electrified using Photo Voltaic Cells for street lights, since these villages are located in remote hilly areas. The remaining 35 villages are also located in remote hilly areas and, therefore, it is difficult to lay lines to these villages particularly because the lines have to be laid in forest areas requiring permission under Indian Forest Conservation Act. Therefore, it has been decided to electrify 29 villages out of 35 villages using solar photo voltaic cells. Two villages will be electrified in the conventional manner and 4 villages will not be electrified because they are uninhabited. It is programmed to electrify 9 villages in 1985-86 and 9 villages in 1986-87.

(b) Pumpsets energisation :

52.57. Lift irrigation constitute a major irrigation potential in the State. Energisation of agricultural pumpsets has been given importance in all the Five-Year Plans. The State had a target of electrification of 150 villages and energisation of 1.50 lakh pumpsets against which 143 villages were electrified and 1.35 lakh pumpsets were energised. So far 10.33 lakh pumpsets have been energised upto the end of 31st March 1985. This

forms about 20 per cent pumpsets in operation in the country. In spite of massive energisation already done still there are about 3.86 lakhs of applications seeking fresh connections for pumpsets, pending in the State. It may not be possible to provide connection to all these pending applications because of (i) constraints in financial resources and (ii) constraints in power availability. It is therefore, programmed to give new connections at the rate of 40,000 pumpsets per year from 1985-86 onwards.

52.58. The State Government has taken a conscious decision to supply power to agriculturists at a subsidised rate. As against 80 paise that its costs to electricity board to supply power to the low tension consumers, power was being supplied at 12 paise to small farmers and 15 paise to other farmers. Effective from 15th September 1984, the power to small farmers is supplied free and the rate for others is restructured such that irrespective of the number of units consumed a flat rate Rs. 75 per H.P. per annum is charged. Extending electricity to all nook and corners in the State has helped industrialisation in rural areas also. Besides improving the rural economy, it has helped to increase the employment opportunity in the rural areas. Today there are 79,350 rural industries in the State. The near cent per cent electrification has helped the construction of water storage tanks and supply of water through taps. There are 11,525 ground water community service tanks overhead.

Point 12 : PURSUE VIGOROUSLY PROGRAMMES OF AFForestation, SOCIAL AND FARM FORESTRY AND THE DEVELOPMENT OF BIOGAS AND OTHER ALTERNATIVE ENERGY SOURCES.

52.59. (a) *Forestry* : The optimum forest coverage to be maintained in tropical countries like ours, as prescribed by the National Forest Policy, is estimated as 33-1/3 per cent. But Tamil Nadu is having forests of 21,878 sq. km. which accounts for 16.8 per cent of the total land area. Therefore there is a basic urgency to increase forest areas through development programmes. The Seventh Plan envisages the forestry planning as development without destruction.

52.60. The urban rich and middle class people have ways and means to purchase commercial fuel like gas, kerosene, electricity, etc. But those commercial fuels are not available to the entire rural people and the urban poor. According to the estimation by National Productivity Council, the demand for fuelwood in 1981-82 is 7.268 million tonnes and this is likely to increase to 8.399 million tonnes in 1989-90. Therefore, the fuelwood production is treated as priority activity in all rural development programmes. It is in this context the "Social Forestry" scheme has been included in the new 20-Point Programme. One of the noteworthy features in the achievements made during the Sixth Plan

is the launching of social Forestry Schemes on a massive scale under SIDA aided Social Forestry Project from the year 1981-82 onwards. The scheme is implemented at a fast pace throughout the State with the fullest co-operation and awareness of the public, especially the rural people.

52.61. The supply of seedling to farmers is made under two components, viz., Tree cultivation incentive programme and Tree Cultivation Extension Programme. Under the former component, upto 500 seedlings are supplied free of cost to small and marginal farmers and landless poor.

52.62. Against the Sixth Plan target of 2.28 lakh hectares of coverage under various plantation programmes, the anticipated achievement is placed at 2.60 lakh hectares. A target of 228.5 thousand hectares and 43.6 thousand hectares are proposed for the Seventh Plan and 1985-86 respectively.

(b) Biogas and Improved Chulhas :

52.63. A start has been made in the Sixth Plan in exploring the potential offered by non-conventional energy sources. Tamil Nadu has done very well under this programme and established 30,630 biogas plants during the Sixth Plan as against the target of 35,000 plants. Several models of improved chulhas (both fixed and portable types), giving an energy savings of 25 per cent and above, was demonstrated and installed ail over the State. A target of 20,000 improved chulhas was fixed for 1984-85. Upto March, 1985, 79,751 chulhas have been installed.

52.64. During the Seventh Plan, it is proposed to fix a target of 1,25,000 biogas plants. The National Project on Demonstration of improved chulhas will also be expanded as a major operational programme in the Plan.

Point 13 : PROMOTE FAMILY PLANNING ON A VOLUNTARY BASIS AS A PEOPLE'S MOVEMENT.

52.65. The Tamil Nadu Government have been giving top priority for the implementation of the Family Welfare Programme right from 1956 onwards. This programme is being implemented in this State with 100 per cent financial assistance from the Government of India, on a voluntary basis as far as the acceptors are concerned. To achieve the objective of the programme successfully, the agencies of Government, local bodies voluntary organisations are all being involved in this vital National Programme. As a result the birth rate has come down from 28.9 per 1,000 in 1978 to 26.1 per 1,000 in 1981. While the National objective is to reduce the existing birth rate to 21 per 1,000 by the year 2000 A.D., this state has proposed to achieve this object by 1991-92. For this, purpose, vigorous

steps have been taken to inform, educate and motivate the eligible couples to adopt "Small Family Norm" either by resorting to permanent method or temporary methods of contraception.

52.66. The achievements recorded under Family Welfare Programme during the Sixth Plan is shown below :—

Family Welfare Method.

Vasectomy	..	..	..	..	99,823
Tubectomy	..	..	..	..	14,99,335
I.U.D.	..	..	..	..	245,787
C.C. Users	..	..	..	..	324,044
Leprosopic sterilisation	..	..	..	..	565,219

52.67. The present trend in the Family Welfare Programme is increasingly towards tubectomy operations. Laprosopic sterilisation is becoming increasingly popular. Tamil Nadu is giving atmost priority to all the exiting measures in the State.

52.68. The physical target proposed during the Seventh Plan period is shown below :—

<i>Programme.</i>					<i>Seventh Plan Target. (in '000s)</i>
Sterilisation	..	..	..	..	2,575
I.U.D.	..	..	..	..	1,016
Oral Pills users	..	..	..	..	596
C.C. Users	..	..	..	..	1,202

Point 14 : SUBSTANTIALLY AUGMENT UNIVERSAL PRIMARY HEALTH CARE FACILITIES AND CONTROL OF LEPROSY, T.B. AND BLINDNESS.

52.69. At the beginning of the Sixth Plan there were 383 Primary Health Centres functioning in the State. This has increased to 436 as on 1st April 1985. Each Primary Health Centre is provided with 6 beds and a provision of Rs. 20,000 per annum is made towards the cost of drug. The Primary Health Centres with attached mobile health team, get an additional provision of Rs. 20,000 per annum to meet the cost of drugs.

During the Seventh Plan, Rural dispensaries will be upgraded/converted into Primary Health Centres by providing them additional inputs. During the Seventh Plan it has been proposed to establish 238 additional subsidiary health centres and 82 Community Health Centres in the State. As against the proposed target of 2,343 sub-centres, 2,483 sub-centres have been established during the Sixth Plan. The Seventh Plan target has been kept at 3,300 sub-centres.

Tuberculosis :

52.70 Out of the 16 districts, 15 districts have got district Tuberculosis Centres. The total number of Tuberculosis beds in the State is 3,559. There are 23 B.C.G. vaccination teams functioning in the State. These teams do house to house coverage and offer B.C.G. vaccination to children in the younger age group. Under T.B. Programme in Tamil Nadu, so far, from 1963 to 1984 about 217 lakh persons have been given B.C.G. vaccination. During the year 1984 alone over 11.5 lakh persons were given BCG. vaccination in the State.

Leprosy :

52.71. Tamil Nadu is following the Leprosy Eradication Programme in the pattern of National Leprosy Eradication Programme, viz., case detection, case holding and health education. Annually more than 100 lakhs persons are being examined with a view to identify all cases. Cases identified are found out before development of deformity. The detection rate of new cases which was 3.0 per 1,000 in 1980 has declined to 1.8 per 1,000 in 1984, indicating the impact of the programme.

Blindness :

52.72. The Government free Eye Camp Scheme which was started in July 1972 for rendering Medical relief to blind people and to cure those who are blind due to cataract has been continuing in the Seventh Plan. The Government of India give assistance to voluntary organisation for organising Eye Camps independently at the rate of Rs. 60 per operation subject to a ceiling of Rs. 12,000 per camp and Rs. 40 per operation if they utilise the services of Central/State mobile ophthalmic units.

Point 15 : ACCELERATE PROGRAMMES OF WELFARE OF WOMAN AND CHILDREN AND NUTRITION PROGRAMMES FOR PREGNANT WOMEN, NURSING MOTHERS AND CHILDREN, SPECIALLY IN TRIBAL, HILL AND BACKWARD AREAS.

52.73. In spite of expansion of health infrastructure and educational programmes in the country, the knowledge about health and nutrition education and child rearing practices continues to be quite low, particularly amongst lower socio-economic groups. For tackling these problems, the Government of India formulated a scheme of Integrated Child Development Services in 1975-76. In Tamil Nadu, there are at present, 39 projects covering the urban areas of Madras, Madurai, Coimbatore, Tiruchirappalli, Vellore, etc., and the rural areas of Nilokottai in Madurai and Tribal areas of Thally in Dharmapuri. CARE commodities are supplied to all the 39 I.C.D.S. Projects. Under this scheme, children in the age group of 6 months to 2 years are being served with 80 gms. of cooked I.C.S.M. in liquid

form for six days in a week at the Child Welfare Centres. The pregnant women are given a take home weekly ration of 720 gms. of Bulgar wheat and 42 gms of Salad oil.

52.74. In each I.C.D.S., there are about 100 Anganwadis and each anganwadi provide health supplement, health education, etc., to 130 children and 30 pregnant and Lactative mothers. Preventive measures like immunisation of children were also taken. Chief Minister's Nutritious Meal Programme provides nutritious noon meal to more than 68 lakhs of children. This programme not only provides Nutritious supplement, but also provides new avenues of employment to the weaker sections of women, destitutes and widows.

52.75. During the Seventh Plan, it is proposed to be open 110 I.C.D.S. Blocks (6,109 Centres) by way of converting the Chief Minister's Noon Meal Programme Centres including T.I.N.P. centres.

Point 16 : SPREAD UNIVERSAL ELEMENTARY EDUCATION FOR THE AGE GROUP 6-14 WITH SPECIAL EMPHASIS ON GIRLS SIMULTANEOUSLY INVOLVE STUDENTS AND VOLUNTARY AGENCIES IN PROGRAMMES FOR THE REMOVAL OF AUDIT LITERACY.

52.76. (a) *Elementary Education.*—Tamil Nadu invests on education nearly 20 to 25 per cent of the revenue expenditure. Elementary education is an important input for social awareness and receptivity to modern ideas, improvement in quality of life and development of human resources. The number of pupils additionally enrolled in schools during the Sixth Plan was 13.67 lakhs (7.99 lakhs in the age group 6-11, and 5.68 lakhs in the age group 11-14). as against the target of 10.00 lakhs pupils. The achievement in the case of enrolment in Tamil Nadu was 98.66 per cent in the age group 6-11 and 72.18 per cent in the age group 11-14 as against the all India target of 95 per cent and 50 per cent respectively. Till 1984-85, 93.63 lakh pupils in the age group 6-14 have been enrolled. During the Seventh Plan it is proposed to cover 11.25 lakh pupils under the formal school system.

52.77. (b) *Adult Education.*—This programme is being accorded high priority. There are about 64.00 lakh illiterate adults in the age group 15-35 in the State. About 15 lakh of illiterates have been made literate during the end of 1984-85. During the Seventh Plan it is proposed to cover the remaining adult illiterates. It is also proposed to open 40 new projects in addition to the existing 115 State Adult Education Projects.

52.78 (c) *Life Oriented Education.*—Education has to be practical oriented to make the system more productive. The Chief Minister's scheme of Life Oriented Education is to be implemented in a phased manner in all stages and this will improve the universalisation of elementary education.

Point 17 : EXPAND THE PUBLIC DISTRIBUTION SYSTEM, THROUGH MORE FAIR PRICE SHOPS, INCLUDING MOBILE SHOPS IN FAR-FLUNG AREAS AND SHOPS TO CATER TO INDUSTRIAL WORKERS STUDENTS' HOSTELS, AND MAKE AVAILABLE TO STUDENTS, TEXT BOOKS AND EXERCISE BOOKS ON A PRIORITY BASIS AND TO PROMOTE A STRONG CONSUMER PROTECTION MOVEMENT.

52.79. In Tamil Nadu, the expansion of Public distribution system was started in the year 1978 with the advent of the "One Village one Shop scheme". During this year the Government took a policy decision to cover the entire State under P. D. S. by opening fair price shops in each revenue village. There are 20,723 fair price shops in the State of which 15,501 fair price shops are run by the Co-operative Sector. Out of 120 lakh family cards in the State, the Co-operative Sector cater to the requirements of 91.00 lakh family cards.

52.80. Essential commodities like rice, wheat, wheat products, sugar, palmolein and kerosene are being distributed through family cards under P.D.S. in Tamil Nadu in the interest of Public.

52.81 The quantum of items distributed under P.D.S. during the year 1984 is as follows :

Rice	9.18 lakh tonnes.
Wheat	1.00 lakh tonnes.
Sugar	2.40 lakh tonnes.
Palmolein oil	45,000 tonnes.
Soyabean oil	10,000 tonnes.
Sunflower oil	8,000 tonnes.
Kerosene	6.00 lakh K.L.

52.82. The essential requirement of students like text books and exercise books are also being distributed at Controlled prices through Co-operative stores. It is worth mentioning that text books and note books valued about Rs. 12.00 crores were distributed through Fair Price Shops during the year 1984-85. The Co-operatives organised for industrial workers have also been brought under P.D.S. Steps have also been taken to encourage the consumer protection movement in the interest of Public.

Point 18 : LIBERALISE INVESTMENT PROCEDURES AND STREAMLINE INDUSTRIAL POLICIES TO ENSURE TIMELY COMPLETION OF PROJECTS. GIVE HANDICRAFTS, HANDLOOMS, SMALL AND VILLAGE INDUSTRIES ALL FACILITIES TO GROW AND TO UPDATE THEIR TECHNOLOGY.

52.83. The Government accord high priority to industrialisation of the State on account of its important role in accelerating the pace of economic development and creating avenues for employment of the increasing labour force of the State. Central Sector investment in the State are also inadequate. So far as the liberalisation of investment procedure and streamlining of industrial policy is concerned, the major issue relate to the

Government of India, but the State Government is giving assistance to village and small industries liberally and investment in this sector is being encouraged.

52.84. Two specific measures to the growing importance of the small scale sector could be found in (a) the number of small units rapidly increasing from 22,208 in 1970-71 to 49,920 at the end of March 1984 and to 60,259 at the end of March, 1985 and (b) the contributory share of this sector in the N.S.D.P. doubling from 7 per cent during the Fifth Plan to 14 per cent by the middle of the Sixth Plan. The production of handloom cloth in the aggregate had touched an all time high level in 1981-82. In 1982-83, the production was estimated at 730.78 million metres, cotton cloth by itself accounting for 639.19 million metres or 87 per cent. Between 1982-83 and 1983-84 the per capita output of village industries had gone up from Rs. 1,448 to Rs. 1,663, registering a 15 per cent increase. During 1984-85, the sale of handicrafts was Rs. 2.32 lakhs as against the sale of Rs. 224 lakhs in 1983-84. It is programmed to achieve a sales turn over of Rs. 250 lakhs during 1985-86.

Point 19 : CONTINUE STRICT ACTION AGAINST SMUGGLERS, BOARDERS AND TAX EVADERS AND CHECK BLACK MONEY.

52.85. With a view to maintain a stable economy of the public and making available the commodities at reasonable prices the essential commodities Act, 1955 was promulgated. Sale at higher prices, hoarding of essential commodities, etc., are considered as social evils. Therefore, various control orders were issued to ensure the availability of essential commodities.

52.86. During the year 1984, 526 cases of hoardings 511 cases of smuggling, 85 cases of black marketing 375 cases of non-display of stocks and prices and 128 cases of other offences were detected. Commodities valued at Rs. 126 lakhs were seized in this connection apart from seizure of vehicles valued at Rs. 176 lakhs.

52.87. As a result of taking adequate control measures offences like smuggling, black marketing, hoarding of food articles, etc., have been arrested to a great extent apart from paving way for availability of essential commodities at fair prices and without any difficulty.

Point 20 : IMPROVE THE WORKING OF THE PUBLIC ENTERPRISES BY INCREASING EFFICIENCY, CAPACITY UTILISATION AND THE GENERATION OF INTERNAL RESOURCES

(a) *State Sector Undertakings :*

52.88. There are 52 State-owned undertakings functioning in Tamil Nadu. The aggregate investment relating to the 52 undertakings has increased from Rs. 405.02 crores to Rs. 7,60.61 crores as on 1st April 1980 and 1984 respectively. The gross income of all the State Undertakings has also increased from

Rs. 549.66 crores in 1980-81 to Rs. 812.55 crores in 1982-83. The State Government have set up a Bureau of Public Enterprises to supervise and provide suitable

guidance to these enterprises in improving their performance. The performance of some of the State enterprises are given below :—

Serial number and name of enterprises.	Item.	Achievement in	
		1980-81.	1983-84,
(1)	(2)	(3)	(4)
1. Tamil Nadu Electricity Board	(1) Installed capacity (MW)—		
	(a) Thermal (3 Stations)	750	1,140
	(b) Hydro (18 Stations)	1,369	1,369
	(2) Value of Energy Sales (Rupees in lakhs).	26,014	26,538
2. State Transport Corporations	(1) Fleet Strength	7,073	8,461
	(2) Bus utilisation (Km./Bus/day).	298	327
	(3) KMPL Diesel	3.76	3.86
3. Tamil Nadu Cement Corporation Limited ..	(1) Alangulam Cement Works—		
	(a) Production (MT)	3,01,148	2,43,43
	(b) Sales (MT)	3,06,614	2,38,158
	(2) Ariyalur Cement Works—		
	(a) Production (MT)	2,46,733	3,01,366
	(b) Sales (MT)	2,11,949	2,99,377
4. Tamil Nadu Minerals Limited	(1) Production of Minerals (Value Rupees in lakhs).	33.29	131.25
	(2) Sales of Minerals (Value Rs. in lakhs).	59.93	241.93
5. Tamil Nadu Sugar Corporation Limited ..	(1) Cane crushed (tonnes)	3,43,001	3,54,657
	(2) Sugar produced (tonnes)	30,385	32,359
6. Tamil Nadu Salt Corporation	Salt Production (tonnes)	25,600	31,100

(b) Central Sector Undertakings :

52.89. The Central sector investment in Tamil Nadu is disproportionately low. The State Government is urging the Centre to set up more Central Sector Projects in Tamil Nadu. The Central Sector Undertakings in Tamil Nadu are listed below :—

- (1) Integral Coach Factory, Madras.
- (2) Neyveli Lignite Corporation, Neyveli,
- (3) Hindustan Teleprinters, Madras.
- (4) Hindustan Photo Films Limited, Ootacamund.
- (5) Bharat Heavy Electricals Limited, Tiruchirappalli.
- (6) Madras Refineries Limited, Manali.
- (7) Madras Fertilisers Limited, Manali.

- (8) Ordnance Factory, Tiruchirappalli.
- (9) Salem Steel Plant, Salem.
- (10) Indian Drugs and Pharmaceuticals Limited, Madras.

52.90. The aggregate investment in 215 public enterprises functioning in the country as on 31st March 1983 amounted to Rs. 31,968.69 crores. Compared with the total investment of Rs. 4,792 crores as on March 1972 there has been an average annual increase of 21.8 per cent. The level of investment in Tamil Nadu as on March 1972 and March 1983 are Rs. 344.00 crores and Rs. 1,333.00 crores respectively. The share of Tamil Nadu in gross block investment had marginally come down from 7.2 per cent to 4.2 per cent between the two points of time.

CHAPTER 53.

CENTRAL SECTOR PROJECT.

53.0. Tamil Nadu has not been a large beneficiary of Central investments. The impact of Central resources invested in Tamil Nadu can be measured through the direct investment by Public

Sector enterprises of the Union Government. The table below reveals the distribution of gross investment by non-departmental enterprises of the Government of India.

CENTRAL INVESTMENT IN TAMIL NADU

Cross Investment in States by Union Non-Departmental Public Enterprises.

<i>Name of State/Union Territory.</i>	<i>Rupees in crores</i>		<i>Percentage to total</i>		<i>Average annual increase (percent)</i>
	1971-72.	1982-83.	1971-72.	1982-83.	
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	127	2119	2.6	6.6	32.4
Assam	127	1556	2.6	4.9	28.5
Bihar	1064	4692	22.2	14.7	16.0
Gujarat	176	1115	3.8	3.5	..
Haryana	8	315	0.2	1.0	44.5
Himachal Pradesh	..	168	..	0.5	..
Jammu Kashmir	..	24	..	Neg	..
Karnataka	113	1065	2.4	3.3	25.1
Kerala	137	618	2.9	1.9	16.2
Madhya Pradesh	610	3861	12.7	12.1	20.2
Maharashtra	146	3993	3.0	12.5	39.2
Orissa	35	1552	0.7	4.8	45.5
Punjab	35	486	0.7	1.5	30.1
Rajasthan	56	543	1.2	1.7	25.5
Tamil Nadu	344	1333	7.2	4.2	14.5
Uttar Pradesh	482	2491	10.0	7.8	17.8
West Bengal	518	2394	10.8	7.5	16.6
Delhi	..	995	..	3.1	..
Goa	..	12	..	Neg	..
Other States/U.T.	..	243	..	0.8	..
Un allocated	814	2424	17.0	7.6	11.5
Total	4792	31969	100.0	100.0	21.8

Source : Centre for Monitoring Indian Economy, "A Statistical Review of Central Government Enterprises, 1984".

53.1. The cumulative central investment in Tamil Nadu as on March 1983 was just Rs. 1333 crores out of a total of Rs. 31,969 crores thus constituting 4.2 per cent only. In the 1960's the investment was about double at 8 per cent. Although Tamil Nadu's share of such investment has risen marginally as from 1971-72 to 1982-83, nevertheless out of the 17 major states among whom comparisons have been made, Tamil Nadu's ranking has come down from 5th in 1971-72 to 9th in 1982-83. Further, there are just 3 states (Bihar, Madhya Pradesh and Maharashtra) which during 1982-83 have absorbed almost two-fifth of the total direct investment by these enterprises, and not all these 3 States are industrially backward. The inequality in inter state spread of such direct investment is striking.

53.2. In order to accelerate the pace of development in the State, it is necessary that the Central Government, establish an adequate number of productive enterprises in the State. There should be a balanced share to the States and in order to compensate for the sad neglect over years, a greater share for Tamil Nadu in the Central Sector project is called for in the Seventh Plan period. Government of Tamil Nadu has urged that the Central investment in the State be stepped up considerably, and sought for expeditious sanction/speedy execution of the following Central sector projects in Tamil Nadu:

(i) Third Mine cut at Neyveli.

(ii) Sethusamudram Project for strategic reasons.

(iii) Expansion project in Madras Fertilisers Limited with naphtha produced by Madras Refineries Limited.

(iv) Electrification of railway lines from Madras upto Madurai and Coimbatore, completion of Karur-Dindigul- Tuticorin Broad Gauge line, etc.

(v) Mass Rapid Transit System for the City.

(vi) Nuclear Power Plant.

(vii) Full fledged steel project at Salem as against the present rerolling plant.

(viii) X-ray unit and Cine Colour Positive Plant at Udthagamandalam by Hindusthan Photo Films Limited.

53.3 Short notes on the projects suggested for implementation in the Central sector are given below :

1. Third Mine cut at Neyveli (Ministry of Mines) :

53.4 The future power supply position in the State depends largely on the exploitation of the available lignite. The first mine will consume only 200 million tonnes over their life cycles. The State should make use of the remaining potential to the best advantage for meeting its power needs. It is in this context that the State has suggested to the Centre to sanction a third mine cut and a third thermal station. A third mine cut with associated power stations has also been proposed and is under the active consideration of the Government of India. Except this, the State does not have any other potential of conventional sources of energy. Nuclear power generation will be the only alternative to satisfy the power demand in the State.

2. Sethusamudram Project (Ministry of Transport) :

53.5. This project envisages cutting of a navigational canal across the narrow strip of land near Pamban to link the gulf of Mannar with the Palk Bay so that the travel distance of ships from the east to the west coast and vice-versa will be reduced by about 300 to 350 miles and the travel time by about 48 hours. Several committees appointed by the State Government and Government of India have repeatedly recommended the implementation of the project on a priority basis. Today the significance of this project is not only from the fact that its implementation would provide a continuous stretch of navigable route for the country within its own territorial waters but also in view of its strategic importance from the point of view of the security of the nation.

53.6. The cost of the project, on current computations, will be Rs. 110.00 crores and is expected to yield a revenue of Rs. 290 lakhs annually. It is expected that the annual growth of traffic would be four per cent and the project would easily pay back the full capital investment in the next three decades.

3. Expansion Project of Madras Fertilisers Ltd. (Ministry of Chemicals and Fertilisers) :

53.7. The twin refinery and fertilizer projects (Madras Refinery Ltd. and Madras Fertilizer Ltd) came on stream exactly on schedule, as long as 1965-66. It has taken Madras Refinery Ltd. 20 years to double its capacity to 5-6 million tonnes per annum and to diversify into other products like paraffin wax. The expansion and new projects are just about to come on stream. The Madras Fertilisers Ltd. has been the most

efficiently operated and the most profitable fertilizer factory in the country with stable capacity production at economic cost. While all over India, ammonia factories are coming up, the Madras Fertilizers Ltd., still has no chance even with additional naphtha becoming available from Madras Refineries Ltd., expansion. The State Government has been urging for years for the establishment of a petro-chemical complex in the vicinity. However, some downstream units for propylene, propylene oxide, propylene, alcohol, linear alkyl benzene and others at a total cost of Rs. 100 crores are likely to emerge as a result of the efforts of the State Government through TIDCO.

4. Electrification of Railway Lines (Ministry of Railway) :

53.8. Tamil Nadu has the largest track length under metre gauge. The total metre gauge in track length is 3925 kms. out of total overall track length of 6563 kms. With increasing freight, and passenger traffic and need for more rapid communications it is important to take up conversion of Metre Gauge lines into Broad gauge lines urgently. The development of rail facilities in Tamil Nadu has reached a plateau and hardly any investment is being made in the State, which has good natural mineral resources. For almost a decade now, the State had to rest content with the assurance that the Karur—Dindigul broad gauge line, and Dindigul—Tirunelveli—Tuticorin broad gauge conversion has been sanctioned.

53.9. The 326 km. long broad gauge line connecting Karur on the Erode—Tiruchirappalli broad gauge line with Tuticorin and Tirunelveli via Dindigul and Madurai, is the biggest project of its kind taken up by the Southern Railway. The scheme was approved in 1981-82. This project, when completed, will serve the needs of the backward Southern districts. The entire programme will be completed in two phases. If sufficient funds are made available, Phase I can be completed by December 1985, and Phase II by December 1987. Electrification of the Jolarpettai—Bangalore section (144 Km.) at a cost of Rs. 24 crores will be completed during the Seventh Plan. The State has urged for taking up more broad gauge lines in the State during the Seventh Plan period.

53.10. The Government of Tamil Nadu has also moved the Government of India, for the electrification of railway lines from Madras up to Madurai and Coimbatore.

5. Mass Rapid Transit System for Madras (Ministry of Railway) :

53.11. Work has begun on the Rs. 54 crores project Mass Rapid Transit System (MRTS) for Madras, which will open up commuter railway service through one of the cities more heavily travelled corridors running North-south on the eastern side and connecting such population concentration as Mylapore, Triplicane and the Central business district. An estimated 6 lakhs passengers are likely to use this train service every day when it is commenced, 6 years from now.

53.12. Besides helping to relieve the congestion on roads in and around the Central business district as also on Mount Road, the train service will provide rapid way of hopping across the city. The Electric train will cover the 8.4 km. distance in 17 mts. compared to the 30 mts. that the Pallavan Transport Corporation bus takes to go from Luz to Parrys Corner in Peak hour traffic. The line will run along side the Buckingham canal between Luz and Adams Road. The Tamil Nadu Government has already agreed to hand over the Government land free of cost.

53.13. In this context it is mentioned that the allotment made for this project so far is very meagre. The delay will only lead to cost escalation and create problem for further funding of the project. Railway sources point out that MRTS is already behind schedule and unless enough funds are assured over the next four or five years, the project will be delayed further. Providing for cost escalation, about Rs. 100 crores will be needed, which means the project requires a commitment of at least Rs. 20 crores every year, for the next five years.

6. Nuclear Power Plant (Department of Atomic Energy):

53.14. The Nuclear Power Plant, one of the major central projects, has been established at Kalpakkam near Madras. After a decade of delay, the first 235 MW unit (reactor) has gone into commercial operation, while the second reactor has become critical at the end of 1985.

53.15. There is a serious power shortage in Tamil Nadu. There are no further major hydro-electric projects to be executed. Thermal projects, already established, are facing a severe shortage of coal. Every year, power cuts are imposed in this State—crippling industry and agriculture—throwing a large number of people out of work, apart from curtailing production of essential goods. New industries are not choosing Tamil Nadu for their

location, for want of assured power supply. Hence, it is extremely urgent and important, that one more nuclear power station in the South may be established at Kundankulam, Tirunelveli district with a 500 MW—10,000 MW installed capacity. This would ease, to a great extent, the rapidly accelerating power requirement of the State.

7. Salem Steel Plant (Ministry of Industries) :

53.16. Though the Salem Steel Plant is called an Integrated project, the facility established is only for cold rolling, with a sendzimir mill of stainless steel sheets and coils. Even from the beginning, there was a strong lobby against the Salem plant. After the work started on the project, the facilities for stainless Steel slab casting and its hot rolling were sought to be hurriedly set up elsewhere. As a result, the prospect of the backward integration seems to be very uncertain at Salem. Added to this, because of the high customs duty on imported stainless steel bands or billets, and the indiscriminate import of stainless steel sheets, the viability of the project has become a big question mark.

53.17. Salem steel plant has approached the Government for making a provision of Rs. 55.75 crores during the Seventh Plan for installation of second Sendzimir mill. The Seventh Plan document by Union Planning Commission has not envisaged any funds in respect of the above scheme. Efforts are being made to pursue the Government for releasing funds for this scheme.

53.18. The Government of Tamil Nadu has also urged the Steel Ministry and the steel plant authorities for a full fledged steel project at Salem as against the present rerolling plant.

8. Hindustan Photo Films Limited (Ministry of Industry):

53.19. The company today produces Cine film positive (black and white), Cine film sound, medical X-ray films and photographic paper and is engaged in conversion work (out of imported jumbo) for amateur roll film, industrial X-ray and graphic arts film. The unit is now producing 70 per cent of the total manufacture in the country. A full-fledged Research and Development centre

costing Rs. 2 crores is coming up at the unit. Another Project is the Rs. 10 crores Magnetic tape unit with West German Collaboration which will be set up shortly.

53.20. The State Government has urged the Government of India for sanction of a X-ray unit (costing Rs. 100 crores) and Cine Colour positive unit (costing Rs. 200 crores) at Ooty by Hindustan Photo Films, Ltd., for the location has all advantages, facilities, technical know-how and market for a integrated manufacture of the Cine Colour positive films, instead of locating at Nainital in Uttar Pradesh as decided by the Government of India.

Centrally Sponsored and Central Sector Projects

53.21 The declining share of Central assistance for financing the State Plans causes considerable concern. The Central assistance as a percentage of the Plan outlay has been steadily decreasing from the First Plan onwards. It was reduced to 31.6 per cent in the Sixth Plan from 41.5 per cent in the Fifth Plan. During the Seventh Plan Period this has come down further to 23 per cent of the total approved outlay. One of the apparent reasons is the indirect assistance being made available to the State Plans through various Centrally Sponsored schemes as a supplement to State Plan efforts. There are several Centrally Sponsored Schemes which are formulated without prior consultation with the State Government both in regard to the principles as well as the details. Further, while the outlays for the State Plans are discussed and finalised during November--January of the previous financial year, enabling the States to budget the Plan for the coming year, the allocations for the Centrally Sponsored Schemes are normally indicated only after the financial year has commenced. This makes budgetting difficult and consequently, implementation of the Centrally Sponsored Schemes is delayed.

53.22 It is, therefore, preferable that the Centrally Sponsored schemes that are finally chosen for adoption in a Plan are financed fully by the Central Government, so that the resources available for the State Plan are not dislocated. Also, the Centrally Sponsored schemes should be so designed that a certain amount of flexibility is allowed to suit local condition.

CHAPTER 54.

EXTERNALLY AIDED PROJECTS.

54.0 India receives considerable assistance each year from the World Bank Group, as well as other multilateral and bilateral agencies, for several development schemes. Though the assistance from these agencies are in easier terms, the additionality to the states is generally not advantageous. Assistance from most external funding agencies (including World Bank) range from 50 per cent of the cost of schemes. The loan component is often soft. But Government of India passes on only 70 per cent of this assistance to the State Government of which 70 per cent is loan on regular term. The amount so transferred is additional to the block amounts transferred under the Gadgil formula. This additionality amounts to just 35 per cent of the total cost of the project. As these assistance are project specific, it is important that the entire fund being made available by the external agencies are transferred in full to the States for implementing the particular project. A revision in the existing pattern of allocation is, therefore, necessary. Further, the assistance is currently being passed on at rates less advantageous than those granted by the funding agencies to the Government of India. In fact the external assistance received as grants is being passed on to the States as loan. The State Government has urged that the external assistance being made available for specific projects be passed to the States on the same terms and conditions.

54.1 Tamil Nadu is implementing a number of schemes with World Bank assistance. Some schemes have been terminated by the end of 1984-85. The schemes which will be continued during the currency of the Seventh Plan are given below :—

- (1) Tamil Nadu Integrated Nutrition Project
- (2) Agriculture—Training & Visit System
- (3) Modernisation of Periyar Vaigai System (Stage-II).
- (4) Tamil Nadu News Print Paper Project
- (5) Water Supply & Low cost Sanitation Project.
- (6) Madras Urban Development Project-II
- (7) SIDA assisted Social Forestry Scheme.

54.2 A brief resume of the progress made in respect of these programmes are given below :

(1) *Tamil Nadu Integrated Nutrition Project :*

54.3 The Tamil Nadu Integrated Nutrition Project was negotiated with the World Bank in February—March 1980 and a loan agreement for U.S. \$ 32 million was signed on 12th May 1980. The main objective of the scheme is the prevention of malnutrition among children in the age group 6—36 months and pregnant and lactating women, hailing from low income families, by feeding them with energy food and outcome measured by the weight gain method. The project is implemented in six districts viz. Madurai, Ramanathapuram, Pudukkottai, Tirunelveli, North-Arcot and Chingleput. The Rural Health Services under this project envisages the improvements of Health infrastructure by providing Health sub-centres at the rate of one for every 5,000 rural population, supply of equipments and furniture, drugs and other supplies for improved health care delivery services to the rural population. There exist already 1,109 Health sub-centres attached to Panchayat Unions and Government centres. 1,600 Health sub-centres will be newly constructed in all the six project districts. Out of 1,600 buildings, 861 have already been constructed and the balance of 739 buildings are to be constructed by Highways and Rural Works Department.

(2) *Agriculture—Training and Visit System :*

54.4 The Training and Visit (T & V) System of agricultural extension has been introduced in Tamil Nadu with the assistance of World Bank in two phases covering the entire State. In the first phase, Chinglepattu, Coimbatore, Dharmapuri, Madurai, Pudukkottai, Ramanathapuram, Thanjavur and The Nilgiris districts were covered with effect from 1st September 1981. In the second phase, the remaining districts viz., North Arcot, South Arcot, Kanyakumari, Periyar, Salem, Trichi and Tirunelveli have been covered from 1st July 1982. The total project cost was Rs. 36.48 crores for a period of five years. The system has made considerable contribution in relation to introduction of new crops in non traditional areas, new crop rotations and increasing the intensity of cropping. Under the system attention was given to improve the educational and technical competence of the extension fun-

tionaries and also to bring about close linkage between Agricultural University, State Agricultural Departments and the farming community.

54.5 The monitoring-cum-evaluation reports indicate that 93.1 per cent of the contract farmers and 64.8 per cent of the non-contact farmers are aware of the village extension workers visiting the villages. Another special study in the replacement of high yielding variety seeds reveal that 78.4 per cent of the farmers use suitable high yielding varieties paddy strains for a particular seasons. 62.3 per cent of the farmers are replacing their seeds once in 3 years as recommended by the Department. 20.3 per cent of the farmers purchased high yielding varieties paddy seeds from Agriculture Department.

54.6 A provision of Rs. 15.00 crores is made in the Seventh Plan to meet the staff cost, purchase of extension materials, all training cost, cost involved in deputation of staff to higher studies, cost of Civil works, etc. for the first year in the Seventh Plan. The project period end by 30th June 1987.

(3) *Modernisation of Periyar-Vaigai Irrigation System (Phase-II):*

54.7. The Modernisation of Periyar-Vaigai Irrigation system benefitting parts of Madurai District, Ramanathapuram District (now under Pasumpon Muthuramalingam District) sanctioned at an estimated cost of Rs. 44.50 crores has been completed by August, 1984. The World Bank aid for this project viz., U. S. 23 million dollars equivalent to about Rs. 21.00 crores has been fully utilised.

54.8. The World Bank has broadly expressed its willingness to assist the Phase-II of the project. The State Government have drawn up the phase-II of the project at a cost of Rs. 38.68 crores (without escalation). During September, 1983, the World Bank Mission appraised the phase-II of the project. The staff Appraisal Report No. 4913 IN of the World Bank covers the spillover of phase -I works, extension of X and XI Branch channel of Periyar Main canal and extension of Thirumangalam Main canal works. The appraisal cost of phase-II works is Rs. 58.45 crores including escalation and Government have accorded to the revised approval for Rs. 56.86 crores in November, 1984.

54.9. The phase-II of the project is programmed to be completed in 1988-89.

(4) *Tamil Nadu News Print Paper Project :*

54.10. The Tamil Nadu Government have undertaken a major project during the Sixth Plan

for the production of Newsprint and writing paper from Sugarcane bagasse. Preliminary steps for finalisation of technical knowhow financial arrangements, equipment supply, etc., were taken by the Tamil Nadu Newsprint and Paper Ltd., (TNPL) which has been specially established to implement this project. The total cost of the project will be Rs. 180 crores and this will be set up in Tiruchirappalli district with assistance from the World Bank and All Indian Financial Institutions. By using a new technology of using bagasse as raw material it is expected to produce 40,000 tonnes of writing paper and 50,000 tonnes of newsprint per annum.

(5) *Water Supply and Low Cost Sanitation Projects:*

54.11. The project is under implementation with the assistance from the World Bank since 1984-85. This project is to provide water supply to the 3 Major towns of Coimbatore, Madurai and Salem, 75 other medium towns and 740 en-routes and problem rural habitations and also low cost sanitation to 14 towns. A total population of 38.90 lakhs will be benefitted from the project. The estimated cost of the project is Rs. 149.42 crores. An amount of Rs. 133.49 crores is provided in the Plan.

54.12. Actual implementation of the scheme is expected to commence from 1985-86 and will be completed within a period of 5 years.

(6) *Madras Urban Development Project-II :*

54.13. Madras Urban Development Project-II, costing Rs. 73.86 crores was commenced in 1981. The World Bank assistance is Rs. 35.28 crores. The current cost for the completion of the project will be around Rs. 78 crores.

54.14. Slum improvement is a major component of the Madras Urban Development Project scheme being implemented in the Madras city. The slum improvement contemplates environmental improvement, land tenure and home improvement loan. The MUDP-II was started in the year 1981 with the target of benefitting 50,000 families at an estimated cost of Rs. 27.80 crores. Till 1984-85, 48,501 families were benefitted at a cost of Rs. 10.42 crores.

54.15. The Sites and Services Component under MUDP-II was started in March 1981 and 3,759 core units have been completed in 153 acres. Due to land acquisition problems, remaining 152 acres could not be taken up for development with the available land in Mogappair and Nolambur villages, at 1 km., west of original location. Site

and Services Scheme was revised and taken up as Mogappair West Scheme. This scheme envisages development of 187.02 acres with all infrastructure facilities. 4,172 core units (L.I.G. 1275 ; M.I.G. 152 ; and H.I.G. 73 Plots) are proposed to be developed at a cost of Rs. 963.76 crores. Sites and Services Scheme is also under implementation in Maduravoyal village under MUDP-II.

(7) *SIDA assisted Social Forestry Scheme :*

54.16. One of the noteworthy features in the achievement made during the Sixth Plan is the launching of Social Forestry scheme on a massive scale under SIDA (Swedish International Development Agency) aided Social Forestry Project from the year 1981-82 onwards. The period of the Project is 10 years. This is divided into two periods of five years for facility of implementation. The first phase is being implemented with effect from 1st April 1981 onwards at a cost of Rs. 45.00 crores. The targets for the various components are :—

- | | |
|--|--|
| (1) Tree cultivation " Intensive Programme". | Distribution of 12.6 million seedling to 1,00,000 families (20,000 families a year). |
| (2) Plantations in Poramboke Plains and hills. | 14,700 hectares of plain plantation and 24,500 hectares of hill plantation |
| (3) Plantations on tank Foreshores. | 1,32,000 hectares of tank foreshores plantations. |
| (4) Strip plantations (Road side, Canal sides, etc.) | 6,075 kms., of strip plantations. |
| (5) Tree cultivation " Extension Programmes". | Distribution at cost prices of 37.5 million seedling to private farmers. |
| (6) Fodder plantations | 5,250 hectares of fodder plantations. |

54.17. The period of phase-I of the project has been extended by one more year upto 1986-87. The estimated cost has also been increased by Rs. 265.57 lakhs.

54.18. In the Seventh Plan 1985-90, an outlay of Rs. 46.00 crores has been provided towards raising block plantation over 53,000 hectares, strip plantation over 1320 kms., and supply of 250 million seedlings to the public.

54.19. The Social Forestry Monitoring Advisory Board consisting of eminent personalities from Universities and Management institutions

periodically monitor the implementation of the project.

Seventh Plan Proposals :

54.20. The Seventh plan proposals contain a number of programmes which can be funded by the External agencies. A few of such projects which are already under consideration for seeking external assistance are listed below :—

- (1) North Madras Thermal Scheme.
- (2) Master Plan for Transmission and Distribution in Madras City.
- (3) Hogenakkal Water supply Project.
- (4) Augmentation of Water Supply to Madras City.
- (5) Acquisition of Additional tonnage—Construction of Bulk carriers of 40,000 DWT for carrying coal from Haldia to Tuticorin.
- (6) Improvement to Rural Roads in Tamil Nadu.
- (7) Project for Primary Health Care and Family Welfare.
- (8) Tamil Nadu Urban Development Project.
- (9) Madras Urban Development Project III.
- (10) Sheep Development Project.
- (11) Cauvery Modernisation Project.

54.21. Some of these projects are already cleared by Union Planning Commission. Some of them have been included in the Seventh Plan. Some of them are in preparatory stage.

54.22. A Brief description of the project, its estimated cost, position of essential clearance etc. are briefly given below :

1. *North Madras Thermal Scheme :*

54.23. The scheme envisages the establishment of a Thermal Station at North Madras with 3 units of 210 MW at an estimated cost of Rs. 547.79 crores. Coal for this station is linked to Kalinka mines in Orissa State and is to be transported by all rail route. C.E.A. has cleared the project from techno-economic angle and Union Planning Commission has also principally cleared the project. An outlay of Rs. 305.07 crores has been provided for the Seventh Plan. The balance cost will spill on to the Eighth Plan period. The first unit is expected to be commissioned in 1989-90 and the rest in the Eighth Plan period.

54.24. Associated Transmission scheme to evacuate power from the North Madras Thermal Power Station is also proposed at a cost of

Rs. 16.93 crores. The scheme has been cleared by C.E.A. and Union Planning Commission.

(2) *Master Plan for Transmission and Distribution in Madras City.*

54.25. The scheme envisages improvements to the Transmission and distribution system in the Madras Metropolitan areas. The system will improve the existing network to cater to the increase in demand both quantitatively and qualitatively. The estimate cost will be Rs. 73.33 crores.

(3) *Hogenakkal water supply project.*

54.26. The project envisages provision of drinking water supply to about 3352 habitations in Dharmapuri district and for 13 Town Panchayats and 27 Municipal towns. The project is designed to supply 100 million litres of water per day by drawing the supply from the perennial river cauvery near Hogenakkal and treating the same and pumping upto Pennagaram for a distance of 12.9 km. and gravitating the supply to maximum number of villages and pumping to certain high level pockets. The project deserves topmost priority as it is intended to serve the basic minimum needs of drinking water supply for the rural areas in the drought prone district of Dharmapuri. The revised cost of the project is Rs. 94.00 crores.

(4) *Augmentation of Water Supply to Madras City.*

54.27. In order to augment the water supply potential even before the completion of the Krishnawater Supply a short term solution has been identified. The recently completed ground water studies under UNDP assistance have identified three new aquifers at Poondi, Kortalayar flood plains and Kannigaipper well fields. It will be possible to extract about 12 mgd. of ground water from these new sources. The Metro Water has prepared a scheme costing Rs. 98.00 crores for constructing new tube wells and erecting pumpsets, laying conveying mains for bringing water to Madras city including river improvements to the existing distribution system. This programme is proposed to be taken up with assistance from World Bank.

(5) *Acquisition of Additional tonnage—construction of Bulk carriers of 40,000 DWT for carrying coal from Haldia to Tuticorin :*

54.28. The Tuticorin Thermal Power Station with 3 units of 210 MW each consumes not less than 20 lakhs tonnes of coal per annum. The coal mined from Bengal—Bihar coal fields

is moved by rail upto Haldia port and from there moved by ships and discharged at a special coal handling path at Tuticorin. For meeting the present requirements of Tuticorin Thermal-Power Station, it has been estimated that 3 ships of 40,000 tonnes capacity of special design would be needed. Due to increase in the ash content of the coal now mined out, the requirement of coal has gone to around 28 lakhs tonnes per annum. Instead of having vessels on charter basis, to possess vehicles specially designed and equipped will bring considerable economics in the coal movement cost and hence acquisition of atleast 3 ships at a cost of around Rs. 5.00 crores each is considered essential. One ship has already been acquired and two more ships are under construction.

54.29. The acquisition of these two vessels has been cleared by the Ministry of Shipping and Transport, Govt of India. A provision of Rs. 635.00 lakhs has been provided in the Seventh Plan.

(6) *Improvement to Rural Roads in Tamil Nadu.—*

54.30. This project contemplates improvements to 2525 kms. of Panchayat and Panchayat Union roads to all whether standards upto black topping including construction of necessary cross drainage works. This project covers 7 selected districts, viz., Trichy, Thanjavur, Madurai, Pudukkottai, Ramanathapuram, South Arcot and North Arcot districts which are less served by roads and will benefit 1103 habitations with population of 1500 and above. 62 habitations in lesser population group.

54.31 A provision of Rs. 60.00 crores for Rural Roads scheme has been provided in the Seventh Plan as against the total cost of Rs. 150.00 crores.

(7) *Project on Primary Health Care and Family Welfare.—*

54.32. The project with an estimated cost of Rs. 86.57 crores is to improve the health and family welfare status of the rural population of Thanjavur and Dharmapuri Districts in Tamil Nadu. This project envisages establishment and construction of one Health Sub-centre for every 3000 population, establishment of PHC's for every 30,000 population and establishment of Community Health Centre for every one lakh population together with water Supply and sanitation facilities, training and man power development etc. Primary Health Care and Family Welfare Project for the rural areas in the

above two districts is broadly based upon the National Health Policy as approved in the Parliament in 1983.

(8) *Tamil Nadu Urban Development Project.*

54.33. Due to rapid urbanisation, there is growing demand for urban services like shelter traffic and transportation in particular. This project contemplates provision of 85,000 sites and services plots; infrastructure facilities for 80,000 h/h; procurement of 1,200 new buses; provision of workshop terminals, provision of water supply, sanitation system to unserved areas; management of solid waste disposal and strong water drainage and improving municipal organisation and finances, etc.

54.34. The tentative cost of the project would be Rs. 428 crores. The project is likely to be taken up for implementation during 1987-88.

(9) *Madras Urban Development Project-III.*

54.35 Taking into account the rate of growth of population in Madras City and the requirement of housing and other civil services as well as roads, additional transportation, etc., it is now proposed to approach the World Bank for assistance through the Government of India, for a third Madras Urban Development Project. The total estimated cost of the project is Rs. 135.05 crores. The proposal is under consideration by the Government of

India, Ministry of Works and Housing for approval and inclusion of the scheme for financial assistance from the World Bank.

(10) *Sheep Development Project.*

54.36. The object of the project is to improve the socio-economic conditions of the rural population. Distribution of improved rams to selected breeder's for breed improvement, improvement facilities in respect of health cover, field veterinary extension service and research, provision of inservice training to farmers and project staff and provision of adequate infrastructure support for the improvement of sheep are the main objectives of the proposed sheep development project.

54.37. The World Bank Project for sheep development will cost Rs. 1613.13 lakhs.

(11) *Cauvery Modernisation Project.*

54.38. Tamil Nadu is presently formulating Modernisation proposals for the Modernisation of Cauvery Delta Phase-I to be posed for World Bank aid. The Phase-I of the project contemplates 10 river systems both in Cauvery and Vannar basins to offer equitable distribution of water and drainage relief to an extent of about 70,000 hectares. The approximate cost of Phase-I of the project is expected to be in the order of Rs. 124.00 crores with escalation. The work is proposed to be taken up during the Seventh Plan and a sum of Rs. 86.00 crores has been provided in the Plan.

Part D

ABSTRACT

ANNEXURE—I.

SEVENTH FIVE YEAR PLAN, 1985—1990 : AGREED OUTLAYS.

Head/Sub-Head of Development.	Sectoral outlay		
	Seventh Plan 1985-90. (2)	Annual Plan 1985-86. (3)	Annual Plan 1986-87. (4)
(1)	(RUPEES IN LAKHS.)		
A. ECONOMIC SERVICE.			
1. Agriculture and Allied Services—			
Crop Husbandry	20,000	4,550	4,819
Soil and Water Conservation	3,000	344	600
Animal Husbandary	3,000	315	440
Dairy Development	500	30	49
Fisheries	2,400	209	430
Forestry and Wild life	7,000	1,608	2,181
Food, Storage and Warehousing	250	10	30
Agricultural Research and Education	1,300	405	532
Investment in Agricultural Financial Institutions	510	50	50
Marketing and Quality Control	750	15	48
Co-operation	3,500	261	265
Total—I	42,210	7,797	9,444
I. Rural Development—			
Special Programme for Rural Development			
(a) Integrated Rural Development Programme (IRDP)	12,875	1,755	1,978*
(b) Drought Prone Area Programme (DPAP)	1,275	225	322
(c) Integrated Rural Energy Programme (IREP)	500	30	60
(d) National Programmes like National Rural Employment Programme (NREP).	10,250	2,050	1,968
Land Reforms	120	10	10
Community Development and Panchayats	3,800	600	451E
Total—II..	28,820	4,670	4,789
II. Special Area Programme			
V. Irrigation and Flood Control—			
Major and Medium Irrigation	21,200	5,100	4,773
Minor Irrigation	6,500	905	2,074
Command Area Development]	4,000	720	519
Flood Control Projects (including Antisea erosion, etc.).	1,300	235	428
Total—IV	33,000	6,960	7,794

ANNEXURE—I—cont.

SEVENTH FIVE YEAR PLAN 1985-1990 : AGREED OUTLAYS—cont.

Head/Sub-Head of Development.	Sectoral outlay.		
	Seventh Plan 1985-90 (2)	Annual Plan 1985-86 (3)	Annual Plan 1986-87. (4)
(1)	(RUPEES IN LAKHS.)		
V. Energy—			
Power	2,00,000	30,000	38,586
Non-Conventional sources of energy	1,000	30	150
Total—V	2,01,000	30,030	38,736
VI. Industry and Minerals—			
Village and Small Industries	13,000	1,842	2,400
Industries (Other than Village and Small Industries)	14,500	2,206	2,578
Minings	1,000	200	460
Total—VI	28,500	4,248	5,438
VII. Transport—			
Ports and Lighthouses	300	129	100
Shipping	700	20	175
Roads and Bridges	13,000	2,350	3,000
Road Transport	13,200	2,307	2,500
Inland Water Transport	500	—	—
Total—VII	27,700	4,806	5,775
VIII. Science, Technology and Environment—			
Scientific Research (Including Science and Technology).	450	86	100
Ecology and Environment	420	83	68
Total—VIII	870	169	168
IX. General Economic Services—			
Secretariat Economic Services	100	4	12
Tourism	500	17	25
Survey and Statistics	300	12	19
Civil Supplies	2,000	337	350
Total—IX	2,900	370	406

ANNEXURE—I—cont.

SEVENTH FIVE-YEAR PLAN 1985-1990 : AGREED OUTLAYS—cont.

<i>Head/Sub-Head of Development.</i>	<i>Sectoral outlay.</i>		
	<i>Seventh Plan, 1985-90</i>	<i>Annual Plan, 1985-86</i>	<i>Annual Plan, 1986-87</i>
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
B. SOCIAL SERVICES—			
<i>X. Education, Sports and Art and Culture—</i>			
General Education	27,000	4,747	5,005
Technical Education	2,125	516	700
Art and Culture	640	115	160
Sports and Youth Services	1,000	92	150
Total—X ..	30,765	5,470	6,015
<i>XI. Health—</i>			
Medical and Public Health	15,000	2,000	2,676
<i>XII. Water Supply, Housing and Urban Development—</i>			
Water Supply and Sanitation	60,000	10,000	12,500
Housing including Police Housing	16,500	3,317	4,710
Urban Development (including State Capital Projects)..	16,000	3,000	3,300
Total—XII ..	92,500	16,317	20,510
<i>XIII. Information and Publicity</i>	300	17	60
<i>XIV. Welfare of Schedule Castes, Scheduled Tribes/Other Backward Classes.</i>	10,500	1,412	1,550
<i>XV. Labour and Labour Welfare—</i>			
<i>Labour and Employment—</i>			
(a) Labour (including Welfare and training) ..	644	399	199
(b) Employment			
(i) Employment Exchanges	56		
(ii) Special Employment Scheme	800	..	200
Total—XV ..	1,500	399	399
<i>XVI. Social Welfare Administration—</i>			
Social Security and Welfare	3,000	400	230
Nutrition	54,000	10,337	10,812
Total—XVI ..	57,000	10,737	11,042

ANNEXURE—I—cont.

SEVENTH FIVE-YEAR PLAN 1985-1990 : AGREED OUTLAYS—cont.

Head/Sub-Head of Development.	Sectoral outlay		
	Seventh Plan 1985-90	Annual Plan 1985-86	Annual Plan 1986-87.
(1)	(2)	(3)	(4)
	(RUPEES IN LAKHS.)		
C. GENERAL SERVICES—			
<i>XVII. General Services—</i>			
Stationery and Printing	85	55	25
Public Works	2,350	443	473
Total XVII ..	2,435	598	498
Grand Total ..	5,75,000	96,000	1,15,300

* Includes Rs. 1,961 lakhs for IRDP, Rs. 1 lakh for Strengthening of Development Administration and Rs. 16 lakhs for Development of Women and Children in Rural areas also.

£ Includes Rs. 86 lakhs for the scheme construction of public convenience—Rural Latrines.

ANNEXURE-II.

Percapita Plan Outlay of States.

<i>Major States.</i>	<i>Sixth Plan Outlay. (RS. IN CRORES.)</i>	<i>Seventh Plan Outlay. (RS. IN CRORES.)</i>	<i>Percapita Outlay (Rs.).</i>	
			<i>Sixth Plan.</i>	<i>Seventh Plan.</i>
(1)	(2)	(3)	(4)	(5)
1. Andhra Pradesh	3,100	5,200	579	887
2. Bihar	3,225	5,100	461	664
3. Gujarat	3,680	6,000	1,079	1,583
4. Haryana	1,800	2,900	1,395	2,000
5. Karnataka	2,265	3,500	610	849
6. Kerala	1,550	2,100	610	766
7. Madhya Pradesh	3,800	7,000	728	1,215
8. Maharashtra	6,175	10,500	983	1,522
9. Orissa	1,500	2,700	568	947
10. Punjab	1,957	3,285	1,165	1,785
11. Rajasthan	2,025	3,000	590	769
12. Tamil Nadu	3,150	5,750	651	1,112
13. Uttar Pradesh	5,850	10,447	527	853
14. West Bengal	3,500	4,125	641	690
TOTAL : A—STATES	48,600*	80,698*	719	1,085
B. UNION TERRITORIES	1,650	3,768	1,684	3,220
ALL INDIA	97,500@	180,000@	1,423	2,382

*Including Special Programmes

@Includes Central Sector Outlay.

Percapita outlay is worked out by taking into account the estimated population as on 1st April 1981 and 1st April 1985 respectively.

ANNEXURE-III.

Tamil Nadu State Plan Expenditure by Major Sector.
from the First to the Sixth Five-Year Plan.

(Expenditure in RUPES Crores, Percentage share in brackets.)

Sector.	First Plan (1951-56).	Second Plan (1956-61).	Third Plan (1961-66).	Annual Plan period (1966-69).	Fourth Plan (1969-74).	Fifth Plan (1974-78).	Medium Term Plan (1978-80).	Sixth Plan (1980-85).
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Agriculture and Allied Services	9.57 (11.91)	30.62 (16.31)	74.53 (21.47)	66.57 (25.01)	103.75 (18.56)	93.28 (11.19)	83.50 (11.74)	769.90 (21.12)
2. Co-operation	0.11 (0.14)	1.88 (1.00)	5.52 (1.59)	2.85 (1.08)	7.87 (1.41)	38.55 (4.63)	16.33 (2.30)	26.12 (0.72)
3. Irrigation and Flood Control	20.15 (25.06)	17.56 (9.35)	31.46 (9.06)	12.54 (4.71)	28.29 (5.06)	59.65 (7.16)	40.71 (5.72)	161.33 (4.43)
4. Power	30.28 (37.67)	79.15 (42.16)	119.20 (34.34)	104.26 (39.17)	210.05 (37.58)	259.82 (31.17)	279.59 (39.32)	967.57 (26.55)
5. Industry and Minerals	1.53 (1.90)	14.08 (7.50)	23.73 (6.84)	16.56 (6.23)	33.00 (5.90)	50.54 (6.05)	47.34 (6.66)	293.18 (8.04)
6. Transport and Communication	2.70 (3.36)	5.52 (2.94)	11.74 (3.38)	10.44 (3.92)	30.73 (5.50)	86.06 (10.32)	88.94 (12.51)	295.68 (8.11)
7. Social and Community Services	16.05 (19.96)	37.96 (20.21)	80.25 (23.12)	52.50 (19.72)	142.82 (25.55)	237.68 (28.52)	152.17 (21.40)	1,108.68 30.42
8. Economic Services .. .. .	..	0.99 (0.53)	0.72 (0.01)	0.46 (0.17)	2.45 (0.44)	2.65 (0.32)	0.51 (0.07)	2.13 (0.06)
9. General Services .. .. .	..	..	..	..	..	5.38 (0.64)	2.04 (0.28)	19.98
Total	80.39 (100.00)	187.76 (100.00)	347.15 (100.00)	266.18 (100.00)	558.96 (100.00)	833.52 (100.00)	711.13 (100.00)	3,644.61 (100.00)

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