



# **North Eastern Council**

DRAFT  
**ANNUAL PLAN**  
**1987-88**

NORTH EASTERN COUNCIL  
ANNUAL PLAN FOR 1987-88

I N D E X

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**Sub. National Systems Unit,**  
**National Institute of Educational**  
**Planning and Administration**  
17-B, Sector 14, Connaught Place, New Delhi-110016  
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## CHAPTER - 1

### I N T R O D U C T I O N

1.01 The North Eastern Region comprises the five States of Assam, Manipur, Meghalaya, Tripura and Nagaland and the two Union Territories of Arunachal Pradesh and Mizoram. The region accounts for 7.7% of the country's total land area and has a population of 266 lakhs (1981 census) representing 3.8% of the country's total population. 70% of the area is hilly and 90% people lives in villages. The average population density is low i.e. 102 against the all-India average of 221; the density is very low in the mountainous terrain though the plains of Assam & Tripura are thickly populated. The literacy rate in the region is above the all-India average of 36.2(1981) except for Arunachal Pradesh (20.1) and Meghalaya (33.2). The region is economically more backward than other regions in terms of key development indicators.

1.02 Under the North Eastern Council Act, 1971, the Council has been designed as an Advisory Body and to discuss matters in which some or all of the constituent units or union and one or more of the States represented in the Council have a common interest. In the context of North Eastern Areas, this commonality of interest extends to critical spheres of planning for power generation, flood control, inter-state transport and communications as rightly stressed in the North Eastern Council Act to secure a balanced development of the North Eastern Area and accordingly the Council has been formulating regional plans in addition to State/UTs Plans in regard to matters of common interest. Broadly the NEC Plan has two components, viz. one implemented by the constituent units directly and the other by Central agencies and regional corporations sponsored by the NEC. Apart from the nature of the schemes, locational, technical and administrative reasons determined the agency for implementation. For

instance, due to difficult terrain and lack of suitable field organisation, a number of inter-State roads and roads of economic importance have to be assigned to BRDB. Similarly autonomous societies were to be created for establishment of NERIST at Itanagar and Regional Medical College at Imphal and Regional Corporations like NEEPCO and NERAMAC were established for power generation/distribution and marketing/processing of agriculture produce. These Corporations/Bodies receive funds directly from the NEC Plan and work in close collaboration with the State/UT Governments. Under the NEC Plan, the main thrust has, therefore, been <sup>given</sup> to Schemes of regional importance whose benefits can be shared by all units. However, as a part of its effort to achieve balanced development, the Council has been also supporting several schemes of broad economic importance in States/UTs particularly in backward and remote regions and taking up schemes in introduction of new technology, new commercial crops and establishment of training institutions. The regional planning process adopted by the Council is based on periodic discussion and review with the constituent units and central implementing agencies and field visits by its experts. This had enabled the Council to identify major constraints both short-term and long-term on development of the region. The Council has a catalytic role and is to take a regional view of development needs and to support the State/UT Plans. Due to the efforts made over the last one decade, it has been possible for the Council to a certain extent, to remove the basic infrastructural deficiency in the region. Nevertheless, there are still many areas of deficiency and the work of the Council is therefore to be taken up on a firmer and more sustained basis in the field of upgradation of infrastructure, exploitation of the vast resources of the region

raising thereby the productivity and incomes of its population and proper development of human resources by spread of education and appropriate technology.

1.03 The NEC commenced functioning practically since the last year of the Fourth Five Year Plan. The schemes of the NEC Plan aim at development of infrastructure facilities in the region like power, transport, manpower while some schemes of experimental nature having a demonstration effect have also been included. An abstract of NEC Plan performance in financial terms since inception is given below :-

Period	(Rs. in crores)	
	Approved Outlays	Expenditure
(a) Fourth Five Year Plan 1973-74	0.33	0.28
(b) Fifth Five Year Plan 1974-75 to 1977-78.	65.11	53.93
(c) Rolling Plan 1978-79 to 1979-80	82.45	65.33
(d) <u>Sixth Five Year Plan.</u>		
i) 1980-81	64.40	50.86
ii) 1981-82	70.00	64.29
iii) 1982-83	80.00	87.30
iv) 1983-84	95.00	81.23
v) 1984-85	107.75	101.66
Total Sixth Plan -	417.15	385.34
Seventh Plan 1985-90	675.00	
Approved outlay.		
1985-86	125.00	96.46

1.04 The Council had proposed a Seventh Plan outlay for about Rs.1271.60 crores. However, an outlay of Rs.675.00 crores only was approved by the Planning Commission, comprising Central assistance of Rs.575.00 crores and LIC loan of Rs.100.00 crores to be drawn by NEEPCO. The Members of the Council

in the Twenty Fifth Council Meeting held on August 28, 1985 expressed the view that the Seventh Plan outlay of Rs.675.00 crores for the North Eastern Council was inadequate and need be raised substantially. Accordingly, the Council Secretariat had proposed a supplemental outlay of Rs.152.00 crores to raise the size of the Seventh Five Year Plan from Rs.675.00 crores to Rs.827.00 crores, while presenting Annual Plan proposals for 1986-87. The main features of the supplementary proposals for the Seventh Plan are additional allocation of (a) Rs. 87.00 crores in the Power Sector (b) an expanded programme of new roads with an additional outlay of Rs.44.00 crores over the approved outlay of Rs.10.00 crores (c) additional schemes for Rs.9.00 crores in agriculture and allied sectors (d) Rs.6.00 crores under general services sector (e) Rs.4.00 crores in Manpower Development and (f) Rs.2.00 crores for schemes under Industries and Minerals. The Planning Commission however, took a view that the Seventh Plan size of NEC had been recently finalised at Rs.675.00 crores which is 98.53 per cent higher than the approved Sixth Plan outlay and expressed its inability to raise it further on grounds of resource constraints. However, the Planning Commission had agreed that if NEC considered inclusion of any new schemes as vital for regional development, it could be taken up in Seventh Plan within the overall approved outlay. This might ultimately lead to some augmentation in the Plan outlay.

1.05 The Council Secretariat proposed an outlay of Rs.177.19 crores for 1986-87 NEC Plan comprising Rs 144.70 crores for continuing schemes and Rs.32.49 crores for new schemes (including supplementary proposal of Rs.9.27 crores out of Rs.152.00 crores supplementary plan to 7th Plan. Final outlay of Rs. 145.00 crores was decided for 1986-87 NEC Plan,

which includes Rs.20.00 crores to be raised as LIC loan by NEEPCO. The share of continuing schemes in 1986-87 is Rs.117.71 crores and Rs.27.28 crores for new schemes including Rs.2.80 crores for supplementary schemes not initially included. The major portion of 1986-87 is for Transport & Communication i.e. 42.35 per cent followed by 39.87 per cent for power. Both these two sectors account for about 82 per cent of the total outlay for 1986-87 against 85 per cent for Seventh Plan which shows that main thrust of the NEC Plan towards building up power and transport infrastructure.

1.06 Against the approved outlay of Rs.145.00 crores for 1986-87 Annual Plan, the anticipated expenditure will be Rs.137.00 crores. The shortfall is mainly in the Power Sector.

1.07 The point of inadequacy of NEC Seventh Plan outlay was again stressed in the meeting of the Council held on 29th July, 1986 particularly in strategic sectors like road building and hence there was still an urgent need for raising the Seventh Plan size by inclusion of additional schemes for reducing the accumulated <sup>development</sup> logs in the region. In the Annual Plan proposals of 1987-88 were based on the recommendation of the Council and thus contained a set of supplementary proposals. An outlay of Rs.167.97 crores is proposed against the approved outlay of 7th Plan of Rs.675.00 crores, of which Rs.14.51 crores in Agriculture and Allied Sector, Rs.61.87 crores in Water and Power Development, Rs.71.00 crores in Transport and Communication, Rs.14.65 crores in Manpower Development, Rs.2.47 crores in Industries and Minerals, Rs.2.93 crores in General Services, Rs.54.00 lakhs in Social Community Services. The details of Sectorwise proposed outlay are given below :



(Rs. in crores)

Sector	7th Plan	Actual	1986-87		1987-88		Total
	approved outlay	Expdr. during 85-86	Approved outlay	Anticipated (Expdr.)	Proposed outlay (for the app.sche- me.)	Supple- mentary	
1.	2.	3.	4.	5.	6.	7.	8.
I. Agriculture & Allied Programme.	46.47 (6.86)	3.60	8.49 (5.86)	8.88	14.51	1.65	16.16 (9.05)
II. Water and Power Development.	278.08 (41.20)	38.58	57.31 (39.87)	45.81	61.87	3.00	64.87 (36.32)
III. Industries & Minerals.	10.60 (1.57)	0.94	1.75 (1.21)	1.76	2.47	-	2.47 (1.38)
IV. Transport & Communication.	297.53 (44.08)	41.69	61.40 (42.35)	68.04	71.00	2.45	73.45 (41.12)
V. Manpower Development.	33.80 (5.01)	10.67	13.37 (9.22)	9.99	14.65	0.93	15.58 (8.72)
VI. Social & Community Services.	1.61 (0.24)	0.47	0.44 (0.30)	0.53	0.54	1.62	2.16 (1.35)
VII. General Services.	6.92 (1.03)	0.51	1.73 (1.19)	1.69	2.93	0.75	3.68 (2.05)
Total -	675.00 (100.00)	96.46	144.99 (100.00)	137.06	167.97	10.40	178.37 (100.00)

It appears from the above table that T&C and Power Sectors jointly account for nearly 78% of the proposed Annual Plan outlay. The proposed outlay of Rs.167.97 crores for 1987-88 comprising Rs.126.65 crores for continuing schemes and Rs.41.32 crores for the new scheme included in the NEC approved 7th Plan. The 1987-88 proposals include Rs.10.40 crores for supplementary schemes for inclusion in 1987-88 NEC Plan as supplementary. The list of the supplementary proposals is at Annexure-A with a additional requirement of Rs.72.50 crores for the 7th Plan period.

1.08 Thus the proposed outlay for NEC Plan for 1987-88 accounts to Rs.178.37 crores consisting of Rs.167.97 crores out of the approved Seventh Plan outlay of Rs.675.00 crores and Rs.10.40 crores of the supplementary proposal.

1.09 The sector-wise outlay for 1987-88 is at statement-I and the scheme-wise proposed outlay is at Statement-2.

1.10 The details about supplementary schemes are at Chapter-9.

N.E.C. - 1987-88 Plan Outlay

Statement - 1

(Rs. in Crores)

Sector	7th Plan Approved Outlay			1985-86	1986-87		1987 - 88				
	Continuing	New	Total	Actual Expenditure	Approved	Anticipated	Continuing	New	Total	Supplementary	Total
<b>I. Agriculture &amp; Allied Programme</b>											
1. Soil Conservation.	3.34	2.86	6.20	0.87	1.15	1.20	1.43	0.06	1.49	0.41	1.90
2. Agriculture	0.95	2.92	3.87	0.11	0.62	0.45	0.31	0.62	0.93	0.20	1.13
3. Horticulture	5.01	5.15	10.16	1.28	2.75	2.61	1.60	1.61	3.21	-	3.21
4. Plantation	2.88	2.98	5.76	0.44	1.05	0.36	0.36	1.10	1.46	0.25	1.71
5. Forestry & Plant Resources	0.43	8.45	8.88	0.35	1.52	1.94	-	2.82	2.82	0.10	2.92
6. Animal Husbandry & Vety.	2.12	7.00	9.12	0.55	1.10	2.04	0.79	3.23	4.02	0.69	4.71
7. Fishery	0.03	2.54	2.57	-	0.30	0.28	-	0.58	0.58	-	0.58
	14.76	31.71	46.47	3.60	8.49	8.88	4.49	10.02	14.51	1.65	16.16
<b>II. Water &amp; Power Development</b>											
1. Power Development	216.87	55.00	271.87	38.19	56.81	45.07	36.68	23.25	59.93	3.00	62.93
2. R.E.E.	2.00	-	2.00	0.29	0.75	0.50	0.84	-	0.84	-	0.84
3. Water Resources development	0.21	4.00	4.21	0.10	0.25	0.24	0.41	0.69	1.10	-	1.10
	219.08	59.00	278.08	38.58	57.81	45.81	37.93	23.94	61.87	3.00	64.87

(8)

	1	2	3	4	5	6	7	8	9	10	11	12
<b>III. <u>Industries &amp; Minerals</u></b>												
1. <u>Detailed Mineral Exploration</u>	0.94	2.35	3.29	0.57	0.77	0.72	0.17	0.51	0.68	-		0.68
2. <u>Large &amp; Medium Industries</u>	2.54	3.95	6.49	0.30	0.82	0.80	0.76	0.65	1.41	-		1.41
3. <u>Sericulture</u>	0.22	0.60	0.62	0.07	0.16	0.24	0.03	0.35	0.38	-		0.38
	<u>3.70</u>	<u>6.90</u>	<u>10.60</u>	<u>0.94</u>	<u>1.75</u>	<u>1.76</u>	<u>0.96</u>	<u>1.51</u>	<u>2.47</u>	<u>-</u>		<u>2.47</u>
<b>IV. <u>Transport &amp; Communication</u></b>	283.53	14.00	297.53	41.69	61.40	68.04	67.45	3.55	71.00	2.45		73.45
<b>V. <u>Mar. Power Development</u></b>	31.74	2.06	33.80	10.67	13.37	9.99	13.38	1.27	14.65	0.93		15.58
<b>VI. <u>Soci. &amp; economic service</u></b>	0.87	0.74	1.61	0.47	0.44	0.83	0.11	0.43	0.54	1.62		2.16
<b>VII. <u>General Service</u></b>	5.06	1.86	6.92	0.51	1.73	1.89	2.33	0.60	2.93	0.75		3.68
<b>Grand Total:</b>	<b>558.74</b>	<b>116.26</b>	<b>675.00</b>	<b>96.47</b>	<b>144.89</b>	<b>137.85</b>	<b>126.65</b>	<b>41.32</b>	<b>167.97</b>	<b>10.40</b>		<b>178.37</b>

Schemewise Outlay for NEA Annual Plan - 1987-88

(Rs. in lakhs)

Name of the schemes	Approved 7th Plan outlay	Actual expdr. 1985-86	1986-87		Proposed outlay for 1987-88	
			Approved outlay	Anticipated expdr.		
1	2	3	4	5	6	7

SOIL CONSERVATION

Continuing Schemes.

1. Pilot Project on Water Management.	456.58	60.00	85.00	88.00	116.00	
2. Survey & Investigation Cells in Constituent Units.	50.00	-	10.00	10.00	12.00	
3. PPM Cell in N.E. Sectt.	20.00	5.00	5.00	5.00	5.00	
4. Regional Soil Conservation Training.	50.00	9.53	10.00	10.00	10.00	
Total :			110.00	113.00	143.00	

New Scheme

5. Survey of Catchment Area, Kameng, and Ranganadi, Arunachal Pradesh.	25.00	-	5.00	7.19	6.00	
<b>TOTAL : SOIL CONSERVATION</b>			115.00	120.19	149.00	

AGRICULTURE :

Continuing Schemes.

1. Foundation Seed Farm for Major Crops, Manipur.	46.15	-	20.00	5.00	14.00	
2. Regional Centre for Production of Bio-Fertilizers in AAU.	5.00	1.00	1.00	2.50	1.81	
3. Joint Input Testing Laboratory, Tripura.	29.35	-	10.00	5.00	10.00	
4. Regional Sub-Centre for Training-cum-Production of Mushroom in Mizoram.	15.00	5.00	5.00	5.00	5.00	
<b>Total : Continuing Schemes</b>		6.00	36.00	17.50	30.81	

1	2	3	4	5	6	7
<u>New Schemes</u>						
5. Regional Farm for production of pulses & Oil seeds, Manipur.	54.40	-	6.00	6.00	10.00	
6. Mushroom Dev. Centre, Arunachal Pradesh.	14.50	-	3.00	2.16	6.84	
7. Regional Bio-Fertilizer Production Centre, Tripura.	24.90	-	5.00	2.00	5.00	
8. Regional Breeder Seed Farm, Tripura.	29.00	-	5.00	2.00	10.00	
9. Regional Mushroom Spawn Production Centre, Tripura.	15.00	-	3.00	3.00	2.20	
10. Pilot Project on Dry Land, Agriculture, Water Harvesting, Nagaland.	43.60	-	2.00	10.00	12.55	
11. Regional Cotton Seed Multiplication & Dev. Centre, Tripura.	54.28	-	2.00	2.00	16.00	
New Schemes		-	26.00	27.16	62.59	
Agriculture		-	62.00	44.66	93.40	
<u>SOIL CONSERVATION &amp; A-GRICULTURE</u>			177.00	164.85	124.40	

## HORTICULTURE

### Continuing Schemes.

1. Regional Vegetable Seed Farm, Maicherra in Tripura.	23.05	-	5.00	5.00	5.00	
2. Regional Orchard-cum-Nursery for Citrus, Mynkre, Meghalaya.	5.21	3.21	2.00	2.00	4.00	
3. Regional Coconut Seed Garden, Tripura.	42.37	14.00	6.00	4.00	8.00	
4. Regional Seed Garden for Spices Bettle leaf, Tripura.	51.46	-	10.00	5.00	15.00	
5. Development of Temperate Nut and Almond Crops, Arunachal Pradesh.	32.45	-	3.00	3.90	20.00	

	1	2	3	4	5	6	7
6. Scheme for Survey of Area & Production of Horticultural Crops.		10.00	5.50	10.00	12.32	7.50	
7. NERAMAC, Gauhati.		325.00	100.00	200.00	200.00	100.00	
<b>Continuing Schemes</b>				236.00	232.22	159.50	

New Schemes.

8. <u>Foundation Seed Farm for Potato:</u>							
i) Manipur		28.15	-	5.00	5.00	14.00	
ii) Meghalaya		50.00	-	3.00	-	15.00	
iii) Mizoram		40.10	-	3.00	3.00	10.00	
9. Establishment of a Seed Farm for production of Certified Seeds of Potato, Tripura.		65.00	-	3.00	3.00	28.83	
10. Regional Tuber Crops Farm, Tripura.		38.00	-	3.00	3.00	17.00	
11. <u>Regional Vegetable Seed Farm :</u>							
i) Arunachal Pradesh		26.00	-	3.00	2.00	14.35	
ii) Manipur		27.12	-	3.00	5.00	9.00	
12. Scheme for establishment of a Clonal Seed Garden for Banana, Tripura.		60.00	-	4.00	0.50	25.00	
13. Scheme for Rejuvenation of Old Orange Orchards, Tripura.		20.00	-	2.00	1.00	6.00	
14. Establishment of Citrus Demonstration and Dev. Centre, Mizoram.		20.35	-	2.00	2.00	5.00	
15. Temperate Fruit Plant Nursery for Arunachal Pradesh.		26.09	-	4.00			
				Merged with scheme at Sl.No.5 in this sector.			
16. Establishment of Large Cardamom Nursery, Mizoram.		28.18	-	2.00	2.00	6.00	

	1	2	3	4	5	6	7
17. Promotion of Floriculture, Tripura.	22.00	-	1.00	1.00	6.00		
18. Nursery of Coptistite, Arunachal Pradesh.	1.00	-	0.25	0.25	0.30		
19. Introduction of Saffron, Arunachal Pradesh.	11.00	-	1.00	1.00	5.00		
	New Schemes			39.25	28.75	161.48	
Horticulture (TOTAL)			275.25	260.97	320.98		

### PLANTATION

#### Continuing Schemes.

1. Detailed Insitu Survey of land suitable for Coffee in the NE Region.	10.00	3.16	5.00	5.00	6.00		
2. Tea Nursery-cum-Mother Bush Farm, Tripura.	74.00	10.49	25.00	-	-		
3. Factory for Small Farmer's Tea Estate, Tripura.	204.00	30.00	30.00	1.00	30.00		
TOTAL : CONTINUING SCHEMES.		43.65	60.00	6.00	36.00		

#### New Schemes:

4. Rubber Processing Factory, Tripura.	137.00	-	25.00	25.00	60.00		
5. Raising of Dioscorea Floribunda Plantation & Processing for manufacture of Diosgenin/16-DPA, Tripura.	151.00	-	20.00	5.00	50.00		
TOTAL : NEW SCHEMES			45.00	30.00	110.00		
TOTAL : PLANTATION			105.00	36.00	146.00		

### FOREST & PLANT RESOURCES

#### New Schemes:

1. Survey of Forest Resources of NE Region.	15.00	-	5.00	42.00	60.00		
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1	2	3	4	5	6	7
2. Afforestation of New Catchment Areas of -						
a) Umiam Hydro Electric Project, Meghalaya.	75.00	-	12.00	12.00	17.00	
b) Doyang Hydro Electric Project, Nagaland.	75.00	-	12.00	12.00	23.00	
c) Loktak, Manipur	75.00	-	20.00	20.00	25.25	
3. Propagation of Tissue Culture Technique for Multiplication of various species.	100.00	-	21.00	32.00	36.00	
4. Sub-Tropical Botanical Garden of Plant Resources Centre, Nagaland.	175.00	-	10.00	10.00	30.00	
5. Dev. of Minor Forest Products including Medicinal Plants.	140.00	-	30.00	28.00	36.00	
6. Logging improvement.	100.00	-	25.00	21.50	30.00	
7. Tree improvement Scheme (Assam, Arunachal Pradesh, Manipur, Meghalaya, Nagaland).	80.00	-	17.00	16.50	24.00	
8. Social & Agro Forestry Scheme (Assam, Manipur, Meghalaya, Nagaland, Arunachal Pradesh).	60.00	-	11.00			
			(merged with sl. 3 of this sector)			
TOTAL : New Schemes			152.00	194.00	281.75	

- (14) -

ANIMAL HUSBANDRY

Continuing Schemes:

1. Regional Temperate Fodder Seed Production-cum-Demonstration Farm, Arunachal Pradesh.	15.00	10.97	5.00	5.00	10.00
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1	2	3	4	5	6	7
2. Regional Broiler Chick Production cum-Demonstration Farm, Gauhati.	46.68	43.66	8.00	8.00	15.00	
3. Regional Feed Testing Laboratory, Khanapara, Gauhati.	42.57	8.96	8.00	8.00	23.00	
4. Regional Integrated Farming System Project under AAU.	4.00	0.55	1.00	0.50	1.50	
5. Regional Cross-Breed Cattle Farm, Thenzawl, Mizoram.	40.00	10.00	8.00	8.00	8.00	
6. Regional Goat Breeding Farm, Tripura.	29.33	0.94	10.00	10.00	12.00	
7. Regional Pig Breeding Farm, Nalkata, Tripura.	34.11	10.00	8.00	8.00	10.00	
TOTAL : CONTINUING SCHEMES			48.00	47.50	79.50	
<u>New Schemes</u>						
8. Regional Mithun Breeding Farm, Arunachal Pradesh.	25.00	-	2.00	2.00	12.50	
9. Regional Goat Breeding Farm, Arunachal Pradesh.	25.00	-	2.50	2.50	14.00	
10. Regional Fodder Seed Farm, Assam.	45.00	-	2.00	5.00	20.00	
11. Regional Frozen Semen Project, Assam.	35.00	-	2.50	19.00	21.43	
12. Regional Buffalo Breeding Farm, Assam.	125.98	-	8.00	8.00	20.00	
13. Mechanisation of Instt. of vety. Biologicals Khanapara, Assam.	38.00	-	8.00	2.00	30.00	
14. Regional AI Training-cum-Cryogenic Laboratory in Assam Agri. University.	20.00	-	3.00	3.00	10.50	
15. Regional Buffalo Breeding Farm, Manipur.	49.20	-	4.00	10.00	20.00	

1	2	3	4	5	6	7
16. Regional Pony Dev. Project, Manipur.	60.00	-	3.00	12.00	17.00	
17. Regional Composite Livestock Farm, Tamenglong, Manipur.	35.00	-	3.00	6.00	10.00	
18. Regional Pigery Farm, Meghalaya.	40.00	-	4.00	18.00	18.00	
19. Regional Fodder Seed Farm, Thenzawl, Mizoram.	25.00	-	2.50	10.00	7.32	
20. Regional Broiler Chicks Farm, Mizoram.	50.00	-	3.00	3.00	18.00	
21. Regional Cross-Breed Cattle Farm, Nagaland.	75.00	-	2.00	20.00	30.00	
22. Regional Exotic Pig Breeding Centre, Nagaland.	65.00	-	2.50	20.00	30.00	
23. Regional Broiler Chicks Production- cum-Demonstration Sub-Centre at Kohima.	40.00	-	2.00	8.00	15.00	
24. Regional Veterinary Biological Centre, Tripura.	85.80	-	5.00	5.00	20.00	
25. Regional Centre for Investigation of Common diseases of Ducks, Tripura.	25.00	-	3.00	3.00	9.00	
New Schemes			62.00	156.50	322.75	
Total : Animal Husbandry			110.00	204.00	402.25	

#### Fisheries

##### New Schemes.

1. Reclamation of Beel Fishery, Aru- nachal Pradesh & Meghalaya.	66.00	-	A.P. Meg.	3.00	4.00	6.00
2. Regional Fish Seed Farm, Meghalaya.	18.00	-		2.00	-	5.00

1	2	3	4	5	6	7
3. Regional Fish Seed Farm, Mizoram.	20.00	-	2.00	2.00	8.00	
4. Regional Cat Fish Breeding & Culture Farm, Nagaland.	50.00	-	10.00	8.00	15.00	
5. Regional Air Breathing Fish Seed Farm, Tripura.	48.97	-	10.00	5.00	10.00	
6. Fresh Water Prawn Culture in Loktak Lake, Manipur.	25.00	-	1.00	4.00	7.00	
7. Regional Pingla Fish Seed Farm, Manipur.	25.00	-	1.00	4.00	7.00	
8. Survey of Derilect Fisheries, Arunachal Pradesh.	0.95	-	1.00	1.00	-	
Total : Fisheries			30.00	28.00	58.00	
I. Agriculture & Allied Sector : Total			849.25	887.82	1451.38	

#### WATER AND POWER DEVELOPMENT

A. <u>Generation</u> <u>Continuing Schemes:</u>			<u>4360.00</u>	<u>3458.00</u>	<u>4660.00</u>	
1. Kopili Hydel Project.	3100.00	2100.00	900.00	2500.00	900.00	
2. Garo Hills Thermal Project.	3000.00	10.00	10.00	1.00	10.00	
3. Doyang Hydel Project in Nagaland.	10000.00	900.00	1600.00	400.00	1600.00	
<u>New Schemes.</u>						
4. Ranganadi HE Project/Other new Project.	5000.00	-	1000.00	550.00	2000.00	
5. Gas Turbine, Tripura.	-	-	50.00	7.00	150.00	
B. <u>Transmission:</u> <u>Continuing Schemes.</u>			<u>1001.00</u>	<u>751.00</u>	<u>1101.00</u>	
1. Kopili Transmission.	10.00	9.00	1.00	1.00	1.00	

	1	2	3	4	5	6	7
2. Addl. Transmission Line		882.00	600.00	200.00	400.00	200.00	
3. Transmission System associated with Doyang by NEEPCO.		4000.00	700.00	700.00	250.00	700.00	
4. 132 KV Transmission Dohpur - Itanagar.		237.85	-	100.00	100.00	100.00	
5. Ranganadi Transmission Project.		-	-	-	-	100.00	
<u>C. Survey &amp; Investigation:</u>				<u>270.00</u>	<u>298.00</u>	<u>232.00</u>	
<u>Continuing Schemes:</u>							
1. Loktak down stream & Tuivai Hydel Project, Manipur.		15.17	15.00	15.00	15.00	1.00	
2. Tuivai in Mizoram.		211.12	86.00	50.00	80.00	25.00	
3. a) Ranganadi		63.85	30.00	30.00	30.00	25.00	
b) Damwe							
c) Papu							
4. a) Barak		198.86	50.00	80.00	80.00	60.00	
b) Irang							
5. Kynshi Basin in Meghalaya		86.18	35.00	41.00	-	35.00	
6. Serlui-B & Tuivai in Mizoram.		58.28	30.00	25.00	25.00	1.00	
7. Dikrong in Arunachal Pradesh.		39.54	20.00	15.00	15.00	5.00	
8. Residual Investigation, Kameng.		4.00	1.00	3.00	3.00	1.00	
9. High Dam Tipaimukh.		6.00	1.00	5.00	5.00	1.00	
10. Sedimentation Survey on Umium Reservoir.		11.00	3.40	6.00	5.00	3.00	
<u>New Scheme</u>							
11. Invest. of Hydel Project including Mini/Micro H. Project.		-	-	50.00	40.00	5.00	
<u>Renewable Resources of Energy</u>		200.00	35.00	75.00	50.00	84.00	

	1	2	3	4	5	6	7
<u>Water Development:</u>				25.33	24.00	109.78	
<u>Continuing Schemes.</u>							
12. Micro Hydel Irrigation in, Mizoram.	21.45	10.00	10.00	10.00	10.00	1.45	
13. Diphu Down Stream Irrigation Project, Nagaland.							
14. Jiri Medium Irrigation Project in Manipur.	218.39	-	-	10.00	40.00		
15. Tirap Medium Irrigation in Arunachal Pradesh.							
<u>New Schemes:</u>							
16. Air Borne Survey on Barak river system by NRSA.	5.33	-	5.33	-	5.33		
17. Tsurang Investigation, Nagaland.	5.00	-	5.00	2.00	3.00		
18. Institute of Water Management & Command Area Development, Assam.	131.28	-	5.00	2.00	50.00		
19. Longgai Investigation, Tripura.	40.00	-	-	-	10.00		
<b>II. Water and Power Development.</b>				5781.33	4581.00	6186.78	

INDUSTRIES AND MINERALS:

Detailed Minerals Investigation & Proving.

Continuing Schemes.

1. For clearing pending Liabilities of Siju, Borjan, Delhi-Joypore & Bokajan & Namchik, Nampuk exploration.	-	-	-	-	1.00		
2. Langrin Coal Exploration, Meghalaya.	20.00	-	18.00	34.00	16.00		
3. Makum Coal field Ledo-Borgolai, Assam.	29.98	21.43	5.00	5.00	-		

	1	2	3	4	5	6	7
<u>New Schemes</u>							
4. Jairempur Coal Field, Arunachal Pradesh.	40.00	-	5.00	-	5.00		
5. Extension of Namchik Nampuk Coal-field, Arunachal Pradesh.	35.00	-	12.00	-	10.00		
6. Dilli Sector of Dilli-Jeypore Coalfield, Assam.	35.00	-	12.00	12.00	5.00		
<u>Limestone (New Schemes)</u>							
7. Now Umrangshu, Assam.	25.00	-	8.00	8.00	3.00		
8. Nimmi, Nagaland.	24.00	-	5.00	5.00	10.00		
9. Detailed investigation of high grade lime stone in Lumshnong North Block, Jaintia Hills, Meghalaya.	16.00	-	4.00	-	7.50		
10. Ground Water, Mizoram.	50.00	-	8.00	8.00	10.00		
Total : Mineral Inv. & Proving.			77.00	72.00	67.50		

Large & Medium Industries:  
Continuing Schemes.

11. Mini-Cement Plant at Hundung, Manipur (50 tpd) including Agency Payment to M/s. NEITCO.	40.80	10.96	5.50	40.00	7.97		
12. Mini Cement Plant, Wazeho, Nagaland (500 TPD)	21.50	5.08	8.00	35.00	57.26		
13. Mini-Cement Plant, Umrangshu, Assam (2000 tpd)	164.45	-	20.00	-	1.00		
14. Paper grade Lime Plant at Lumshnong, Meghalaya.	10.00	-	1.00	-	5.00		
15. Paper-grade lime Plant (200 tpd), Umrangshu.	1.00	-	1.00	-	5.00		

Detailed Raw Material Investigation for Specific Projects (Feasibility Studies).

New Schemes.

16. Glass & Sand beneficiation studies in Meghalaya & Tripura.	15.00	-			
17. Sillimanite & Kyanite beneficiation test Meghalaya.	8.00				
18. Benefication test on Garnet & other minor abrasive Minerals.	24.00		10.00	-	10.00
19. Feasibility & detailed studies for one million tonne Cement Plant.	30.00				
20. Feasibility studies for chemical grade limestone.	5.00	-	-	-	2.00

Total of Large & Medium Industries.

82.50      80.50      141.23

R&D Projects for Industrial Utilisation of Regional Raw Materials:

23.00      5.00      32.00

New Schemes

21. Low temperature Carbonisation of N.E. Coal.	10.00	-	2.00	2.00	4.00
22. Fluidised bed technology of NE Coal.	10.00	-	2.00	-	2.00
23. Fuel Gas desulphurisation.	5.00	-	1.00	-	1.00
24. Determination of Physical, Chemical characteristics of the NE tertiary coal Meghalaya, Nagaland, Assam & Arunachal Pradesh.	30.00	-	15.00	-	15.00
25. Setting up of chemical & Petrological Laboratory at Dimapur, Nagaland.	33.00	-	3.00	3.00	10.00



	1	2	3	4	5	6	7
<u>Pilot Industrial Project:</u>				14.00	0.50	21.00	
<u>New Schemes:</u>							
26. Breeze Coke Plant (for 30,000 tonnes) to meet requirement of VSK Cement & Lime Plant.	166.00	-		5.00	0.50	15.00	
27. Salt Iodisation Plant at Byrnihat, Lilabari, Kumarghat.	24.00	-		3.00	-	1.00	
28. Clinker grinding plant, Mizoram.	40.00	-		5.00	-	5.00	
29. Pilot Plant beneficiation test.	25.00	-		-	-	-	
<u>Village &amp; Small Scale Industries (Sericulture)</u>				15.80			
<u>Continuing Schemes.</u>							
30. Estt. of Mulberry Nursery-cum-Chowki Rearing Centre, Tripura.	9.00	4.50		4.80	4.80	1.00	
31. Estt. of Muga Plant & Oak Plant Nursery, Arunachal Pradesh.	10.50	0.27		1.00	1.00	1.00	
32. Estt. of Mulberry Nursery-cum-Chowki rearing Centre, Arunachal Pradesh.	2.50	1.95		1.00	1.00	1.00	
<u>Total : Cont. Schemes</u>				6.80	6.80	3.00	
<u>New Schemes:</u>							
33. Estt. of Reeling Unit, Assam.	8.00	-		3.00	3.00	3.00	
34. Scheme for Modernisation of Mulberry Silk Reeling Unit, Meghalaya.	8.00	-		2.00	8.00	12.00	
35. Estt. of Silk Reeling Spinning, Weaving Training-cum-Production Centre at Kolasib, Mizoram.	15.00	-		2.00	2.00	5.00	
36. Estt. of Integrated Reeling and Twisting Unit, Nagaland.	8.00	-		1.00	1.00	1.00	
37. Silk Reeling Unit, Tripura	8.00	-		1.00	1.00	3.50	

	1	2	3	4	5	6	7
38. Silk Reeling Unit, Manipur		8.00	-	-	2.00	10.00	
39. Silk Reeling Unit, Arunachal Pradesh.		5.00	-	-	-	1.00	
New Schemes				9.00	17.00	35.50	
Total: Sericulture				15.80	23.80	38.50	
III. Industries & Minerals				175.80	176.30	247.23	

TRANSPORT & COMMUNICATION:

1. Ropeways	1.00	-	100.00	10.00	100.00	
2. Improvement of Inland Water Transport Construction of Floating Jetties.	410.00	10.00	170.00	51.00 + 35.00 (New Scheme)	- + 120.00	
3. Mechanical Cargo Handling Plant.	253.00	50.00	100.00	40.00	200.00	
4. Roads - (a) Inter-State Roads.	15996.00	2107.67	3350.00 +220.00 ( new roads )	3261.00 + 60.00	3795.00 +235.00	
(b) Roads of Economic Importance	12912.68	1785.00	2200.00	2886.00	2650.00	
5. Bridge across Brahmaputra, Tezpur	160.00	210.00	-	461.00	-	
IV. Transport & Communications			6140.00	6804.00	7100.00	

MANPOWER DEVELOPMENT :

Continuing Schemes:

1. Fellowship & Academic Programme.	230.00	44.79	52.00	49.00	52.00
2. Linemen's Training Programme.	25.00	7.50	4.00	4.00	4.00
			Assam 4.50	4.50	5.00
			Megha.		

	1	2	3	4	5	6	7
3. Misc. Training Programme.	132.00	14.52	35.00	30.00	35.00		
4. N.E. Regional Institute of Science & Technology.	1500.00	700.00	800.00	440.00	800.00		
5. Extension of Assam Survey School.	7.00	-	8.50	8.50	8.00		
6. Improvement of Science & Mathematics Education in Hill/Tribal Areas.	25.00	10.20	10.00	10.52	12.55		
7. Financial Assistance to Assam Rifles Public School for improvement in the Standard of Science & Mathematic Education.	25.77	5.42	10.00	7.00	10.00		
8. Establishment of Regional Fishery Institute.	54.41	-	5.00	5.00	11.11		
9. Regional Mining School in Nagaland.	10.00	-	10.00	10.00	10.00		
10. Regional Students' Hostel (Hostel for Researchers).	55.00	-	1.00	1.00	1.00		
11. NE Judicial Officers Training Institute, Gauhati.	20.00	2.28	5.00	5.00	5.00		
12. Regional Medical College, Imphal.	700.00	135.00	190.00	190.00	214.00		
13. North East Police Academy, Umsaw, Shillong.	347.39	123.75	150.00	170.00	170.00		
Total : Continuing Scheme			1285.00	934.52	1337.66		
<u>New Schemes :</u>							
14. Expansion of Dental Wing, GMC	40.00	-	5.00	5.00	15.00		
15. Expansion of Regional Nursing College, Gauhati.	60.00	-	5.00	5.00	20.00		
16. Expansion of Regional Pharmacy Institute, Agartala.	30.00	-	4.00	3.00	7.00		
17. Improvement of ITI, Aizawl.	15.00	-	10.00	5.00	15.00		
18. Linemen Training Centre, Mizoram.	1.00	-	8.00	8.00	1.00		

	2	3	4	5	6	7
19. Regional ITI for Women, Tinsukia.	10.00	-	8.00	8.00	36.89	
20. Modernisation of ITI, Imphal.	20.00	-	10.00	10.00	10.00	
21. Introduction of Electronic & Telecommunication in Agartala Polytechnic.	10.00	-	1.00	-	-	
22. Regional Centre for Training of Trainers Rani, Assam.	80.00	-	1.00	20.00	22.00	
Total : New Schemes			52.00	64.00	126.89	
V. MANPOWER DEVELOPMENT			1337.00	998.52	1464.55	
VI. <u>Social &amp; Community Services.</u>						
Continuing Schemes:						
1. Artificial Limb Fitting Centre.	20.42	1.00	1.00	10.00	1.00	
		Shillong				
		7.42	5.00	5.00	10.00	
		Imphal				
2. Pasteur Institute, Shillong.	50.00	22.00	28.00	28.00	-	
TOTAL : Continuing Schemes			34.00	43.00	11.00	
New Schemes						
3. Food & Drug Laboratory, Tripura.	20.00	-	2.00	2.00	6.75	
4. Food & Drug Laboratory, Gauhati.	18.00	-	2.00	2.00	14.00	
5. Orthopaedic & Traumatology Centre, Shillong.	10.00	-	2.00	2.00	8.00	
6. Artificial Limb Fitting-cum-Rehabilitation Centre, Nagaland.	11.50	-	2.00	2.00	3.61	
7. Food & Drug Laboratory, Shillong.	15.00	-	2.00	2.00	10.50	
Total : New Schemes			10.00	10.00	42.86	
Total Social & Community Services		30.42	44.00	53.00	53.86	

VII. General Services:  
Continuing Schemes.

1. <u>Regional Information &amp; Documentation Centre.</u>	50.00	8.07	13.00	13.00	10.00
2. <u>Natural Hazards Risk Evaluation &amp; Reduction Programme.</u>					
i) Earthquake Risk Evaluation Centre.	40.00	6.64	8.00	8.00	8.00
ii) Setting up of Seismological Station.	15.00	-	4.00	4.00	-
iii) Telemetered Seismic net work in N.E. Region.	25.00	-	-	-	25.00
3. <u>R&amp;D Projects.</u>					
i) Repetitive Geodatic Surveys for monitoring land deformation precursor of earthquake.	4.00	-	1.00	10.50	1.00
ii) Radon Emission Studies for Identifying Earthquake Precursors.	10.00	-	0.50	0.50	2.00
4. <u>Science &amp; Technology :</u>					
i) Regional S&T Council.	5.00	-	1.00	1.00	1.00
ii) R& D Programme.	5.00	0.37	0.25	3.00	3.00
5. <u>Regional Centre for Resources Evaluation Documentation &amp; Information System.</u>	45.00	-	20.00	5.00	110.00
6. <u>Chairman's Survey and Consultancy.</u>	250.00	18.16	50.00	50.00	50.00
7. <u>Youth Activities</u>	5.00	0.02	3.00	2.00	3.00
8. <u>Housing for NEC Staff.</u>	72.00	18.00	20.00	20.00	20.00
<b>Total : Cont. Schemes.</b>			120.75	117.00	237.00

1	2	3	4	5	6	7
<u>New Schemes</u>						
9. Documentation of Traditional Culture of the Tribal People.	15.00	-	1.00	1.00	5.00	
10. Science Museum/Science Centre.	131.00	-	50.00	50.00	50.00	
11. Environmental Studies.	15.00	-	1.00	1.00	5.00	
Total : New Schemes			52.00	52.00	60.00	
Total : General Services.			172.75	169.00	293.00	
 GRAND T O T A L :			14499.63	1369.64	16796.80	

Supplementary proposals for inclusion  
in the 1987 - 88 NEC Plan

(Rs. in lakhs)		
Name of the Scheme	Requirement for 7th Plan	Proposed out- lay for 1987- 88
1	2	3
<b>I. <u>Agriculture &amp; Allied Programme</u></b>		
<b>A. <u>Soil Conservation</u></b>		
1. Watershed Management Project in Assam	50.00	10.00
2. Watershed Management Project in Mizoram	50.00	7.00
3. Muhari and Manu Watershed Management Project, Tripura	80.00	24.00
	180.00	41.00
 <b><u>Agriculture</u></b>		
1. Tobacco Dev. Scheme in Manipur	14.23	8.00
2. Pilot project on Parasite rearing Laboratory, Manipur	26.19	2.50
3. Estt. of Regional Seed Certification Agency Manipur	161.50	5.00
4. Regional Training-cum-production of Mushroom, Manipur	25.47	5.00
	227.39	20.50
 <b><u>Animal Husbandry</u></b>		
1. Regional Piggery Seed Production Centre, Manipur	19.80	10.00
2. Estt. of Regional Frozen Sperm Bank, Mizoram	40.00	10.00
3. Regional Rabbit Production Centre, Nagaland	30.00	17.65
4. Regional Pork Processing Centre, Nagaland	56.00	18.10
5. Setting up of N.E. Regional Poultry Development Corp., Tripura	52.00	13.00
	197.80	68.75

1	2	3
<b><u>Plantations</u></b>		
1. Estt. of Rubber Demonstration-cum-Training Centre, Assam	220.00	10.00
2. Estt. of Rubber Nursery 2(Assam), one(Nagaland)	34.00	15.00
	254.00	25.00
<b><u>Forestry</u></b>		
1. Expansion of Kopili Afforestation Programme Meghalaya	30.00	10.00
<b>Total of Agriculture &amp; Allied Programme.</b>	889.19	165.25
<b><u>II. Water &amp; Power Development</u></b>		
1. New Generation Project	1000.00	200.00
2. Estt. of Regional Load Despatched Centre & State Load Despatched Centres.	2200.00	100.00
<b>Total of Water &amp; Power Development :</b>	3200.00	300.00
<b><u>III. Transport &amp; Communication</u></b>		
1. Inter State Bus terminals at Gauhati, Silchar, Dimapur & Imphal	150.00	100.00
2. Inter State Truck terminals at Gauhati, Shillong and Silchar	180.00	75.00
3. New roads		
(a) Improvement of Dhodar Ali road, Assam.	800.00	50.00
(b) Phungyar-Maklang Manipur.	700.00	20.00
<b>Total of T &amp; C.</b>	1830.00	245.00
<b><u>IV. Manpower Development</u></b>		
1. Setting up of Dental Wing at RMG, Imphal	172.00	33.00
2. Upgradation of Fire Fighting Training School, Assam.	147.00	20.00
3. Regional Sports Complex Assam and Nagaland	100.00	40.00
<b>Total of M.P.O.</b>	419.00	93.00



1	2	3
<b>VI. Social &amp; Community Services</b>		
1. Expansion of Mental Hospital, Tezpur, Assam.	80.00	30.00
2. Assistant to B. Baruah, Cancer Hospital at Gauhati, Assam	75.00	30.00
3. Regional Blood Bank, Meghalaya	23.00	10.00
4. Regional Mental health Centre, (a) Meghalaya	21.00	10.00
(b) Tripura	72.00	20.00
5. Setting up of radiation Medicine Unit at Cancer Hospital, Agartala	12.00	5.00
6. Speech Therapy Unit at G.B. hospital, Agartala, Tripura.	8.00	3.00
7. Upgradation & expansion of Rehabilitation Centre at G.B. hospital, Agartala, Tripura	24.00	7.00
8. Forensic Science Laboratory, Gauhati, Assam	35.00	7.00
9. Scheme for Integrated Multi-channel police tele-communication in N.E. Region	137.00	20.00
10. By Pass road from Khanapara at G.S. road to Narengi Timli, Assam	200.00	20.00
<b>Total of S &amp; C. service</b>	<b>687.00</b>	<b>162.00</b>
<b>VII. General Services</b>		
1. Development of Jyoti Chitran i.e. for Production-cum-Training Centre	225.00	75.00
<b>Grand Total :</b>	<b>7250.19</b>	<b>1045.25</b>

## CHAPTER - 2

### AGRICULTURE AND ALLIED SECTORS

#### A. AGRICULTURE AND SOIL CONSERVATION

2.01 Agriculture is the mainstay of the people of North Eastern Region. More than 60% of the total population of the region practise farming in some form or the other. Even though farming is the main occupation of such large number of the people, the region is deficit in respect of most items of food which have to be brought from other parts of the country. This is mainly due to low level of productivity per unit of cropped area. The form of agriculture practised is mostly traditional. Use of high yielding varieties of seeds, chemical fertilizers, plant protection chemicals, modern implements are yet to pick-up in a significant manner though green revolution technology has spread to some parts of Manipur and Tripura. Availability of these critical inputs on time and in adequate quantities is rather uncertain, due to the weakness in the delivery system of inputs and farm credit. As a result, crop production programme suffers adversely and depends on vagaries of nature. Low crop intensity also contributes to the overall low productivity which is partly due to inadequate development of irrigation. Average size of operational holding in the region is also quite small which ranges from 0.5 to 2.00 hect. which is not conducive to adoption of modern agricultural technology. Over and above these factors recurring floods ravage the plains of Assam, Tripura and valley of Manipur almost annually limiting the annual yield and adding an element of uncertainty to agriculture reducing thereby the scope of investment in land. In spite of these peculiar problems mentioned above, the potential for developing agriculture in the whole region is very vast. Recognising this fact the Working Group on Development of North Eastern Region during the Seventh Five Year Plan

set up by the Planning Commission, recommended that the main thrust should be on increasing the yield rate by intensified agriculture. The problem of raising the production level as well as the productivity rate is multifaceted and would, therefore, call for/adequate supply of farm inputs, improvement of the cropping pattern, effective research extension services, availability of farm credit etc. Contrary to the general belief technological packages for upgrading agriculture in varied land situation in NE had been developed by the ICAR and should form in basis for crop husbandry programmes.

/ introduction of location specific technology.

2.02 Jhum cultivation which is practised in the hills of this region has produced devastating effect in the region. Its control measures and setting of Jhumias in permanent cultivation is of paramount importance for raising income of Jhumias and preserving the environment. Schemes to settle Jhumias are being taken up for implementation under the State/U.T/NEC Plan.

2.03 Against this background, NEC Plan in agricultural sector was formulated to remove some of these basic constraints on higher production. Accordingly, supply of production of quality seeds through various Foundation Seed Farms, healthy and reliable planting materials for horticultural crops through a no. of progeny orchards-cum-nurseries and garden schemes located in different States/UTs of the North Eastern Region, production of planting materials of high value spices and nuts were taken up under the NEC Plan. Cultivation of crops of high nutritional and economic value like mushroom and vegetables is also given importance under the programme. To raise production of pulses and oil-seeds which is an important component is the new 20-Point Economic Programme has been given priority

and **several** pulse seed schemes have been **included**. Watershed Management Projects with primary objective of settling the Jhumias have been taken up in region to test the technology and to establish the Jhumias in settled agriculture.

2.04 In order to raise crop intensity and to increase productivity, supply of quality seeds to various crops is a prime requisite besides supply low cost of fertilisers, irrigation water and the facilities. Towards this end, a number of foundation seed farms for field crops and a breeder seed farm as mushroom and other important seeds etc. have been taken up including schemes for testing quality control of inputs. Regional Centres for production of Bio-Fertilisers and Input Testing Laboratories are being set-up in the region. Dry land farming practices as prevalent in the hills of NER are proposed to be upgraded and hence Pilot Projects on Water Harvesting and Dryland Agriculture are also taken up under NEC. Mushroom production is an important aspect of agriculture in this region. Hence, schemes for training and production, development and spawn production of mushroom to benefit the region were included. Agriculture being essentially a State subject, NEC schemes are designed to supplement the efforts of States/UTs in trying to meet needs for higher production in critical areas of seeds, bio-fertilizers, introduction of new crops and technology, planting materials for horticultural crops, fruit processing. NERAMAC has been set up by NEC to initiate a processing and marketing of horticultural and other agricultural produce. The details of various schemes are as follows :

I. SOIL CONSERVATION AND WATERSHED MANAGEMENT :

1. Pilot Project on Watershed Management

2.05 With a view to settling Jhumia families on permanent agriculture by weaning them away from jhum (shifting) cultivation, 13 (thirteen) Watershed Management Projects were approved during 6th Plan Period with an outlay of Rs.450.00 lakhs. Out of these thirteen projects, 5 (five) projects, one each in Arunachal Pradesh (Popum Poma) and Nagaland (Shinga-Tsusang) and 2 (two) in Tripura (Ranga-Cherra and Maharanni-Cherra) One scheme each for Mizoram (Teirei) Assam (Hiri-Hiri) and Meghalaya (Umtongpher) have been sanctioned and are under execution. In respect of remaining 6 (Six) projects, they are at various stages of finalisation.

2.06 While the initial Watershed Management Projects in Tripura, Arunachal Pradesh and Nagaland had no loan component to be borne by the beneficiary farmers, the schemes for Meghalaya ( Umtongpher, Meghalaya ) contained a sizeable loan component of about of 50% which was to be borne by the farmers by obtaining loan from institutional sources. As some States such as Meghalaya had objected to this loan provision on the ground of absence of banking culture in the rural areas and other constraints, the views of State Governments were sought on this issue, and the Planning Commission agreed to a funding pattern of 80% assistance to be shared equally by NEC and the concerned State/UT and 20% loan to be borne by the beneficiaries. The matter was further discussed in the 26th Meeting of the North Eastern Council held on 29th July, 1986 and the Central Officials indicated that Watershed Management Projects to be sanctioned onwards will be funded with 100% assistance to be shared equally by NEC and the constituent units. Formal

orders to this effect are awaited. The fund requirements for Watershed Management Projects are therefore projected on the basis of existing 80:20 funding pattern. The project-wise details are given below :

ARUNACHAL PRADESH:

(i) Popumpoma

2.07 The project, comprising 4000 hecets. to benefit 400 jhumia families was sanctioned during 1982-83 at a total cost of Rs.104.00 lakhs out of which Rs.49.00 lakhs was NEC's share. The implementation of the scheme was started during 1981-82 and by the end of Sixth Plan, the benefits of the scheme could be extended to only 35 families at a total cost of Rs.21.85 lakhs. The scheme was allowed to continue in the Seventh Plan restricting the benefits to only 60 families. The revised scheme is under examination in NEC and will be sanctioned shortly.

(ii) Kamlang

2.08 The survey for the second project has been completed and the preparation of the report is at the final stage.

Approved outlay for these two projects for 1986-87 is Rs.5.00 lakhs against which the anticipated expenditure is Rs.13.00 lakhs (Rs.3.00 lakhs for Popumpoma and Rs.10.00 lakhs for Kamlang). For 1987-88 a provision of Rs.15.00 lakhs is proposed.

ASSAM

(iii) Hiri Hiri - Barpanjan

2.09 The project report, comprising 2300 hectares and to benefit 324 jhumia families has been prepared at a total cost of Rs.100.20 lakhs, of which NEC's share is Rs.40.17 lakhs. The scheme has been sanctioned and approved outlay for the 1986-87 is Rs.15.00 lakhs which is utilised fully. For 1987-88 Rs.15.00 lakhs is proposed.

MANIPUR

(iv) Luwangleima :

2.10 The project covers 2830 hectares and will benefit 1035 families, including 167 tribal families staying at hill side in Watershed Management Project. The report is administratively approved at a total cost of Rs. 205.80 lakhs.

(v) Siyapurikhal :

2.11 The survey of the catchment areas has been completed and the project report is at advanced state of finalisation.

An approved outlay for 1986-87 for these two projects is Rs. 10.00 lakhs against which the anticipated expenditure is Rs. 5.00 lakhs. Proposed outlay for 1987-88 is Rs. 10.00 lakhs.

MEGHALAYA

(vi) Umtongpher :

2.12 The project report comprising 4500 hectares and to benefit 669 jhumia families, has been sanctioned at a total cost of Rs. 134.91 lakhs, but the implementation could not be taken up due to non-finalisation of the funding pattern. Now approval for revised funding pattern has been received and accordingly, it is worked out, where in the NEC, State and beneficiaries shares (40:40:20) are Rs. 55.32, Rs. 53.34 and Rs.24.25 lakhs respectively.

(vii) Manda :

2.13 The field work of the catchment area for the project has been completed and the report is being finalised.

2.14 Approved outlay for 1986-87 is Rs. 15.00 lakhs and is expected to be utilised fully. Proposed outlay for 1987-88 is Rs. 25.00 lakhs.

MIZORAM

(viii) Teirei :

2.15 The project covers an area of 5676 hectares and was sanctioned during 1985-86, to extend the benefit to 374 Mizo and Reang families at a total cost of Rs. 169.365 lakhs, out of which NEC's share is Rs. 45.165 lakhs. The expenditure till March, 1986 is Rs. 9.48 lakhs. The revised outlay for 1986-87 is Rs. 15.00 and proposed outlay for 1987-88 is Rs. 20.00 lakhs.

(ix) Tuiphai :

2.16 The project covers 4060 hectares of area and will benefit 300 families. The project is at the last stage of finalisation.

The approved outlay for 1986-87 is Rs.10.00 lakhs and will be utilised fully. Proposed outlay for 1987-88 is Rs. 20.00 lakhs.

NAGALAND

(x) Shinga-Tsusang :

2.17 The project with an area of 4000 hectares envisage to benefit 300 families staying in 3 villages and was sanctioned during 1982-83 year at a total cost of Rs. 57.23 lakhs, of which Rs. 34.23 lakhs is NEC's share. The total expenditure upto the end of March 1986 is Rs. 19.86 lakhs. The scheme is expected to be completed during the current year.



(xi) Dikhu :

2.18 The project covers 3500 hectares and will extend the benefits to 310 families residing in 3 villages of Watershed area. The report has been prepared and being finalised shortly.

Approved outlay for these two projects for 1986-87 is Rs. 10.00 lakhs and is expected to be utilised fully. Proposed outlay for 1987-88 is Rs. 15.00 lakhs.

TRIPURA

(xii) Maharanichera

2.19 The project covers an area of 4820 hectares and was sanctioned during 1983-84 year to extend the benefits to 2273 families at a cost of Rs. 121.52 lakhs, out of which NEC's share is Rs. 48.98 lakhs. The expenditure till March 1986 is Rs. 22.855 lakhs.

(xiii) Rangachera :

2.20 The project comprising area of 2200 hectares to benefit 694 families, was sanctioned during 1983-84 at a total cost of Rs. 103.032 lakhs of which Rs. 47.265 lakhs is NEC's share. The expenditure till March 1986 is Rs. 22.855 lakhs.

2.21 The approved outlay for these two projects is Rs. 20.00 lakhs and will be fully utilised. Proposed outlay for 1987-88 is Rs. 16.00 lakhs.

2.22 The total approved outlay for Watershed Management Project for 7th Plan is Rs. 456.58 lakhs. (Continuous/  
During 1985-86, Rs. 60.00 lakhs were spent. Approved  
outlay for 1986-87 is Rs. 85.00 lakhs and an antici-  
pated expenditure is Rs. 88.00 lakhs. Proposed outlay  
for 1987-88 is Rs. 116.00 lakhs.

1.196.00  
lakhs  
new:  
.260.58  
lakhs)

2. Strengthening of Survey, Investigation and Planning Cells in Constituent Units:

2.23 The survey, Investigation and Planning Cells established for Watershed Management Project in constituent Units during 6th Plan have now been normalised. During 7th Plan these cells have been considered for strengthening, by addition of two more staff qualified/trained in Remote Sensing, with provision to purchase essential equipments etc. meant for Remote Sensing. Approved outlay for 7th Plan for this scheme is Rs. 50.00 lakhs. No expenditure was incurred during 1985-86 due to non-receipt of clearance of Government of India. The approved outlay for 1986-87 is Rs. 10.00 lakhs and expected to be utilised fully. The proposed outlay for 1987-88 is Rs. 12.50 lakhs.

3. Project Preparation and Monitoring Cell N.E.C:

2.24 This is a continuing scheme. An amount of Rs.20.00 lakhs is the approved outlay for 7th Plan. The expenditure in 1985-86 was Rs. 5.00 lakhs. Approved outlay of Rs. 5.00 lakhs for 1986-87 will be utilised fully. Rs. 5.00 lakhs is proposed for 1987-88.

4. Regional Soil Conservation Training Centre, Meghalaya.

2.25 With a view to enlarging the scope and facilities for training of Soil Conservation staff of NE Region, the scheme was originally sanctioned during 1981-82 at an estimated cost of Rs.40.00 lakhs. Due to certain problems particularly about availability of land for expansion of the training centre, the Government of Meghalaya could not make much progress in the implementation of the scheme. However,

it is expected that the problems coming in the way of development of infrastructures for extension of the existing training centre will be solved and the scheme would be fully implemented during 7th Plan. The scheme is being revised to a total cost of about Rs. 79.05 lakhs for development of infrastructures. Approved outlay for 7th Plan is Rs.50.00 lakhs. During 1985-86 Rs. 9.53 lakhs were spent. Approved outlay for 1986-87 is Rs. 10.00 lakhs will be utilised fully. Proposed outlay for 1987-88 is Rs.10.00 lakhs.

#### NEW SCHEMES

##### 5. Survey of Catchment Areas of Hydel Projects Kameng, Ranganadi etc. in Arunachal Pradesh.

2.26 Survey and investigation of Catchment Areas of Kameng Ranganadi etc. in Arunachal Pradesh are being taken up by Survey and Investigation cell created under the Government of Arunachal Pradesh during 6th Plan. Approved outlay for the scheme for 7th Plan is Rs. 25.00 lakhs and approved outlay for 1986-87 is Rs. 5.00 lakhs and anticipated expenditure is Rs. 7.19 lakhs. Rs. 6.00 lakhs are proposed as outlay for 1987-88.

#### AGRICULTURE

##### CONTINUING SCHEMES

##### 1. Foundation Seed Farm for Major Field Crops, Manipur.

2.27 Out of 3 (Three) Foundation Seed Farms for Major Field Crops sanctioned during 6th Plan Period, the two farms, one each in Assam (Lalpool) and Tripura (Jirinia) have been developed and normalised at the end of 6th Plan. The proposed farm in Manipur will have an area of 200 hectares and would produce

foundation seeds of major field crops like paddy, maize, wheat, pulse, oilseeds, etc. The approved outlay for the 7th Plan is Rs. 46.15 lakhs. For 1986-87 an approved provision is for Rs. 20.00 lakhs and anticipated expenditure is Rs. 5.00 lakhs. Proposed outlay for 1987-88 is Rs. 14.00 lakhs.

2. Regional Centre for Production of Bio-Fertilizer in Assam Agricultural University.

2.28 The scheme which was sanctioned during 6th Plan (July 1982) with an estimated outlay of Rs.14.93 lakhs for production of Bio-Fertilisers is being continued during 7th Plan. According to demands of the States/U.Ts of NE Region 99.02 thousand packets of Bio-Fertiliser have been produced and supplied so far. The 7th Plan approved outlay is Rs. 5.00 lakhs . Rs. 1.00 lakh has been spent during 1985-86. For the year 1986-87 Rs. 1.00 lakh have been provided against this and anticipated expenditure is Rs.2.50 lakhs. The proposed outlay for the year 1987-88 is Rs. 1.81 lakhs.

3. Joint Input Testing Laboratory, Tripura.

2.29 The scheme which was to start during 6th Plan could not be finalised for implementation during that plan period and it is being taken up during 7th Plan. The scheme is designed to ensure supply of quality agricultural inputs like seeds, etc. and to stop adulteration in fertilisers and plant protection chemicals. When fully established it will have capacity to test and analyse 6000 seed samples, 1200 fertiliser samples and 1200 plant protection chemical samples per year. The outlay for 7th Plan is Rs. 29.35 lakhs and the approved outlay for 1986-87 is Rs. 10.00 lakhs against which an

anticipated expenditure is Rs. 5.00 lakhs. The scheme has already been sanctioned. Rs. 10.00 lakhs has also been proposed for the year 1987-88.

4. Regional Sub-Centre for Training-cum-Production of Mushroom, Mizoram.

2.30 The scheme with an estimated outlay of Rs.15.00 lakhs submitted to Planning Commission was cleared by the Planning Commission in the month of October 1985 and by the Ministry of Agriculture in the month of February 1986. The scheme envisages to impart training to rural and urban people interested in growing of mushroom on scientific lines, survey of locally available mushrooms to explore possibilities of improving their method of cultivation along with taking up of cultivation of Oyster mushroom, while Button Mushroom and Paddy Straw Mushroom as well as production and supply of mushroom spawns and prepared manures to mushroom growers of Mizoram and neighbouring States like Tripura, Assam (Cachar District) etc. Approved outlay for 7th Plan Rs. 15.00 lakhs. An amount of Rs. 5.00 lakhs has been spent during 1985-86. The approved outlay for 1986-87 is Rs. 5.00 lakhs and will be utilised fully. An amount of Rs. 5.00 lakhs has been proposed for 1987-88.

NEW SCHEMES

5. Regional Farm for Production of Pulses and Oil Seeds, Manipur.

2.31 This is one of the new schemes of 7th Plan period and is the only scheme under NEC sponsored schemes under agriculture having a direct bearing on 20-Point Economic Programme of the country. The scheme aims at establishing a farm of about forty ha. for production of improved and high yielding quality

seeds for oilseeds and pulses such as mustard, linseed, soyabeans, mug, pea, arhar, cow pea, both during Kharif and Rabi Season for supply to farmers of that State and neighbouring State/ UT. like Nagaland and Mizoram. The 7th Plan outlay of the scheme is Rs. 54.40 lakhs. An approved outlay of Rs. 6.00 lakhs was made for 1986-87 and will be utilised fully as the scheme is to be sanctioned shortly. An amount of Rs. 10.00 lakhs has been proposed for the year 1987-88.

6. Mushroom Development Centre,  
Arunachal Pradesh.

2.32 The scheme aims at cultivation of Mushroom on scientific lines, its demonstration, imparting training to interested growers and production and supply of spawns and prepared compost etc. Approved outlay for 7th Plan is Rs. 14.50 lakhs and an outlay of Rs. 3.00 lakhs is approved for 1986-87 against which an anticipated expenditure is Rs. 2.16 lakhs. Rs. 6.84 lakhs have been proposed for the year 1987-88. The scheme is being finalised and will be sanctioned shortly.

7. Regional Bio-Fertilizer Production  
Centre, Tripura.

2.33 The scheme will be located in the existing Agricultural Research Complex at Arundhutinagar. The scheme envisages production of 40,000 bio-fertilizer packets of 200 grms. each in the 1st year of its implementation and to increase the production to 1,25,000 packets by the end of 7th Plan for supply to the farmers of Tripura, Mizoram, Assam (Cachar District), etc. Approved 7th Plan outlay of the scheme is Rs. 24.90 lakhs consisting of equipments (Rs.6.46 lakhs), consumables (Rs.6.04 lakhs) and pay etc. An outlay of Rs. 5.00 lakhs has been provided

for 1986-87 mainly for purchase of equipments against this an anticipated expenditure is Rs.2.00 lakhs. Rs. 5.00 lakhs has been proposed for 1987-88.

8. Regional Breeder Seed Farm, Tripura.

2.34 The scheme aims at establishment of the farm at an area of 10 hectares initially with necessary infrastructures for production of breeders seeds like paddy, wheat jute and mesta, kharif and rabi pulses and oilseeds, maize and sugarcane. The farm is proposed to be located near existing foundation seed farm at Jirinia. Approved 7th Plan outlay of the scheme is Rs. 29.00 lakhs, of which Rs.20.00 lakhs are for non-recurring expenditure. An outlay of Rs. 5.00 lakhs was approved for 1986-87 against which an anticipated expenditure is Rs. 2.00 lakhs. The proposed outlay for the year 1987-88 is Rs.10.00 lakhs.

9. Regional Mushroom Spawn Production Centre, Tripura.

2.35 This scheme is proposed to be located at State Agriculture Research-cum-Demonstration Farm at Arundhutinager, Tripura. The scheme aims at production of one lakh bottles/packets of mushroom spawn for supply of such spawns to interested mushroom growers of Tripura and neighbouring States/ U.Ts of the region at no loss no profit basis. The centre would also maintain pure cultures of all kinds of adopted mushrooms for the region. 7th Plan approved outlay is Rs. 15.00 lakhs which consists of Rs. 7.00 lakhs for creation of infrastructure, Rs. 3.75 lakhs for consumable and contingency and Rs. 4.25 lakhs for pay and allowance. The approved outlay for 1986-87 is Rs.3.00 lakhs for construction of office cum laboratory and purchase of equipments and will be utilised fully.

An amount of Rs. 2.20 lakhs has been proposed for the year 1987-88. The scheme is at the final stage of sanction.

10. Pilot Project on Dryland Agriculture and Waterharvesting, Nagaland.

2.36 The scheme envisages taking up of dryland agriculture on terraced, contour banded fields by conserving water and soil moistures for raising crops with available rain water in combination with suitable cropping patterns. Approved outlay for the scheme for 7th Plan is Rs.44.69 lakhs and for 1986-87 is Rs. 2.00 lakhs. Against the provision of Rs. 2.00 lakhs for 1986-87, anticipated expenditure is Rs. 10.00 lakhs. Proposed outlay for 1987-88 is Rs. 12.55 lakhs. The scheme is going to be sanctioned shortly.

11. Regional Cotton Seed Multiplication and Development Centre, Tripura.

2.37 The scheme aims at augmenting production of cotton seed in Tripura, supply of improved strains of cotton seeds to farmers of the State and other neighbouring States/U.Ts of the region and to select, purify and stabilise improved strains through survey, collection, evaluation, isolation and finally seed bulking. The centre will also evolve improved production technology and to render financial, technological and input assistance to the tribal farmers, particularly Jhumias. Approved outlay for 7th Plan is Rs.54.28 lakhs and outlay of Rs.2.00 lakhs has been approved for 1986-87, which is required for construction of functional and residential building and land development. The whole provision of Rs.2.00 lakhs will be utilised fully during 1986-87. An amount of Rs. 16.00 lakhs has been proposed for 1987-88 for purchase of equipments, construction of buildings



etc. This is at the final stage of sanction.

2.38 The plan allocation for the schemes mentioned above are indicated in the Statement annexed.

ANNUAL PLAN 1987-88

SOIL CONSERVATION AND AGRICULTURE

STATEMENT

( Ref. Para )

( Rs. in lakhs )

Sl. No.	Name of the Scheme	7th Plan approved outlay	1985-86 actual Expenditure.	1986-87		1987-88 proposed outlay	Remarks
				Approved outlay	Anticipated Expenditure		
1	2	3	4	5	6	7	8

SOIL CONSERVATION  
CONTINUING SCHEMES

1.	Watershed Management Programme	456.58	60.00	85.00	88.00	116.00	
2.	Survey and Investigation Cells in Constituent Units	50.00	-	10.00	10.00	12.50	
3.	Project Preparation and Monitoring Cell.	20.00	5.00	5.00	5.00	5.00	
4.	Regional Soil Conservating Training Centre, Meghalaya.	50.00	9.53	10.00	10.00	10.00	

NEW SCHEME

5.	Survey of Catchment Area Kameng, Ranganadi, Arunachal Pradesh.	25.00	-	5.00	7.19	6.00	
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SOIL CONSERVATION TOTAL : 74.53 115.00 120.19 149.50

1-----2-----3-----4-----5-----6-----7-----8-----

AGRICULTURE  
CONTINUING SCHEMES

1. Foundation Seed Farm for Major Field Crops, Manipur	46.15	-	20.00	5.00	14.00
2. Regional Centre for Production of Bio-Fertilizers in AAU.	5.00	1.00	1.00	2.50	1.81
3. Joint Input Testing Laboratory, Tripura.	29.35	-	10.00	5.00	10.00
4. Regional Sub-Centre for Training-cum-Production of Mushroom in Mizoram.	15.00	5.00	5.00	5.00	5.00

NEW SCHEMES

5. Regional Farm for Production of Pulses & Oil Seeds, Manipur.	54.40	-	6.00	6.00	10.00
6. Mushroom Development Centre, Arunachal Pradesh.	14.50	-	3.00	2.16	6.84
7. Regional Bio-Fertilizer Production Centre, Tripura.	24.90	-	5.00	2.00	5.00
8. Regional Breeder Seed Farm, Tripura.	29.00	-	5.00	2.00	10.00
9. Regional Mushroom Spawn Production Centre, Tripura.	15.00	-	3.00	3.00	2.20
10. Pilot Project on Dryland Agriculture and Water Harvesting, Nagaland.	43.60	-	2.00	10.00	12.55

( 2.18 )

	1	2	3	4	5	6	7	8
11. Regional Cotton Seed Multiplication & Development Centre, Tripura.		54.28	-	2.00	2.00	16.00		
AGRICULTURE TORAL :		6.00	62.00	44.66	93.40			
SOIL CONSERVATION & AGRICULTURE		80.53	177.00	164.85	242.90			

## B. Horticulture.

2.39 Because of its extensive hilly terrain, widespread rainfall, cooler sub-tropical climatic condition, NER has an ideal environment for horticulture. A proper development of horticulture in the region would therefore, ensure better nutrition and reduction in the demand for traditional food, protection and planting of trees, profitable use of land use etc.

2.40 A diversification of existing horticulture Sector by introduction of newer varieties of horticultural crops, orchards, several seed farms to produce quality seeds for vegetables, tuber crops<sup>and</sup>/potato, temperate crops of nuts and almonds etc. have been taken up under NEC Plan. Fruits being highly perishable have a short self life and hence a scheme to preserve fruits and their marketing is also needed. Schemes under NERAMAC are designed to provide processing and marketing facilities for fruit and other agricultural produce.

Healthy and reliable planting materials for economic develop, production of planting materials of spices and nuts which have high value, low volume and non-perishable nature is given under this sector.

2.41 There is a great potential for production of spices, betel-nut, betel-leaf, cardamom, saffron, improved varieties of banana and other citrus fruits in the region which are being spread under NEC Plan. The details of various schemes in this sector are as follows :-

### Continuing Schemes.

#### 1. Regional Vegetable Seed Farm, Tripura.

2.42 The scheme was started during 6th Plan (1981-82) with an outlay of Rs.19.70 lakhs and an area of 10.21 ha. has been brought under different vegetable crops and 218 Kgs. of seeds were produced during 1984-85. Development works and creation of infrastructures for the farm could not be completed during 6th Plan. It was, therefore, to continue during 7th Plan to complete those essential items.

of work. The farm has an area of 16 hectares and another 6 ha. of land would be developed. Kharif vegetable seeds like bhindi, bottle gourd, cow-pea, sweet potato, and rabi vegetable seeds like radish, spinach, tomato, pea, carrot, brinjal, onions, etc. are being produced in the farm. Approved outlay for 7th Plan is Rs.23.05 lakhs and for 1986-87 is Rs.5.00 lakhs. The whole provision of Rs.5.00 lakhs will be utilised fully. An amount of Rs.5.00 lakhs has been proposed for the year 1987-88.

2. Regional Orchard-cum-Nursery for Citrus, Meghalaya.

2.43 The Orchard-cum-Nursery for Citrus was established during 6th Plan at Mynkre in an area of 10(ten) ha. However, development of land, fencing and creation of other infrastructures were yet to be completed and the scheme had to continue during 7th Plan with approved outlay of Rs.5.21 lakhs. During 1985-86 Rs.3.21 lakhs were spent. Approved outlay for 1986-87 is Rs.2.00 lakhs against which an anticipated expenditure is Rs.4.00 lakhs. Proposed outlay for the year 1987-88 is Rs.4.00 lakhs.

3. Regional Coconut Seed Garden, Tripura.

2.44 The scheme started from the year 1982-83 at Jirinia in an area of about 51 hectares of land and growing of coconut varieties like West Coast Tall, Choughat Dwarf Orange and Malayan Dwarf Yellow in about 34 hectares. Development of land and plantation in the remaining areas, construction programmes for pot house, garage-cum-implement shed, fencing, electrical installations are yet to be completed. Approved 7th Plan outlay for the scheme is Rs.42.37 lakhs. During 1985-86 Rs.14.00 lakhs were spent. Approved outlay for 1986-87 is Rs.6.00 lakhs and it is expected to utilise Rs.4.00 lakhs. An amount of Rs. 8.00 lakhs has been proposed for the year 1987-88.

4. Regional Seed Garden for Spices and Betel Leaf, Tripura.

Due to non-finalisation of site and certain other technical problems, the scheme could not be implemented during 6th Plan and it has been continued during 7th Plan. The site selection has been finalised now and the farm/garden is being established in an area of about 50 hectares of land. Approved 7th Plan outlay for the scheme is Rs.51.46 lakhs. Originally it was envisaged that the scheme would start in the year 1984-85 and estimated expenditure would be Rs.9.36 lakhs. Therefore, balance of Rs.51.46 lakhs have been provided for the 7th Plan. The approved outlay for 1985-87 is Rs.10.00 lakhs and Rs.5.00 lakhs are expected to be utilised. Rs.15.00 lakhs have been proposed for the year 1987-88. The scheme is being sanctioned for implementation.

5. (a) Development of Temperate Nut and Almond Crops, Arunachal Pradesh.

2.46 The scheme aims at supplying of planting materials of nuts like walnut, chestnut, pecanutt, almond, etc. to the farmers of such land. The scheme which could not be taken up during 6th Plan due to certain technical and other related problems has been taken up during 7th Plan with an approved outlay of Rs.32.45 lakhs. The approved outlay for 1986-87 is Rs.3.00 lakhs.

(b) Temperate Fruit Plant Nursery, Arunachal Pradesh.

2.47 To meet requirement of quality and reliable temperate fruit planting materials for Arunachal Pradesh and other constituent States/UTs. of the region, a nursery is being established in Arunachal Pradesh from the 2nd year of 7th Five Year Plan period. Nursery Plants particularly of apples, pears, peaches etc. would be produced/multiplied in the proposed nursery. Approved outlay for this scheme for 7th Plan is Rs.26.09 lakhs and an outlay of Rs.4.00 lakhs is approved for 1986-87 Plan.

2.48 The Govt. of Arunachal Pradesh now proposed to combine the schemes for Temperate Fruit Plant Nursery and Temperate Nut Nursery and accordingly submitted a combined scheme for Rs.52.09 lakhs. As against the approved outlay of Rs.7.00 lakhs for both the schemes during 1986-87 it anticipated that only Rs.3.90 lakhs will be utilised. Rs.20.00 lakhs are proposed for 1987-88.

6. Survey of Area and Production of Horticultural Crops in N.E. Region.

2.49 This survey scheme intended to be a quite exhaustive one and expected to give a complete picture of area under horticultural crops and production from village level to State/UT level was started during 1982-83. Several schedules/forms have been drawn up and works are in progress in most of the States/UTs. and in some States/UTs it is in the completion stage. Approved outlay for 7th Plan is Rs.10.00 lakhs. During 1985-86 Rs.5.50 lakhs were spent. Approved outlay for 1986-87 is Rs.10.00 lakhs and anticipated expenditure is Rs.12.32 lakhs. Proposed outlay for 1987-88 is Rs.7.50 lakhs.

7. North Eastern Regional Agricultural Marketing Corporation (NERAMAC).

2.50 With a view to providing regular and systematic marketing arrangements for agro-horticultural produces of N.E. Region, so that farmers and growers may get remunerative price of their produces, this corporation was established during the year 1982 with an authorised capital of Rs.500.00 lakhs only for which NEC is committed to subscribe the entire authorised share capital in the form of equity and loan on the ratio of 1:1. The Corporation has initiated some positive actions for marketing of agro-horticultural produces of this region particularly ginger from Mizoram. During last 2 or 3 years it has arranged export of canned fruits, mainly pineapple outside the country.

2.51 The Corporation is setting up one fruit Juice Concentrate Plant mainly of pineapple and orange in Tripura at an estimated cost of about Rs.200.00 lakhs for



which Govt. of India have accorded necessary approval. Another such Fruit Juice Concentrate Plant is being established in Manipur too. The Corporation proposes to set up a number of Zonal Centres and also extend its activities to all parts of the region.

2.52 **Total outlay for 7th Plan is Rs.325.00 lakhs.** Rs.100.00 lakhs were released to the Corporation during 1985-86. Approved outlay for 1986-87 is Rs.200.00 lakhs and will be utilised fully. An amount of Rs.100.00 lakhs has been proposed for the year 1987-88.

New Schemes:

8.(i) Foundation Seed Farm for Potato, Manipur.

2.53 It is planned to establish a Foundation Seed Farm for Potato in an area of 40 hectares of land contiguous to the existing Potato Farm at Mao in Manipur. Land is already available. Physical programme consists of land development including terrace making, internal road, godown construction, etc. and drying shed, purchase of machinery etc. Foundation seed potato I & II from breeders seeds would be produced from this farm to meet requirement of such seeds for Manipur and neighbouring State/UT like Nagaland. Approved outlay for 7th Plan is Rs.28.15 lakhs and for 1986-87 is Rs.5.00 lakhs and will be utilised fully. Rs.14.00 lakhs have been proposed for the year 1987-88. The scheme is being sanctioned shortly.

(ii) Foundation Seed Farm for Potato, Meghalaya.

2.54 The scheme envisages establishment of Seed Farm for production of foundation seed potato in about 100 ha. of <sup>land</sup> at Laitkor in Meghalaya to meet requirement of such seeds for the State of Meghalaya, Assam. The scheme consists of acquiring of land, development of the farm including construction of terraces, buildings, purchase of machineries etc. Approved 7th Plan outlay is Rs.50.00 lakhs and a sum of Rs.3.00 lakhs has been approved for 1986-87. Due to

problems concerning cost of land acquisition no expenditure is anticipated during 1986-87. The proposed outlay for the year 1987-88 is Rs.15.00 lakhs.

(iii) Foundation Seed Farm for Potato, Mizoram.

2.55 This scheme envisages production of foundation seed potato to meet requirement of such seed potato for Mizoram and Tripura. An area of about 100 hectares of land at Chalfilh has been acquired for the farm. Approved outlay for the scheme for 7th Plan is Rs.40.10 lakhs and an outlay of Rs.3.00 lakhs has approved for 1986-87 and will be utilised fully. An amount of Rs.10.00 lakhs has been proposed for the year 1987-88.

9. Establishment of Seed Farm for Production of Certified Seeds of Potato, Tripura.

2.56 With a view to producing disease free and healthy seed potatoes to meet requirements of such seeds in N.E. Region the scheme envisages establishment of a farm in an area of 110 ha. of land out of which 100 ha. of land would be brought under cultivation. In order to make the soil free of soil borne diseases, two-year crop rotation would be practised and in a particular year only about 50 hectares of land would be cultivated under potato. Outlay for 7th Plan for the scheme is Rs.65.00 lakhs. The approved outlay of Rs.3.00 lakhs will be utilised for 1986-87 and Rs.28.83 lakhs has been proposed for 1987-88 which is required for creation of infrastructural facilities. The scheme is going to <sup>be</sup> sanctioned shortly.

10. Regional Tuber Crops Farm, Tripura.

2.57 With a view to produce quality planting materials of various tuber crops for meeting requirements of Tripura and other States/UTs. of the Region, the farm in Tripura will cover an area of about 50 ha. and about 45 ha. of land will be brought under various crops like sweet potato, tapioca, colocasia, diascores, amorphaphallus etc. for production of quality planting materials. For

this, seed materials would originally be procured from Central Tuber Crops Research Stations. Approved outlay for 7th Plan is Rs.38.00 lakhs and Rs.3.00 lakhs have been approved for 1986-87 Plan and will be utilised fully as the scheme is being sanctioned shortly. An amount of Rs.17.00 lakhs has been proposed for 1987-88.

11. (i) Regional Vegetable Seed Farm, Arunachal Pradesh.

2.58 Although there is high potential for production of vegetables in N.E. Region, due to non-availability of quality and suitable varieties of such seeds, the production programme is greatly hampered. To meet requirements of such seeds, a vegetable Seed Farm is being established in Arunachal Pradesh during 7th Plan period. 7th Plan approved outlay for the scheme is Rs.25.00 lakhs and Rs. 3.00 lakhs for 1986-87 against this an anticipated expenditure is Rs.2.00 lakhs. Rs.14.35 lakhs is proposed for the year 1987-88.

(ii) Regional Vegetable Seed Farm, Manipur.

2.59 States of Manipur, Nagaland and U.T. of Mizoram etc. of N.E. Region have tremendous potentialities for growing both temperate and sub-tropical types of vegetables. But non-availability of quality and location specific varieties of seeds is a big constraint in the production programme. In order to meet such requirement of vegetable seeds for Manipur and neighbouring States, U.Ts. of Nagaland, Mizoram, one vegetable seed farm of about 10 ha. of land is being establishment in one of the hill districts of Manipur. The 7th Plan approved outlay for the scheme is Rs.27.12 lakhs and for 1986-87 is Rs.3.00 lakhs against which Rs.5.00 lakhs will utilised. Proposed outlay for the year 1987-88 is Rs.9.00 lakhs.

12. Establishment of Clonal Seed Garden for Banana, Tripura.

2.60 The scheme envisages establishment of one seed garden for banana in an area of 50 hectares of land for

production of quality planting materials of banana to meet requirements of such planting materials of the region. Out of 50 hectares of farm land, 40 hectares would be under plantation of mother plants of major varieties like Malbhog, Champa, local types of Garo Hills, Cherrapunji banana and dwarf and tall Cavendish types, Approved outlay for 7th Plan for the scheme is Rs.60.00 lakhs of which about half is required for non-recurring expenditure. The approved outlay for 1986-87 is Rs.4.00 lakhs and only Rs.0.50 lakhs will be utilised. Proposed outlay for the year 1987-88 is Rs.25.00 lakhs. The scheme is being finalised for sanction.

13. Rejuvenation of Old Orange Orchards in Tripura.

2.61 Mandarin Orange orchards which are declining in the State of Tripura and attributed mainly to the neglect of the orchard management, requires rejuvenation by providing assistance in the form of inputs like fertilizers, plant protection chemicals and also giving demonstration and guidance on scientific orchard managements and maintenance. The scheme is to be taken up initially in the hill ranges of Jampui, Sakhan and Longtharai in North Tripura District and cover old and declining orchard area of about 200 hecta. Approved outlay for 7th Plan for this scheme is Rs.20.00 lakhs of which Rs.12.00 lakhs are required for fertilizers, PPC and micronutrient. Approved outlay for 1986-87 is Rs.2.00 lakhs and against this an anticipated expenditure is Rs.1.00 lakh. An amount of Rs.6.00 lakhs has been proposed for 1987-88. The scheme is pending with Govt. of India for technical clearance.

14. Establishment of Citrus Demonstration Centre, Mizoram.

2.62 Citrus is one of the most important fruit crops of Mizoram. But there too, due to Citrus decline, production is decreasing year after year. With a view to demonstrate scientific orchard management and maintenance and

also to produce and supply quality types of Citrus plants, the scheme envisages establishment of a Citrus Demonstration and Development Centre in Mizoram. The plants so produced in that Centre would be supplied to other neighbouring States also. Approved outlay for the 7th Plan is Rs.20.35 lakhs and Rs.2.00 lakhs is approved for 1986-87 and will be utilised fully. The proposed outlay for 1987-88 is Rs.5.00 lakhs. The scheme is to be sanctioned shortly.

15. Establishment of Large Cardamom Nursery, Mizoram.

2.63 Although there is great potential for growing large cardamom in Mizoram and other States/UTs. of N.E. Region, which would help in elevating economic status of Tribal Small and Marginal farmers, non-availability of healthy, disease free quality planting material is the most important drawback in its development programme. In order to tide over this situation, a nursery of large cardamom in an area of about 10 hectares of land is being established in Mizoram during 1986-87 to meet requirements of Mizoram and other States/UTs. of this region. Approved outlay for 7th Plan for the scheme is Rs.28.18 lakhs and Rs.2.00 lakhs has provided for 1986-87 plan period and will be utilised fully. An amount of Rs.6.00 lakhs has been proposed for the year 1987-88. The scheme is being sanctioned shortly.

16. Promotion of Floriculture : Establishment of Floriculture Seed Garden, Tripura.

2.64 The scheme aims at establishing a floriculture seed garden of about 5 hectares in Tripura from the year 1986-87 with a view to propagating and multiplying various flowering and ornamental plants, shrubs, creepers, annuals, etc. for ultimate supply to interested floriculturists in Tripura and other States/UTs. of N.E. Region for gainful occupation. Of the 5 hectares of land, about 2 hectares will be put under permanent/perennial flowering or ornamental trees and shrubs that will serve

as mother plants for propagation. Another about 2 hectares of land would be under nursery whereas remaining 1 hectares of land would be used for glass house, green house, pot house, small office-cum-store house, quarters, roads etc. Approved outlay for the scheme for 7th Plan is Rs.22.00 lakhs and approved outlay for 1986-87 is Rs.1.00 lakhs and will be utilised fully. The outlay proposed for the year 1987-88 is Rs.6.00 lakhs. The scheme is being finalised for sanction.

17. Establishment of Nursery for Coptistita, Arunachal Pradesh.

2.65 In order to meet quality planting material requirements of this important medicinal plants which has got export value, one nursery for Coptistita is being established in Arunachal Pradesh during 1986-87. Approved outlay for the scheme for 7th Plan is Rs.1.00 lakhs. The approved outlay for 1986-87 is Rs.0.25 lakh and will be utilised. Proposed outlay for 1987-88 is Rs.0.30 lakh. The scheme is pending with Govt. of India for technical clearance.

18. Introduction of Saffron, Arunachal Pradesh.

2.66 Saffron is a new crop that has potentialities for growing in Arunachal Pradesh. Because of its high value, low volume and non-perishable nature and also of its having export prospects, it is proposed to establish one Centre for production of saffron in Arunachal Pradesh during 7th Plan on pilot basis. This also produces planting materials. Approved outlay for the scheme for 7th Plan is Rs.11.00 lakhs and an outlay of Rs.1.00 lakh is approved for 1986-87 Plan and will be spent. An amount of Rs.5.00 lakhs has been proposed for 1987-88.

2.67 The plan allocation in respect of schemes mentioned above is given in the **annexed statement.**

DRAFT ANNUAL PLAN 1987-88 (Ref. Para 2.67 )

HORTICULTURE

(Rs. in lakhs)

Sl. No.	Name of the Schemes	Approved 7th Plan Outlay	Actual Expdr. 1985-86	1986-87		Proposed Outlay 1987-88
				Approved	Revised	
1	2	3	4	5	6	7
<u>Continuing Schemes</u>						
1.	Regional Vegetable Seed Farm, Maicherra in Tripura.	23.05	-	5.00	5.00	5.00
2.	Regional Orchard-cum-Nursery for Citrus, Mynkre, Meghalaya.	5.21	3.21	2.00	2.00	4.00
3.	Regional Coconut Seed Garden, Tripura.	42.37	14.00	6.00	4.00	8.00
4.	Regional Seed Garden for Spices & Betel leaf, Tripura.	51.46	-	10.00	5.00	15.00
5.	(a) Development of Temperate Nut & Almond Crops, Arunachal Pradesh.	32.45	-	3.00	3.90	20.00
	(b) Temperate Fruit Plant Nursery, Arunachal Pradesh.	26.09	-	4.00		
6.	Scheme for Survey of Area & Production of Horticultural Crops.	10.00	5.50	10.00	12.32	7.50
7.	NERAMAC, Guwahati	325.00	100.00	200.00	200.00	100.00
<u>New Schemes.</u>						
8.	Foundation Seed Farm- for Potato :-					
	i) Manipur	28.15	-	5.00	5.00	14.00
	ii) Meghalaya	50.00	-	3.00	-	15.00
	iii) Mizoram	40.10	-	3.00	3.00	10.00
9.	Establishment of a Seed Farm for Production of Certified Seeds of Potato, Tripura.	65.00	-	3.00	3.00	28.83
10.	Regional Tuber Crops Farm, Tripura.	38.00	-	3.00	3.00	17.00
11.	Regional Vegetable Seed Farm :-					
	i) Arunachal Pradesh	26.00	-	3.00	2.00	14.35
	ii) Manipur	27.12	-	3.00	5.00	9.00

= (2.31) =

REVENUE ACCOUNT

	1	2	3	4	5	6	7
12. Scheme for Establishment of a Clonal Seed garden for Banana, Tripura.	69.00	-	04.00	04.00	04.00	04.00	25.00
13. Scheme for Rejuvenation of Old Orange Orchards, Tripura.	29.00	-	21.00	21.00	21.00	21.00	6.00
14. Estt. of Citrus Demonstration & Development Centre, Mizoram.	20.35	-	2.00	2.00	2.00	2.00	5.00
15. Estt. of Large Cardamom Nursery, Mizoram.	28.18	-	2.00	2.00	2.00	2.00	6.00
16. Promotion of Floriculture Seed garden, Tripura.	22.00	-	1.00	1.00	1.00	1.00	6.00
17. Nursery of Coptistita, Arunachal Pradesh.	11.00	-	0.25	0.25	0.25	0.25	0.30
18. Introduction of Saffron, Arunachal Pradesh.	11.00	-	1.00	1.00	1.00	1.00	5.00
	<u>952.53</u>		<u>122.21</u>	<u>122.21</u>	<u>122.21</u>	<u>122.21</u>	<u>320.98</u>



C. PLANTATION

2.68 Apart from tea which has been growing in NE for a long time. A number of other plantation crops like Rubber, Coffee etc. have great scope in North-East. The NEC Sixth Plan included a number of schemes, which are of pilot nature, aimed at promoting such plantation crops as have potential for growth in the region. These included Coffee, Tea and Rubber. The primary objective of these pilot schemes was to demonstrate improved methods of cultivation of these crops so that the State Govts/UT Administration could replicate the same in respective area for spread of such crops. All the pilot schemes taken up in the Sixth Plan, except three are being closed at the end of the Plan period.

2.69 The following three schemes have spilled over and the committed expenditure thereon is being provided under the Seventh Plan.

Continuing Schemes.

1. Detailed Insitu Survey of Land Suitable for Coffee in the N.E. Region.

2.70 The scheme was sanctioned in March, 1981 at an estimated cost of Rs.21.20 lakhs. Under the scheme, which was expected to be completed within four years, 44,000 ha. were proposed to be surveyed. However, actual implementation of the scheme was delayed by about two years due to unavoidable technical difficulties. By June, 1986 a total area of 22000 ha. has been surveyed and an amount of Rs.16.26 lakhs have been spent. The scheme is being allowed to continue during the first two years of the Seventh Plan and an outlay of Rs.10.00 lakhs has been approved. For completion of the survey, the scheme is to continue for which an additional amount of Rs.17.00 lakhs is required.

2. Tea Nursery-cum-Mother Bush Farm, Tripura.

2.71 The scheme was sanctioned in December, 1981

with an estimated cost of Rs.50.00 lakhs. The target proposed was to have nurseries of 98 lakhs cutting/planting material over a period of four years. 153 acres of land planted at Machmara and 36 acres in Kamalasagar. Clonal and seed nurseries have been raised since 1982 and the same are being maintained. The total expenditure by the end of the Sixth Plan is Rs.26.00 lakhs. The scheme has been spilled over to the Seventh Plan for which an outlay of Rs.74.00 lakhs is approved. During 1985-86 Rs.10.49 lakhs was spent. Approved outlay for 1986-87 is Rs.25.00 lakhs which is not going to be utilised as the scheme has been completed, and will supply necessary planting materials to the Small Farmers Tea Estate and Tea Factory scheme which has been also taken up under the NEC Plan.

### 3. Factory for Small Farmers' Tea Estate.

2.72 The scheme was sanctioned in September, 1981 with an estimated cost of Rs.120.00 lakhs. Preparation of detailed project report and other preliminaries have delayed commencement of the scheme which meanwhile has to be revised. The revised estimated cost is tentatively / By the end of 1984-85, a total amount of Rs.80.50 lakhs put at Rs.268.50 lakhs/was released. The scheme is being allowed to continue during the Seventh Plan with an approved outlay of Rs.204.00 lakhs. A sum of Rs.110.50 lakhs have been made available to the State Govt. till 1985-86. An amount of Rs.30.00 lakhs was approved for 1986-87 Plan against only Rs.1.00 lakh is expected to be utilised as the revised scheme is awaiting clearance of Govt. of India. A sum of Rs.30.00 lakhs is proposed for 1987-88.

## NEW SCHEMES

### 4. Rubber Processing Factory, Tripura.

2.73 The establishment of a rubber processing factory at Tripura has already been included in the approved Seventh Five Year Plan with a provision of Rs.137.00 lakhs. The implementing agency i.e. Tripura Forest Development

and Plantation Corporation Ltd. has taken necessary steps and a project report for this has been prepared through the Deptt. of Rubber Processing, Rubber Board. In the project report it is indicated that the first Estate will be on the ground in 1987-88 and the factory can process up to 3000 kg. DRC (Dry Rubber Content) of field latex/dry. By 1989-90 the factory will be expanded to process upto 6000 kg. DRC of latex/dry.

2.74 The processing factory will provide employment for 26 persons.

The breakup of the investment is as follows :-

1. Civil Works (operational of building)	Rs. 48.50 lakhs.
2. Plant & Machinery	Rs. 31.10 lakhs.
3. Supporting Services	Rs. 20.80 "
4. Equipment facilities	Rs. 11.10 "
5. Residential Constn.	Rs. 20.00 "
6. Contingency and others	Rs. 5.50 "
	<u>Rs. 137.00 lakhs.</u>

Rs.25.00 lakhs has been approved for 1986-87 with a Seventh Plan approved outlay of Rs.137.00 lakhs. The scheme has since been sanctioned and the whole amount provided for 1986-87 will be utilised. A provision of Rs.60.00 lakhs is made for 1987-88.

5. Raising of Dioscorea Floribunda Plantation and Processing for manufacture of Diosgenin/16-DPA, Tripura.

2.75 The scheme is included in the NEC approved Seventh Plan with an outlay of Rs.151.00 lakhs for the whole plan period. The implementing agency i.e. Tripura Forest Development & Plantation Corporation Ltd. has prepared the Techno-economic Feasibility report in two part i.e. cultivation of dioscorea floribunda and extraction of diosgenin.

2.76 The cost of cultivation calculated in the report is Rs.66.087 lakhs for the year 1987-88 to 1989-90. The

breakup of Rs.66.087 lakhs is as follows :-

i) Plantation	Rs. 47.107 lakhs.
ii) Infrastructural Deve- lopment.	Rs. 6.000 "
iii) Equipments & Vehicles	Rs. 5.200 "
	<hr/>
	Rs. 58.307 "
iv) Add. Estt.	Rs. 7.780 "
	<hr/>
	Rs. 66.087 lakhs.

2.76 The cost of establishment of extraction work is calculated at an estimated cost of Rs.80.00 lakhs.

2.77 The approved outlay for 7th Plan is Rs.151.00 lakhs. A provision of Rs.20.00 lakhs was made for 1986-87 and an anticipated expenditure is Rs.5.00 lakhs. The proposed outlay for 1987-88 is Rs.50.00 lakhs. The scheme is pending with Govt. of India for technical clearance which is expected shortly.

2.78 The Plan allocation for the schemes mentioned in the chapter are indicated in the Annexed Statement.

-( 2.36 )-

ANNUAL PLAN 1987-88  
PLANTATION

Statement

(Ref. Para : 2.78 )

(Rs. in lakhs )

Sl. No.	Name of the Schemes	Apprvd. 7th Plan Outlay	Actual Expdr. 1985-86	1986-87 Apprvd. Outlay	Anticipated	Proposed Outlay for 1987-88
1	2	3	4	5	6	7
<u>PLANTATION</u>		<u>576.00</u>	<u>10.66</u>	<u>105.00</u>	<u>36.00</u>	<u>146.00</u>
<u>Continuing Schemes</u>						
1.	Detailed Institute Survey of land suitable for Coffee in the NE Region.	10.00	3.16	5.00	5.00	6.00
2.	Tea Nursery-cum-mother Bush Farm, Tripura.	74.00	-	25.00	-	-
3.	Factory for small Farmer's Tea Estate, Tripura.	204.00	7.50	30.00	1.00	30.00
<u>New Schemes.</u>						
4.	Rubber Processing Factory, Tripura.	137.00	-	25.00	25.00	60.00
5.	Raising of Dioscores Floribunda Plantation and Processing for manufacture of Diosgenin/16-DPA, Tripura.	151.00	-	20.00	5.00	50.00

D. Forest and Plant Resources

2.79 Forests are important natural resources as they influence climate, soil conditions flood and erosion. The schemes relating to Forest/Plant Resources Sector were launched in the third year of the Sixth Plan ( i.e. 1982-83) by allocating a provision of Rs. 3.50 crores and formulating about half a dozen schemes which were expected to be completed by the end of the Sixth Plan. Because of time-lag, most of these schemes got a late start and could not be completed within the scheduled time. However, for the Seventh Plan a forward looking approach towards taking up new schemes has been adopted keeping the spill over content to the minimum necessary level. Thus four schemes viz. Social & Agro Forestry Nursery, Tree Improvement Scheme, Preservation and Multiplication of orchids and Expansion of National Orchidarium, which were continuing from 6th Plan have been completed in the year 1985-86. The afforestation programmes and preservation of environment have special emphasis in the 7th Plan and also in the 20 point Economic Programme. With the broad approach of initiating some innovative programmes as well as facilitating environmental protection and management 8 new schemes have been approved for the Seventh Five Year Plan. Details of these new schemes are given below :

1. Survey of Forest Resources in North Eastern Region :

2.80 In the NEC Plan there is a new scheme for survey of forest resources in the North Eastern Region with a provision of Rs. 15.00 lakhs during the 7th Plan and Rs. 5.00 lakhs for the year 1986-87. The objective of the scheme is to carry out the comprehensive survey of the total vegetation of the NE Region by adopting modern methods such as remote sensing techniques, etc. As suggested by Planning Commission during the Annual Plan discussion for 1986-87 the task of survey has been entrusted with the Forest Survey of India, Dehradun.

2.81 From the response of the Forest Survey of India, Dehradun, it appears that the cost of the survey is estimated at Rs.222.00 lakhs for the 7th Plan period and would spill over to the 8th Plan. Forest Survey of India has also referred the matter to the

Ministry of Environment and Forest. The break-up of expenditure proposed by Forest Survey of India is as follows :-

a) For 1986-87	-	Rs. 42 lakhs
b) For 1987-88	-	Rs. 60 "
c) For 1988-89	-	Rs. 60 "
d) For 1989-90	-	Rs. 60 "
e) For 1990-91	-	Rs. 60 " (beginning of 8th Plan).

2.82 Approved outlay for the 7th Plan is Rs. 15.00 lakhs. The proposed for 1986-87 is Rs. 42.00 lakhs against the approved outlay of Rs. 5.00 lakhs. Rs. 60.00 lakhs is proposed for 1987-88. The scheme is pending with Govt. of India for technical clearance.

Afforestation of New Catchment Areas :

(a) Afforestation of New Catchment Areas of Umiam Hydro Electric Project in the State of Meghalaya :

2.83 Rs. 75.00 lakhs is the approved outlay for this scheme during the 7th Plan period. Details of the scheme have been forwarded to the Ministry of Environment and Forest, Planning Commission for technical clearance and approval which is still awaited.

2.84 The objective of the scheme is to protect the catchment areas of 30,000 hectares against soil erosion and for the attainment of maximum water conservation. The scheme will benefit the State of Meghalaya and Assam since the river Umtrew flows through the catchment area to the plain of Assam. 900 hectares of plantation will be raised during the 7th Plan and the State Govt will bear all expenditure for plantations to be raised in the 8th Plan. The approved outlay for 1986-87 is Rs. 12.00 lakhs and will be utilised fully and for the year 1987-88 Rs. 17.00 lakhs is proposed.

Afforestation of Catchment Areas of Loktak Hydro Electric Project in the State of Manipur.

2.85 Under this scheme massive afforestation programme in the catchment areas of 100 sq. Km will be under taken. 1200 ha. of plantation will be raised during the 7th Plan period. The

scheme is designed to control heavy siltation occurring in the Loktak Lake. Rs. 75.00 lakhs is the approved outlay for the 7th Plan period for this project. The department of Forest, Govt. of India have conveyed technical clearance in respect of the scheme and the Council Secretariat has issued administrative approval and technical clearance for Rs. 97.25 lakhs. The additional fund will be made from the overall plan allocation of the North Eastern Council. Rs. 20.00 lakhs is provided for the year 1986-87 and will be utilised fully.

Rs. 25.75 lakhs is proposed for 1987-88.

(c) Afforestation of New Catchment Areas of Doyang Hydro Electric Project in the State of Nagaland.

2.86 • Rs. 75 lakhs is the approved outlay for the 7th Plan period for this project. The Department of Forest, Govt. of India have conveyed technical clearance in respect of this scheme and the Council Secretariat had issued administrative approval and technical clearance for Rs. 75 lakhs. Rs. 12.00 lakhs has been allocated for the year 1986-87. The highlights of the scheme are afforestation in the hilly catchment areas of the Doyang river falling within the State of Nagaland. It provided for raising of 1600 hectares of plantation during the 7th Plan. Expenditure for additional plantation proposed during the 8th plan will be borne by the State Govt.

2.87 Approved outlay for 1986-87 is Rs. 12.00 lakhs and will be utilised fully and Rs. 23.00 lakhs will be required for the year 1987-88.

Scheme on Tissue Culture for the purpose of rapid Multiplication of Selected Clonal Stock of Forest Species.

2.88 • For rapid development of forestry, it is necessary to apply all known techniques of rapid multiplication of selected clones and species. Tissue culture is one such technique for rapid growth of forests and other plants.



2.89 It has been decided in the meeting with the Chief Conservator of Forests of constituent units held on 5-9-66, that the NEC plan provisions for tissue culture and social agroforestry would be merged into one for concentrating on tissue culture. The Seventh Plan provision for tissue culture will therefore be Rs. 1.00 crores. The scheme will have two components. In the first component some mother institutions for taking up comprehensive work in the field of tissue culture would be developed. The second part will relate to States and cover establishment of all facilities needed for transfer of technique of tissue culture to the field. For the present, the forest depts. of constituent units will be involved for submission of the scheme and would be provided with a green house and a mini laboratory. There would be also provision for training of staff for tissue culture in the State Forest Departments. It was agreed in the meeting that ICAR complex, NEH region would scrutinise the scheme submitted by the Govt. of Assam for establishment of such facilities and develop a model for adoption in other States.

2.90 In the execution of the scheme ICAR, BSI, NEHU and Gauhati University have been involved. The work pertaining to ICAR and BSI have already been completed during 1986-87. The other two agencies viz. NEHU & Gauhati University have submitted the proposals under the integrated scheme and these have been sent to the Govt. of India for technical clearance.

2.91 The approved outlay for the 7th Plan for this integrated scheme is Rs. 100 lakhs and approved outlay for 1986-87 is Rs. 21.00 lakhs against which an anticipated expenditure is Rs. 32.00 lakhs. An outlay of Rs. 36.00 lakhs is proposed for 1987-88.

Sub-Tropical Botanical Garden of Plant resources  
in the State of Nagaland

2.92 The North Eastern Region of India is endowed with rich variety of flora, including many endemic species. But the area has been subjected to Shifting cultivation on an

increasing intensity due to population pressure. For proper study of this vegetation it is essential to collect and epitomise the characteristics of vegetation in a Botanical Garden at Puliebaze in the State of Nagaland. The site has been inspected by the BSI Eastern circle, Shillong who recommended that the garden maybe established on that location. The Chief Conservator of Forests, Govt. of Nagaland has been asked to submit a detailed scheme for this project during the 7th Plan period in consultation with the BSI. Details of the scheme are awaited. During the 7th Plan period the outlay is Rs. 175 & 10 lakhs is allotted for the current financial year and will be utilised. For the year 1987-88 Rs. 30 lakhs is proposed.

Development of Minor Forest Products including Medicinal Plant

2.93 There are many useful plants in the forest which yield valuable and useful products which help to obtain an additional income to the forest dwellers. However, the area under such species is dwindling because of a steady harvest without any programme aid towards regrowth. The scheme for the North Eastern Region envisages building up of a stock of seeds and plants and to raise plantation of the tree species for grafting trial and selection of high yielding mother trees in the forests.

2.94 Proposals have been received from the Govt. of Assam, Arunachal Pradesh, Manipur, Mizoram and Tripura and sent to Government of India for technical clearance.

2.95 The approved outlay for the 7th Plan is Rs. 140.00 lakhs. Approved outlay for 1986-87 is Rs. 30.00 lakhs and anticipated expenditure is Rs. 28.00 lakhs. An outlay of Rs.36.00 lakhs is proposed for 1987-88.

Logging Improvement

2.96 It has been noted that there is a wastage of timber due to defective logging practices like keeping of high stumps after felling and without control in the direction of felling of trees and removal of trees from the stumps site to the nearest motorable road. Improved method of logging and extraction can save a lot of wastage of timber.

2.97 The scheme has been received from the Govt. of Assam, Tripura, Mizoram, Arunachal Pradesh, Nagaland and Manipur against the allocation of Rs. 100 lakhs for the 7th Plan and Rs. 25 lakhs for the year 1986-87. The proposals have been forwarded to Govt. of India for technical clearance.

2.98 During 1986-87 Rs. 21.50 lakhs will be utilised. Proposed outlay for 1987-88 is Rs. 30.00 lakhs.

Tree Improvement Scheme for selected forest species

2.99 Large tracts of forest have been lost during the past years for divergence to other uses. Forest areas are also being set apart for the protection of the environment leaving a small part of the total forest area available for production of forestry. In view of this scarcity of forest and land area for growing of commercial trees, it is necessary to aim at an intensive production per unit area rather than extending the area of tree cultivation. This objective can be achieved by the use of genetically superior planting materials leading to high yield. During 7th Plan period Rs. 80 lakhs has been allocated for Tree improvement and Rs. 17 lakhs is the approved outlay for the year 1986-87.

2.100 Anticipated expenditure during 1986-87 is Rs. 16.50 lakhs. An amount of Rs. 24.00 lakhs is proposed for 1987-88.

Social and Agro Forestry Scheme :

2.101 In view of the Planning Commission's observations during the annual plan discussion for the year 1986-87 and also as per decision in the meeting of Chief Conservators of forests, Botanical Survey of India and ICAR held in the Council Secretariat on 5-9-86, it has been decided that the Social and Agro Forestry Scheme will be re-oriented on Tissue Culture Technique. The Plan outlay for Social and Agro Forestry of Rs. 60 lakhs will stand merged with Rs. 40 lakhs during the 7th Plan for programme under Tissue culture. Financial assistance will be given to mother institutions of Research & Development of

Tissue culture and small laboratories and green house will be established in all the constituent units of the North Eastern Region for transfer of Tissue culture technique to the field. The model scheme for the States and U.Ts for setting up of such infrastructure will be prepared by the Director, ICAR, Shillong and will be considered for sanction and implementation during the 7th Plan period.

2.102 No provision is therefore made for the scheme during 1987-88.

2.103 The Plan allocation for the scheme mentioned above are indicated in Annexure.

ANNUAL PLAN - 1987-88  
FOREST AND PLANT RESOURCES

Ref Para No. 2.103  
( Rs. in lakhs)

Sl. No	Name of the Scheme	7th Plan 1985-86 Approved outlay	1985-86 Actual expenditure	1986-87 Approved outlay	Anticipated expenditure	1987-88 Proposed outlay
1	2	3	4	5	6	7
1.	Survey of Forest Resources in the N.E.R.	15.00	Nil	5.00	42.00	60.00
2.	Afforestation on New Catchment Areas of Umiam Hydro Electric Project, Meghalaya.	75.00	Nil	12.00	12.00	17.00
3.	Afforestation of New Catchment Areas of Doyang Hydro Electric Project, Nagaland.	75.00	Nil	12.00	13.00	23.00
4.	Afforestation of New Catchment Areas of Loktak Hydro Electric Project, Manipur.	75.00	Nil	20.00	20.00	25.75
5.	Tissue Culture Technique for the purpose of rapid Multiplication of selected clonal stock of forest species.	100.00	Nil	21.00	32.00	36.00
6.	Sub-Tropical Botanical Garden of Plant Resources Centre, Nagaland.	175.00	Nil	10.00	10.00	30.00
7.	Development of Minor Forest Products including Medicinal Plants.	140.00	Nil	30.00	28.00	36.00
8.	Logging Improvement	100.00	Nil	25.00	21.50	30.00
9.	Tree improvement scheme (Assam, Arunachal Pradesh Manipur, Meghalaya and Nagaland)	80.00	Nil	17.00	16.50	24.00
10.	Social and Agro Forestry (Assam, Manipur, Meghalaya, Nagaland & Arunachal Pradesh).					Funds are merged with Tissue Culture Programme.
TOTAL :-				152.00	194.00	281.75

## E. ANIMAL HUSBANDRY

### Introduction

2.104 There is a wide gap between requirements and availability of livestock products and by-products for the human population of North Eastern Region. Although the North Eastern Region has quite a large livestock population, the production capacity of animals of various species is rather low. <sup>Though</sup> ~~most~~, people traditionally kept and reared number of animals of the various species of livestock. Because of the low yielding capacity of the local breeds and the traditional method of livestock keeping and management, the production of animals is generally low. Most of the people of the Region are meat eaters except in parts of plains of Assam, Tripura and Manipur where milk ~~forms~~ an important place in their diet. There is immense potential and possibility for improving the livestock production in the North Eastern Region. This could be done by improving the existing low yielding and uneconomical local breeds by scientific method of breeding, multiplication of the improved variety of livestock, providing ~~t~~ alth cover to the animals, increasing the fodder production by making available necessary quantities of seeds of improved fodder grasses for growing in the various areas of the Region. There are vast tracts of land and mountainous regions which offer a great scope for growing fodder and development of pastures which are very much needed for livestock development. There is almost no taboo among the people of this Region for keeping and rearing of animals/of any species of livestock.

2.105 In order to improve the livestock production in the North Eastern Region, a number of schemes/projects were taken up under the NEC Programmes in the past. Some of these schemes were being implemented ~~since~~ the Sixth Five Year Plan and were approved ~~for continuation during the~~ Seventh Five Year Plan. A number of new schemes were also proposed/approved for the Seventh Five Year Plan.

Details of various schemes (continuing as well as

the new schemes) for the year 1987-88 are given as under :-

Continuing Schemes:

1. Regional Temperate Fodder Seed Production-cum-Demonstration Farm, Arunachal Pradesh.

2.106 In view of the large livestock development programmes being taken up in various States of the North Eastern Region, there is great need for increasing production of quality fodder for livestock. A Regional Temperate Fodder Seed Production-cum-Demonstration Farm was established during the Seventh Plan in Arunachal Pradesh with a main station at Chandur and sub-stations at Warjung and Tawang. The scheme aims at production of temperate fodder seeds to meet requirements of such seeds for Arunachal Pradesh and other States/Union Territories of this Region and also to demonstrate cultivation of temperate fodders on scientific lines, so that fodder requirements during lean winter season may be met. During 6th Plan the main as well as sub-stations could not be fully developed. As such, the scheme has to continue during the 7th Plan. The approved outlay for the 7th Plan is Rs.15.00 lakhs. The total expenditure during the first year of the 7th Plan (1985-86) was about Rs.10.97 lakhs. The approved outlay for 1986-87 is Rs.5.00 lakhs. The anticipated expenditure is Rs 5.00 lakhs. For the year 1987-88 and outlay for Rs.10.00 lakhs is being proposed.

2. Regional Broiler Chick Production-cum-Demonstration Farm, Assam, Gauhati.

2.107 This farm was planned to be established during the 6th Plan period at Gauhati but could not be developed fully as per schedule due to various **constraints**. Provision for

**hostels etc for trainees** had also to be incorporated in the scheme and the scheme had to be modified in respect of certain developmental works. In order to complete such developmental works and create necessary infrastructure

for effective implementation of the scheme, it has to continue during the 7th Plan period. On successful

completion of the scheme, the farm would maintain a stock of 1200 layer birds and produce 1.21 lakhs of birds every year to meet requirements of Assam and other States/UTs. of the Region. The approved outlay for the scheme for the 7th Five Year Plan is Rs.46.68 lakhs. During the year 1985-86 there has been an expenditure to the tune of Rs.13.66 lakhs. An approved outlay for the year 1986-87 is Rs.8.00 lakhs which is also the anticipated expenditure. An amount of Rs.15.00 lakhs is being proposed as the outlay for the year 1987-88.

3. Regional Feed Testing Laboratory, Khanapara, Assam.

2.108 The scheme was started during the 6th Plan period. Due to non-availability of land for construction of laboratory as well as due to the shift from the proposed original site to another nearby site, the scheme could not be completed during that period. The scheme is now being continued during the 7th Plan to complete the various construction works, procurement and installation of various equipments. The approved outlay for the 7th Five Year Plan is Rs.42.57 lakhs. There has been an actual expenditure of Rs.8.96 lakhs during the year 1985-86. An approved outlay for the year 1986-87 is Rs.8.00 lakhs whereas the anticipated expenditure for the year is Rs.8.00 lakhs. An amount of Rs.23.00 lakhs is being proposed as the outlay for the year 1987-88.

4. Regional Integrated Farming System Project under Assam Agricultural University.

2.109 The scheme aims at demonstrating integrated approach to animal husbandry and pisciculture by utilising waste of cattle, poultry birds and ducks. It also envisages imparting training to farmers on this integrated farming technology. The Assam Agricultural University had developed integrated livestock-cum-fishery farming at Burnihat Farm Complex about 25 kilometres from Gauhati. The site has been partially changed from Burnihat to main Khanapara Campus of the University. The approved outlay for the 7th



Five Year Plan is Rs.4.00 lakhs. During the year 1985-86 there has been an expenditure of Rs.0.55 lakhs. The approved outlay for the year 1986-87 is Rs.1.00 lakh, whereas the anticipated expenditure for the year is Rs.0.50 lakhs. An amount of Rs.1.50 lakhs is being proposed as the outlay for the year 1987-88.

5. Regional Cross Breed Cattle Farm,  
Thenzawl, Mizoram.

2.110 The scheme aims at developing cross bred cattle suitable for meat production. The scheme was sanctioned towards the end of the year 1983-84. The scheme could not be completed during the 6th Plan period, and as such, has to continue during the 7th Five Year Plan. The land for the farm has already been acquired, construction of functional and residential building had been taken up and required animals procured. The approved outlay for the 7th Five Year Plan is Rs.40.00 lakhs. During the year 1985-86 there has an expenditure of about Rs.10.00 lakhs. An approved outlay for the year 1986-87 is Rs.8.00 lakhs which is also the anticipated expenditure. An amount of Rs.8.00 lakhs is being proposed as the outlay for the year 1987-88.

6. Regional Goat Breeding Farm, Tripura.

2.111 The scheme was sanctioned during 1980-81 at an estimated cost of Rs.44.55 lakhs. The scheme envisaged crossing local breed (Black Bengal) of goat with improved breed of goat (Beetal) for improving both milk and meat production of local goats. During the 6th Plan necessary developmental works and creation of infrastructural facilities could not be completed. The design of goat house was also proposed to be modified, to make it a permanent feature. An actual expenditure is required for items like land development, internal road construction etc., was also more than the anticipated cost. The technical programme was also proposed to be modified. Therefore, in view of this the scheme has to be continued during the 7th Five Year Plan. The approved outlay for the 7th Five Year Plan is Rs.29.33 lakhs. There has been an expenditure of Rs.0.94

lakh during the year 1985-86. An approved outlay for the year 1986-87 is Rs.10.00 lakhs and will be utilised fully. An amount of Rs.12.00 lakhs is being proposed as the outlay for the year 1987-88.

7. Regional Pig Breeding Farm, Nalkata, Tripura.

2.112 The scheme was taken up in the year 1983-84 and as such, could not be completed during the 6th Plan period. The scheme is being continued during the 7th Plan. The farm is located at Nalkata (Tripura North District). The scheme aims at establishing Regional Pig Breeding Farm with herds of improved exotic pigs (Saddle Back/Hampshire/large white Yorkshire). The pure-line breeding stock would be supplied to the local farmers for rearing by them. The scheme also envisages establishing a cross bred herd of pigs produced by crossing local pigs with the improved exotic breeds. The approved 7th Plan outlay is Rs.34.11 lakhs. The actual expenditure during the year 1985-86 has been of the order of Rs.10.00 lakhs. The approved outlay for the year 1986-87 is Rs.8.00 lakhs which is also the anticipated expenditure. An amount of Rs.10.00 lakhs is being proposed as the outlay for the year 1987-88.

New Schemes:

8. Regional Mithun Breeding Farm, Arunachal Pradesh.

2.113 Mithun (*Bos-frontalis*) is a very important meat cattle of Arunachal Pradesh, Nagaland and Manipur. Mithun population in the North Eastern Region has been estimated at around 1.50 lakhs out of which around 85,000 are found in Arunachal Pradesh alone. Mithun is a domestic animal but traditionally it is rather in semi-ranch condition. It is also used in cross breeding with cows. The scheme envisages a programme for pure breeding of mithun for improvement of their stock and also for cross breeding purposes in the tribal areas of the Region. The farm will maintain 50 breedable female mithuns and 3 bull mithuns. The farm has an area of 2000 acres of land. The scheme was

included in the 7th Five Year Plan and is to be implemented from 1986-87 to 1989-90. The approved outlay for the 7th Plan is Rs.25.00 lakhs. For the year 1986-87 there was an approved outlay of Rs.2.00 lakhs only whereas the anticipated expenditure during the year is Rs 2.00 lakhs. A lot of infrastructure is to be built up at the farm, in terms of construction of functional and residential buildings, fencing, internal and approach roads, providing electricity and water supply, cost of animals, equipments, etc., For creation of most of these infrastructural facilities an outlay of Rs.        lakhs is proposed for the year 1987-88.

9. Regional Goat Breeding Farm, Arunachal Pradesh.

2.114 Arunachal Pradesh has vast tracts of grass land which offer a great potentiality for rearing goats. Most of the people of Arunachal Pradesh are meat eaters. Therefore, it is all the more important to improve goat production for meeting the increased demand of meat for the population of Arunachal Pradesh. For this purpose, a Regional Goat Breeding Farm in Arunachal Pradesh is being established in the 7th Five Year Plan. This farm will cater to the needs of not only Arunachal Pradesh but also the neighbouring States of Assam, Nagaland etc., for improving goat production by distributing to the farmers of these States improved varieties of goats generated at the farm. The total outlay approved for the 7th Five Year Plan is Rs.25.00 lakhs. For the year 1986-87 an approved outlay is Rs.2.50 lakhs, whereas the anticipated expenditure during the year is Rs. 2.50 lakhs. In order to develop the necessary infrastructural facilities at the farm an outlay of Rs. 14.00 lakhs has been proposed for the year 1987-88.

10. Regional Fodder Seed Farm, Assam.

2.115 The availability of adequate quantity of fodder of good quality is extremely important for any cattle development programme. For this purpose, it is necessary that adequate quantity of seeds of good quality fodder crops

are made available to the farmers for growing the required fodder. With a view to produce and supply fodder seeds to meet the requirements of plain areas of North Eastern Region, a Regional Fodder Seed Farm has been taken up at Assam during the 7th Five Year Plan. The said farm will supply the seeds of good quality fodder for meeting the requirements of Assam as well as other plain areas of the North Eastern Region. The 7th Plan outlay has been approved at Rs.45.00 lakhs. The outlay for the year 86-87 has been approved at Rs.2.00 lakhs only, whereas the anticipated expenditure for the year is Rs.5.00 lakhs. In order to generate necessary infrastructural facilities, an outlay of Rs.20.00 lakhs has been proposed for the year 1987-88.

11. Regional Frozen Semen Project, Assam.

2.116 Frozen Semen Technology has been a new land mark in Cattle Development Programme. This is because of the fact that frozen semen can be stored for a very long time without losing potency or quality and can be transported to long distances without any adverse effect. Facilities for making the frozen semen available in abundant quantities, as and when required, to the various States of North Eastern Region need be created. For this purpose, it was essential to expand the existing facilities of Frozen Semen Centres at Jorhat and Silchar in the State of Assam. The Regional Frozen Semen Project under the NEC Programme is being taken up during the 7th Five Year Plan with a view to expand the said Frozen Semen Centres. This is proposed to be done by expanding the existing facilities at the Jorhat and Silchar Centres by installing liquid nitrogen plants of 10 litres capacity in addition to the existing 6 litres capacity plants. The 7th Plan outlay for the Regional Frozen Semen Project Assam was approved at Rs.35.00 lakhs with an approved outlay for the year 1986-87 at Rs.2.50 lakhs. The anticipated expenditure during the year 1986-87 is Rs.19.00 lakhs. For developing the necessary infrastructural facilities for procurement and installation of

the liquid nitrogen plant of higher capacity at each of the Frozen Semen Centres at Jorhat and Silchar, an outlay of Rs.21.43 lakhs has been proposed for the year 1987-88.

12. Regional Buffalo Breeding Farm, Assam.

2.117 Buffalo is an important animal for milk production as well as draught purposes in Assam and other States of North Eastern Region. Assam has a rather good indigenous breed of buffalo, particularly obtained in Nowgong District. This local breed of Assam can be improved by cross breeding with improved breeds of buffalo found in other parts of the country. With a view to improve the production of buffalo in Assam as well as in other States of the N.E. Region, a Regional Buffalo Breeding Farm is being established in Assam during the 7th Five Year Plan. The scheme envisages establishment of herds of improved breeds of buffalo, distribution of buffalo bulls as well as frozen semen to the farmers at the local areas as well as other parts of the N.E. Region for upgrading the local animals.

The outlay for the year 1986-87 has been approved at Rs.8.00 lakhs and will be utilised fully. In order to create necessary infrastructural facilities for establishing the farm an outlay of Rs.20.00 lakhs has been proposed for the year 1987-88.

13. Mechanisation of Institute of Veterinary Biologicals, Khanapara, Assam.

2.118 The Institute of Veterinary Biologicals at Khanapara in the State of Assam established during the 6th Five Year Plan under the NEC Programme is necessary to be strengthened and developed into a modern Veterinary Biological Production Institute so that sufficient quantities of quality vaccines and other biologicals can be produced for meeting the demand of the State of Assam as well as other Constituent States of the North Eastern

Region. The present scheme is virtually a scheme for modernisation of mechanisation of the Institute of Veterinary Biologicals. The objectives of this scheme is not only to take up and complete what had not been done in the 6th Plan scheme but also to modernise the mechanisation of the Institute of Veterinary Biologicals. For this purpose, some important equipments like Lypophiliser, florascctue microscope etc., are to be procured. Facilities for installing such equipments are also to be created. An outlay of Rs.38.00 lakhs has been approved for the 7th Five Year Plan. For the year 1986-87 an approved outlay is Rs.8.00 lakhs and the anticipated expenditure for the current year is Rs.2.00 lakhs. In order to procure some important items of equipment and for creating necessary facilities to install the same, an outlay of Rs.30.00 lakhs is being proposed for the year 1987-88.

14. Regional A.I.Training-cum-Cryogenic Laboratory  
Assam Agricultural University, Khanapara, Assam.

2.119 Artificial Insemination is a very important technique of animal breeding, and has a large scope for adoption in the North Eastern Region. One of the important bottlenecks experienced in carrying out artificial insemination programme in this region is the lack of sufficient number of skilled personnel for this programme. There is thus a great need for imparting practical training on scientific lines in Artificial Insemination and its allied aspects to the Extension Workers and other personnel engaged in Artificial Insemination Programme under the cattle development programme in the region. For this purpose, a Regional A.I.Training-cum-Cryogenic Laboratory is being established at the Assam Agricultural University, Khanapara, Assam in the 7th Five Year Plan. An outlay for the 7th Five Year Plan has been approved at Rs.20.00 lakhs. An approved outlay for the year 1986-87 is Rs.3.00 lakhs and will be utilised fully. For creating the necessary infrastructural facilities for implementation of this programme, an amount of Rs.10.50 lakhs is being proposed as the outlay for the year 1987-88.

15. Regional Buffalo Breeding Farm, Manipur.

2.120 Buffalo is an important draught animal in tribal areas of Manipur as well as other parts of the North Eastern Region. The local buffalo of Manipur is a sturdy animal with qualities of resistance to common diseases. There is much need to develop suitable breeds of buffalo for draught as well as milk purposes for distribution to the farmers of Manipur as well as other States and Union Territories of the N.E. Region. With this end in view, a Regional Buffalo Breeding Farm is being established in the State of Manipur. The scheme envisages to production of pure and high quality buffalo bull for distribution among the farmers for upgrading their local breeds. The approved 7th Plan outlay for the scheme is Rs.49.20 lakhs. For the year 1986-87 the approved outlay is Rs.4.00 lakhs, whereas the anticipated expenditure for the year is **Rs.10.00 lakhs.** In order to create necessary infrastructural facilities for establishing the farm an amount of Rs.20.00 lakhs has been proposed as the outlay for the year 1987-88.

16. Regional Pony Development Project, Manipur.

2.121 In the hilly terrains of the North Eastern Region ponies are animals of immense importance for transporting various materials between different places. The breed of Manipur Pony is famous for its sturdiness and because of its being easy to maintain. Unfortunately, this breed of Manipur Pony is slowly becoming extinct. In order to conserve germ plasm of Manipur Breed and for production of good quality ponies, a Regional Pony Development Project is being taken up during the 7th Five Year Plan. The scheme envisages production of good quality ponies for making them available not only to the State of Manipur but also to the other States/UTs of the North Eastern Region. During the 7th Five Year Plan a total outlay of Rs.60.00 lakhs has been approved for the scheme. For the

year 1986-87 the approved outlay is Rs.3.00 lakhs and the anticipated expenditure for the year 1986-87 is Rs.12.00 lakhs. In order to develop necessary infrastructural facilities for implementing the project programme an amount of Rs.17.00 lakhs is being proposed as the outlay for the year 1987-88.

17. Regional Composite Livestock Development Farm, Manipur.

2.122 Animal Husbandry is one of the important economic activities of the tribal people in the interior areas of Manipur and other States/UTs of the North Eastern Region, but indigenous breeds are low yielding in almost all respects. Adequate number of good quality livestock for distribution to tribal families under various developmental programmes is not available. The tribal people involved in animal husbandry activities also need training on modern scientific lines for improving their livestock. With this end in view, a Regional Composite Livestock Development Farm in Tamenglong District of Manipur is being established during the 7th Five Year Plan. The farm will be established to produce good quality cattle, poultry, ducks and pigs for distribution to the farmers of this Region. The farm would also serve as a demonstration centre and for imparting training to the tribal farmers in livestock and poultry rearing on modern scientific lines.

2.123 There is a particular need for producing pigs of various pure breeds as well as various types of cross bred for distributing to the farmers for improving their local stocks. There is a great demand from the local farmers of the Manipur State as well as from other parts of the North Eastern Region for supply of pigs of pure breeds/ improved varieties for improving the local breeds. Training in scientific rearing of pig is absolutely necessary in order to enable the farmers to adopt



improved practices of management for economic pig production which would ultimately help improved their socio-economic condition. It is, therefore, proposed to establish a Piggery Seed Farm Production Farm as a part of the Regional Composite Livestock Development Farm, Tamenglong in Manipur.

2.124 In order to implement the scheme in the new perspective, it <sup>is</sup> necessary to enhance the outlay for the 7th Plan from Rs.35.00 lakhs (approved) to Rs.73.00 lakhs. The approved outlay for 1986-87 is Rs.3.00 lakhs and anticipated expenditure on the scheme for 1986-87 is Rs.6.00 lakhs. An outlay of Rs.10.00 lakhs is proposed for 1987-88.

#### 18. Regional Piggery Farm, Meghalaya.

2.125 Pig is a very important animal among almost all the species of livestock in the North Eastern Region. There is a great need for establishing Regional Pig Breeding Farm for producing improved types of pigs for distributing among the farmers of the various States of the Region. A Regional Piggery Farm, Meghalaya is being established in Meghalaya in the 7th Five Year Plan. The scheme envisages establishing a swine herd of well established exotic black breed of pigs preferably Hampshire and distributing the improved pigs to the tribal farmers of Meghalaya and other States of N.E. Region for rearing them and improving their local stocks by cross breeding. The approved outlay for the 7th Five Year Plan is Rs.40.00 lakhs. An outlay for 1986-87 is Rs.4.00 lakhs whereas the anticipated expenditure during the year is of the order of Rs.18.00 lakhs for creating necessary infrastructural facilities so that the project programme can be implemented as early as possible. An outlay of Rs.18.00 lakhs is being proposed for the year 1987-88.

19. Regional Fodder Seed Farm, Thenzawl, Mizoram.

2.125 With the introduction of cross bred animal the requirement of feed and fodder in the North Eastern Region is increasing appreciably. The cost of feed being quite high is becoming out of reach for the poor tribal farmers. Therefore, it is necessary to develop fodder grasses and trees for meeting greater percentage of the nutritional requirements of cross bred animals in particular. In view of this, a Regional Fodder Seed Farm is being established during the 7th Five Year Plan in Mizoram. The farm will meet the requirements of Mizoram, Manipur and North Cachar Hill District of Assam. An amount of Rs.25.00 lakhs has been approved as the 7th Plan outlay. The approved outlay for the year 1986-87 is Rs.2.50 lakhs, whereas the anticipated expenditure during the year is Rs.10.00 lakhs for initiating creation of infrastructural facilities. An amount of Rs.7.32 lakhs is being proposed as the outlay for the year 1987-88.

20. Regional Broiler Chick Farm, Mizoram.

2.127 There is an ever increasing demand for chicken meat in various States of North Eastern Region. In order to meet such demand for Mizoram and other States of the N.E. Region, such as Tripura, Manipur and Assam, a Regional Broiler Chick Farm is being established in Mizoram during the 7th Five Year Plan. The farm envisages to maintain a breeding stock about 2000 layers of parental birds. The chicks will be produced in the farm and will be distributed to the farmers of Mizoram and other States of N.E. Region. The approved outlay for the 7th Five Year Plan is Rs.50.00 lakhs. For the year 1986-87 the approved outlay is Rs.3.00 and will be utilised fully. An amount of Rs.18.00 lakhs is being proposed as the outlay for the year 1987-88.

21. Regional Cross-Bred Cattle Farm, Nagaland.

2.128 The scheme aims at establishing a Cross-Bred Cattle Farm with the objectives of upgrading indigenous

cattle of Nagaland by crossing with superior exotic breed (Red-Dane) to produce improved dual purposed animal for milk and meat. The upgraded cross-bred cattle will be made available to the farmers of Nagaland as well as their adjoining States. The approved outlay for the scheme for the 7th Five Year Plan is Rs.75.00 lakhs. The outlay for the year 1986-87 has been approved as Rs.2.00 lakhs. An amount of Rs. 30.00 lakhs is being proposed as the outlay for the year 1987-88.

22. Regional Exotic Pig Breeding Farm, Nagaland.

2.129 Pork is the most popular meat amongst the tribals of the North Eastern Region. The people of this Region are involved in pig rearing traditionally. There is a wide gap between demand and availability of pork for human consumption in this region. This is because of non-availability of improved varieties of pigs and out-dated rearing practices. There is a great need for increasing and improving pig production in the region. In view of this, a Regional Exotic Pig Breeding Farm is being established in Nagaland. The scheme aims at maintaining exotic pigs and augmenting the exotic pig production for breeding purposes for supply to the farmers of Nagaland and other Constituent States of North Eastern Region. The approved outlay for the scheme in the 7th Five Year Plan is Rs.65.00 lakhs. The approved outlay for the year 1986-87 is Rs.2.50 lakhs and the anticipated expenditure for 1986-87 is Rs. 20.00 lakhs. An amount of Rs. 30.00 lakhs is being proposed as the outlay for the year 1987-88 for initiating the creation of necessary infrastructural facilities.

23. Regional Broiler Chick Production-cum-Demonstration Sub-Station Centre, Nagaland, Kohima.

2.130 In order to meet the increasing demand for chicken meat in Nagaland and other States of the North Eastern Region, there is a great need for establishing

a Regional Broiler Chick Production Farm. In view of this, a Regional Broiler Chick Production-cum-Demonstration Sub-Station Centre is included in the 7th Five Year Plan. The scheme aims at maintaining 600 parent stock of broiler chicks through out the year and raising of about 2.80 lakhs of chicklets during the Plan period. The chicklets so produced will be distributed to the farmers for rearing. Apart from production, this Centre would also serve as a Demonstration Sub-station Centre. An amount of Rs.40.00 lakhs has been approved the 7th Plan outlay. For the year 1986-87 an outlay of Rs.2.00 lakhs has been approved whereas the anticipated expenditure during the year is Rs.8.00 lakhs. For initiating creation of necessary infrastructural facilities and amount of Rs. 15.00 lakhs is being proposed as the outlay for the year 1987-88.

24. Regional Veterinary Biological Centre, Tripura.

2.131 There is a wide gap between requirements and availability of various animal vaccines and veterinary biologicals for providing timely and adequate health cover to the animals of the North Eastern Region. The vaccines produced at the Institute of Veterinary Biologicals at Gauhati (Khanapara) which is the only Institute of this kind in the region ~~is not in a position to~~ meet all the requirements of the region. Apart from transport problem, supply of vaccines from outside the region is very irregular, meagre and uncertain. To meet the requirements of these vaccines a Regional Veterinary Biological Production Centre is being established in Tripura in the 7th Five Year Plan. The scheme envisages production of vaccines for Rinderpests H.S., Fowl Cholera, Swinefever, Ranikhet diseases, Anthrax, Fowl Pox, etc., for meeting the requirements of Tripura as well as other States of North Eastern Region. The approved outlay for the 7th Plan is Rs.85.80 lakhs. The approved outlay for the year 1986-87

is Rs.5.00 lakhs and the same will be fully utilised. The outlay for the year 1987-88 is being proposed as Rs.20.00 lakhs.

25. Regional Centre for Investigation of Common Diseases of Ducks, Tripura.

2.132 Although duck rearing has become popular among the tribals as well as non-tribals of the North Eastern Region, no systematic survey and investigation have been made about diseases which confront in successful duck farming. With a view to take up survey and investigation of common diseases afflicting ducks in the North Eastern Region, a Regional Centre is being established at R.K. Nagar in Tripura. The 7th Plan outlay has been approved as Rs.25.00 lakhs. The approved outlay for the year 1986-87 is Rs.3.00 lakhs and will be utilised fully. An amount of Rs.9.00 lakhs is being proposed as the outlay for the year 1987-88.

2.133 The plan allocation for the schemes mentioned above are indicated in the Annexed Statement.

ANIMAL HUSBANDRY  
ANNUAL PLAN 1987-88

Statement  
(Ref. Para: 2.133 )  
(Rs. in lakhs)

Sl No	Name of the Scheme	1985-86		1986-87		1987-88
		Approved Outlay	Actual Expenditure	Approved outlay	Anticipated expenditure	proposed outlay
1	2	3	4	5	6	7

Continuing Schemes

1.	Regional Temperate Fodder Seed Production-cum-Demonstration Farm, Arunachal Pradesh.	15.00	10.97	5.00	5.00	10.00
2.	Regional Broiler Chick Production-cum-Demonstration Farm, Gauhati, Assam.	46.68	13.66	8.00	8.00	15.00
3.	Regional Feed Testing Laboratory, Khanapara, Gauhati, Assam.	42.57	8.96	8.00	8.00	23.00
4.	Regional Integrated Farming System Project AAU.	4.00	0.55	1.00	0.50	1.50
5.	Regional Cross Bred Cattle Farm, Thenzawl, Mizoram.	40.00	10.00	8.00	8.00	8.00
6.	Regional Goat Breeding Farm, Tripura.	29.33	0.94	10.00	10.00	12.00
7.	Regional Pig Breeding Farm, Nalkata, Tripura.	34.11	10.00	8.00	8.00	10.00

New Schemes :

8.	Regional Mithun Breeding Farm, Arunachal Pradesh.	25.00	-	2.00	2.00	12.50
9.	Regional Goat Breeding Farm, Arunachal Pradesh.	25.00	-	2.50	2.50	14.00
10.	Regional Fodder Seed Farm, Assam.	45.00	-	2.00	5.00	20.00
11.	Regional Frozen Semen Project, Assam.	35.00	-	2.50	19.00	21.43
12.	Regional Buffalo Breeding Farm, Assam.	125.98	-	8.00	8.00	20.00

contd..

1	2	3	4	5	6	7
13.	Mechanisation of Institute of Vety. Biological, Assam.	38.00	-	8.00	2.00	30.00
14.	Regional A.I. Training-cum-Cryogenic Laboratory in, AAU, Assam.	20.00	-	3.00	3.00	10.50
15.	Regional Buffalo Breeding Farm, Manipur.	49.20	-	4.00	10.00	20.00
16.	Regional Pony Development Project, Manipur.	60.00	-	3.00	12.00	17.00
17.	Regional Composite Live-stock Farm, Tamenglong, Manipur.	38.00	-	3.00	6.00	10.00
18.	Regional Piggery Farm, Kyrdemkulai, Meghalaya.	40.00	-	4.00	18.00	18.00
19.	Regional Fodder Seed Farm, Thenzawl, Mizoram.	25.00	-	2.50	10.00	7.32
20.	Regional Broiler Chicks Farm, Mizoram.	50.00	-	3.00	3.00	18.00
21.	Regional Cross Bred-Cattle Farm, Nagaland.	75.00	-	2.00	20.00	30.00
22.	Regional Exotic Pig Breeding Farm, Nagaland.	65.00	-	2.50	20.00	30.00
23.	Regional Broiler Chicks Production-cum-Demonstration Sub-centre at Kohima, Nagaland.	40.00	-	2.00	8.00	15.00
24.	Regional Veterinary Biological Centre, Tripura.	85.80	-	5.00	5.00	20.00
25.	Regional Centre for Investigation of Common Diseases of Ducks, Tripura.	25.00	-	3.00	3.00	9.00
Total for Cont. Schemes			55.08	48.00	49.50	71.50
Total for New Schemes			-	62.00	154.50	322.75
TOTAL :			55.08	110.00	204.00	394.25

F. FISHERIES

Introduction

2.134 This is a wide gap between demand and supply of fish in North Eastern Region which is evident from the fact that as against estimated annual requirement of about 1.40 lakhs tonnes of fish, estimated regional production is only about 63,500 tonnes. However, there is a big potential for increasing fish production in the region, particularly in Assam, Manipur and Tripura where there are large areas under lakes and beels. These water areas can be developed and brought under scientific pisciculture.

2.135 Realising that supply of suitable and quick/high yielding fish seed is one of the important inputs for fish production programme, a number of new schemes/projects were included in the 7th Plan of NEC for implementation of different parts of this region for production of various species and varieties of fish seeds. Programmes for development of beels and for taking up scientific fish culture which would also serve as a demonstration farm were also included. The awareness of and technical competence of fisherman also need to be developed, besides exploration of new areas for fish production. Thus in order to exploit fish culture potential and to train manpower, Regional Fisheries Training Institute is also being set up under the NEC programme under Manpower Development.

2.136 Outlines for different schemes on fisheries to be taken up during 1987-88 are furnished in the following paragraphs.

New Schemes

1. Reclamation of Beel Fisheries, Arunachal Pradesh/  
Meghalaya

2.137 The scheme is proposed to be taken up as a pilot project aims at demonstrating as to how beel fishery can be taken up on scientific lines for maximisation of fish production from beels. This will also serve as a demonstration in Arunachal



Pradesh and Meghalaya as well as in neighbouring States /UTs on the development of beel fisheries on scientific lines. Approved outlay for the scheme in 7th Plan is Rs. 66.00 lakhs and approved outlay for 1986-87 is Rs. 3.00 lakhs and the anticipated expenditure for 1986-87 is Rs. 4.00 lakhs. An outlay of Rs. 6.00 lakhs is proposed for 1987-88. The scheme is likely to be sanctioned soon for implementation.

2. Regional Fish Seed Farm, Meghalaya

2.138 The scheme seeks to establish a Fish Farm for production of varieties fish seeds that would be suitable for culture in the hill states of Meghalaya, Nagaland and part of Assam. The scheme could not be taken up during 6th Plan period because of problems of availability of land and water area for the purposes. Earlier the scheme was to be located at Keiling in East Khasi District. It is now proposed to establish the farm at Jamre in Garo Hills. Approved 7th Plan outlay for the scheme is Rs. 18.00 lakhs. An approved outlay for 1986-87 was Rs. 2.00 lakhs and is not going to be utilised due as land is still not available for the scheme. However, the problems are expected to be sorted soon and therefore, an outlay of Rs. 5.00 lakhs is proposed for 1987-88.

3. Regional Fish Seed Farm, Mizoram.

2.139 This scheme which was to take up during 6th Plan could not be started due to certain technical and other reasons. It is being taken up from 7th Five Year Plan ( 1986-87). The site selected earlier was not found suitable and another site at Tuipur has been again selected. The scheme envisages production of about 15 million fish seeds of Indian Major Carps and Common Carps on its completion for distribution to fish rearers of Mizoram and neighbouring States of the region. Approved financial provision for the scheme for 7th Plan is Rs. 20.00 lakhs. An outlay of Rs. 2.00 lakhs was provided during 1986-87 and is likely to be utilised fully as the scheme is going to be sanctioned soon. A provision of Rs. 8.00 lakhs is proposed for 1987-88.

4. Regional Carp Fish Seed Farm, Nagaland.

2.140 Carpfish can adapt to various types of climatic conditions on environments. Because of its adaptability and its high productivity, sturdiness and resistance to diseases etc. culture of this fish is quite popular in NE Region. This variety is found in abundance in its natural habitat in foothills of Nagaland and other neighbouring States/UTs of the region. The present scheme aims at establishing a Carpfish Seed Farm in Nagaland to supply fish seeds to the private fish rearers in Nagaland neighbouring States/UTs of the region. On completion of the scheme, it is estimated to produce 83 million fry annually. Approved financial outlay for 7th Plan for the scheme is Rs. 50.00 lakhs and approved outlay for 1986-87 is Rs. 10.00 lakhs. An anticipated expenditure for 1986-87 is Rs. 8.00 lakhs. Proposed outlay for 1987-88 is Rs. 15.00 lakhs.

5. Regional Air Breathing Fish Farm, Tripura.

2.141 The scheme envisages establishment of one Air Breathing Fish Farm at Jati Bari in South Tripura District during 1986-87 that will produce about 10 million fish fingerlings ~~per year~~ when the farm is fully developed. The fish fingerlings so produced will be made available to fish rearers of Tripura and neighbouring States/UTs of the region. Seventh Plan approved financial provision for this scheme is Rs. 48.97 lakhs and approved outlay for 1986-87 is Rs. 10.00 lakhs against which an anticipated expenditure is Rs. 5.00 lakhs. An outlay of Rs. 10.00 lakhs is proposed for 1987-88.

6. Regional Fresh Water Prawn Culture in Loktak Lake Manipur

2.142 Loktak lake is the biggest single inland water area in North Eastern Region with vast scope for development of various types of fish cultures. The present scheme stipulates establishment of Fresh Water Prawn Culture Farm at Thingom Lamjao on the periphery of Loktak lake to produce such prawn for

(2.66 )-

seeds for distribution to private rearers in Manipur and other neighbouring States/UTs of this region. The farm will have an area of 20 (twenty) hectares and when fully developed would produce 14 million prawn seeds at the end of 7th Plan period. Approved outlay for Seventh Plan is Rs.25.00 lakhs and outlay approved for 1986-87 is Rs. 1.00 lakhs against which an anticipated expenditure is Rs. 4.00 lakhs. Proposed outlay for 1987-88 is Rs. 7.00 lakhs.

7. Regional Pengba Fish Seed Farm, Manipur.

2.143 Pengba which is one of the tastiest varieties of Fish and is indigenous to Manipur. Due to various land reclamation and other related programmes, the natural habitats of this rare variety are being disturbed and the fish is on the verge of extinction. The present scheme aims at establishment of a Pengba Fish Seed Farm at Haotak Pat in Bishnupur District to preserve this species of fish, production of Pengba fish seeds for distribution of fish rearers of Manipur and neighbouring States/UTs of the region to extend culture and availability of this fish in other parts of NE Region. Approved outlay for Seventh Plan for the scheme is Rs.25.00 lakhs and approved outlay for 1986-87 is Rs.1.00 lakhs against which the anticipated expenditure is Rs.4.00 lakhs. Proposed outlay for 1987-88 is Rs.7.00 lakhs.

8. Survey of Derilect Fisheries, Arunachal Pradesh.

2.144 This is only a survey scheme for derilect fisheries in Arunachal Pradesh which would be completed in one year. Approved Seventh Plan outlay for the scheme is Rs.0.95 lakhs and a sum of Rs.1.00 lakh was approved for 1986-87. The survey is likely to be completed during 1986-87 and therefore, no provision is made for 1987-88.

2,145 The Plan allocation for the scheme mentioned above for 1987-88 are indicated in the annexed statement.

-( 2.67 )-

FISHERIES

( Ref. State  
Para 2.145 )

Annual Plan 1987-88

( Rs. in lakhs )

Scheme	Annual Plan 1987-88		1986-87		Proposed outlay for 1987-88
	Seven- th Plan on appro- ved outlay	Actual Expen- diture 1985-86	Approved	Anticipa- ted	
1	2	3	4	5	6
1. Reclamation of Beel Fishery Arunachal Pradesh & Meghalaya.	66.00	-	1.00 A.P. 2.00 Meg.	4.00 Meg.	1.00 A.P. 5.00 Meg
2. Regional Fish Seed Farm Meghalaya.	18.00	-	2.00	-	5.00
3. Regional Fish Seed Farm Mizoram.	20.00	-	2.00	2.00	8.00
4. Regional Carpfish Seed Farm, Nagaland.	50.00	-	10.00	8.00	15.00
5. Regional Air Breathing Fish Seed Farm, Tripura.	48.97	-	10.00	5.00	10.00
6. Fresh Water Prawn Culture in Loktak Lake, Manipur.	25.00	-	1.00	4.00	7.00
7. Regional Pengba Fish Seed Farm, Manipur.	25.00	-	1.00	4.00	7.00
8. Survey of Derilect Fisheries, Arunachal Pradesh.	0.95	-	1.00	1.00	-
<b>Total</b>			<b>30.00</b>	<b>28.00</b>	<b>58.00</b>

CHAPTER-3  
WATER AND POWER DEVELOPMENT

I. POWER DEVELOPMENT:

A. GENERATION

ON-GOING

1. Kopili Hydel Project:

3.01 The Kopili hydel project envisages construction of two Power House, namely : Khandong Power House (2 x 25 MW) and Kopili Power House (2 x 50 MW). The project is being implemented by NEEPCO since Fifth Plan period. The latest approved estimated cost of the project is Rs.149.02 crores. Keeping in view the quantity of balance works and the expenditure involved/already incurred, a further revision of the estimate was taken up in August, 1984 and a revised estimate for Rs.185.35 crores including an amount of Rs.8.47 crores being interest and incidental charges on LIC loan for which no provision was made in the earlier sanctioned estimate was techno-economically cleared by the Central Electricity Authority and approved by the Planning Commission. However, when the revised estimate of Rs.185.35 crores was under consideration of the Ministry of Home Affairs for obtaining the approval of the Cabinet, it was observed from the trend of expenditure vis-a-vis remaining works of the project that the possibility of further revision of the project estimate could not be ruled out. Thereafter the cost estimate of the project was revised by the Corporation to Rs.212.00 crores. The increase in cost is due to mainly to escalation in cost of materials, labour and overhead, some modification in the design necessitated by actual site conditions, provision in the agreement entered into with the Contractors for these items and increased amount of LIC loan liability. The revised estimate of Rs.212 crores has been examined in Central Electricity Authority and has been generally found to be in order. The Planning Commission has also approved the cost estimate in August, 1986. The administrative approval for the revised cost estimate of Rs.212.00 crores is awaited from the Ministry of Home

Affairs. A total amount of Rs.175.49 crores has been released/made available to NEEPCO upto 1985-86 for this project. This includes an amount of Rs.37.00 crores raised by NEEPCO as LIC loan upto 1985-86.

3.02 An outlay of Rs.900.00 lakhs has been approved for the project in Annual Plan 1986-87 of which Rs.700 lakhs is to be raised as LIC loan. Considering the increase in the cost estimate and time frame a completion of the project, an expenditure of Rs.2500.00 lakhs is anticipated during 86-87. Rs.900 lakhs is proposed for 1987-88,

3.03 A brief resume of the progress of some of the important item of works upto 20th August, 1986 is given below :

CIVIL WORKS:

Sl.No.	Item of Works	Unit	Total esti- mated Quan- tity	Completed (upto 20th August '86)	Balance
1.	2.	3.	4.	5.	6.
<b>1. DAM</b>					
	<u>Khandong Dam</u>				
	Excavation	CUM	2,65,950	-	Completed.
	Concreting	CUM	3,77,088	3,55,323	21,765
	<u>Umrong Dam</u>		-	-	Completed.
<b>2. DYKE</b>					
	<u>Khandong Dyke</u>				
	Excavation	CUM	7,08,241	7,14,241	Completed.
	Core filing	CUM	16,40,000	16,30,000	10,000
	<u>Umrong dyke</u>		-	-	Completed.
	<u>Kopili Dyke</u>				
	Excavation	CUM	93,000	30,000	63,000
	Core filing	CUM	2,18,000	54,095	1,63,905
<b>3. TUNNEL</b>					
	<u>A.Khandong Tunnel</u>		-	-	Completed.
	<u>B.Umrong Tunnel</u>				
	Invert Concreting.	M	5443	5443	Completed.
	Crown Concreting.	M	5443	5443	Completed.
<b>4. Power House</b>					
	<u>Khandong Power House.</u>		-	-	Completed.
	<u>Kopili Power House</u>				
	Excavation.		-	-	Completed.
	Concreting	CUM	13,566	12,465	1101

1	2	3	4	5	6
5.	<u>Penstock</u>				
	<u>Khandong Penstock</u>	-	-	-	Completed.
	<u>Kopili Penstock</u>				
	<u>Febrication</u>	MT	1966	1966	Nil
	<u>Erection</u>	MT	1775	1756	19
6.	<u>Lining of Kopili Surgeshaft</u>				
	A. Upper expansion				
	Chamber.	RM	23	-	Completed.
	B. Main Shaft.	RM	102	-	Completed.
	C. Lower expansion	RM	80	-	Completed.
	Chamber.				
7.	<u>Kopili Tail race works</u>				
	<u>Excavation</u>	CUM	9800	-	Completed.

ii. Electrical works :

3.04 The first unit of Khandong Power House started generating power from 8th March, 1984 and the second unit from 4th May, 1984. The total unit generated by the two units of Khandong Power House upto August, 1986 is 352.38 MU. Some Civil works in respect of Khandong complex are yet to be completed and the position has been indicated in the Table under "Civil Works". These civil works will be completed by middle of 1987.

3.05 Commissioning of the two Units of Kopili Power House which was earlier expected in Oct. and Dec, 1986 respectively will however be delayed due to some technical snags.

2. Garo Hills Thermal Project:

3.06 This project envisages thermal power station of 4 x 30 MW capacity. The first phase of 2x 30 MW has been approved by the Ministry of Home Affairs in March, 1981 at an estimated cost of Rs.4320.00 lakhs. A sum of Rs.83.00 lakhs has been released upto 1984-85 for widening of curves and strengthening of bridges on approach road to the project site by BRTF and no fund was released during 1985-86. The original cost of the project has gone up from Rs.4320.00 lakhs to Rs.10600.00 lakhs as per revision of the estimate carried out by CEA. Necessary investment decision of Govt. of India

is awaited to the revised cost estimate. Operation and utilisation of approved provision of Rs.10 lakhs in 1986-87 for the project is dependent on approval of the re-revised project cost estimate in all respect by the Government of India which is still awaited. Therefore, a token provision of Rs.1.00 lakh is retained as anticipated expenditure of 1986-87. A provision of Rs.10.00 lakhs is proposed for the project during 1987-88.

### 3. Doyang Hydel Project.

3.07 The implementation of Doyang hydel project at an estimated cost of Rs.128.61 lakhs was approved by the Ministry of Home Affairs in March, 1985. It was stipulated that the project will be executed and managed by NEEPCO. An amount of Rs.825.00 lakhs has been released to NEEPCO on account of this project upto 1985-86. The approved provision for the project in 1986-87 is Rs.1600.00 lakhs of which Rs.800.00 lakhs is to be raised as LIC loan. The entire provision of Rs.1600.00 lakhs is not likely to be fully utilised and an expenditure of Rs.400.00 lakhs for 1986-87 is anticipated. A provision of Rs.1600.00 lakhs is proposed for 1987-88.

3.08 NEEPCO has done some preliminary works in the field by making approach road and constructions a few temporary buildings. However, the project could not make much headway due to some ground level problems. However, Government of Nagaland has made available 472 acres of land in September, 1986 and the implementation is expected to pick up from the current year. The project work also received a setback as during the pre-construction surveys of the reservoir certain discrepancies about reservoir area come to the notice of the Corporation. This necessiated a fresh exercise of reassessing the potential and design of the project features. The Corporation has, however, informed that revision and fixation of the parameters of the Doyang hydel project after taking into consideration the reduction in capacity of the reservoir has been finalised.



As per the preliminary indication given by Corporation the project cost is likely to be increased by about Rs.1000.00 lakhs (in 1983 price level). However, Corporation is revising the cost of the project and the revised cost will be known only after Corporation has completes the revising of the project.

4. Ranganadi Hydel Project Stage-I(3x135MW) in Arunachal Pradesh.

3.09 The first stage of the Ranganadi Hydro Electric Project is proposed to be taken up which envisages generation of 405 MW(3x135 MW). The scheme has been techno-economically cleared by the Central Electricity Authority at an estimated cost of Rs.276.40 crores. Planning Commission in a communication of August, 1986 to the Council Secretariat has informed that the Commission has accepted in principle the feasibility of the project estimate subject to adequate provision in NEC Plan. The Planning Commission has also suggested that the project cost estimate be updated and necessary action taken for Forest clearance. Planning Commission's letter to the Council Secretariat also states that the Department of Power may pose the project for bilateral financing and tie up associated infrastructure works. Based on Planning Commission's letter MHA has taken up the matter with the Department of Power requesting for doing the needful. Meanwhile NEEPCO has updated the project cost estimate and the cost estimate now stands at Rs.356.80 crores. It is learnt from the Corporation that forest clearance has already been obtained. An amount of Rs.1800.00 lakhs have been approved for the project during 1986-87 which includes a component of Rs.300.00 lakhs to be raised as LIC loan. Considering the status of clearance of the scheme, at this stage, an expenditure of Rs.550.00 lakhs is expected to be incurred for preliminary and infrastructural works during 1986-87. An amount of Rs.2000.00 lakhs is proposed for 1987-88.

### 5. Gas Turbine in Tripura:

3.10 The Oil and Natural Gas Commission has struck natural gas in Tripura. Based on the prospect of availability of gas, Council Secretariat is in correspondence with the Government of Tripura in the matter of gas based power generation in Tripura. It has been agreed in principle to finance gas based power generation in Tripura upto 10 MW. A project report from the Tripura authorities envisaging installation of additional 5 MW set at Baramura power station has been received in the Council Secretariat, which is under examination. In Annual Plan 1986-87 there is an approved provision of Rs.50.00 lakhs for feasibility study of gas based power station in Tripura. As the idea is to go for generation of power based on feasibility study and as the project report is already available no further feasibility report is called for. Since further generation programme is tied up with commitment of gas by ONGC and the project has to be approved in all respects, it may not be possible to utilise the entire amount of Rs.50.00 lakhs during 1986-87. An amount of Rs.7.00 lakhs is provided for as anticipated expenditure for 1986-87. An amount of Rs.150.00 lakhs is proposed for 1987-88 for implementation of gas based generation project.

### B. TRANSMISSION AND TRANSFORMATION:

#### On-Going

#### 1. Kopili Transmission Line Project:

3.11 This project which was included in the Fifth Five Year Plan mainly consists of construction of a 220 KV Double Circuit line from Kopili to Samaguri, one 132 KV single circuit line from Khandong to Khliehriat with a 132 KV single circuit inter-connection between Khandong and Kopili Power House alongwith extension of sub-stations at Samaguri and Khliehriat. The 220 KV double circuit line to Samaguri has been completed and charged at 132 KV. The 132 KV line from Khandong to Khliehriat has also been completed and has been charged

at the rated voltage. There are some residual works to be completed at Samaguri sub-station for which NEEPCO has handed over necessary equipment to ASEB who is to instal the same. The total expenditure incurred on the project upto the end of 1985-86 is about Rs.711 lakhs. There is an approved provision of Rs.1.00 lakh in 1986-87 Annual Plan which might be required to be spent for any residual works. An amount of Rs.1.00 lakh is proposed for 1987-88 for meeting expenditure on any further residual work.

## 2. Additional Transmission Lines Project.

3.12 This transmission line has been taken up by NEEPCO for supply of power from Kopili Hydel Project to Mizoram, Manipur, Tripura including a part of Assam. It envisages laying of 132 KV Single Circuit lines from (a) Khandong to Haflong (b) Haflong to Jiribam, (c) Jiribam to Aizawl and (d) Aizawl to Kumarghat including looping in and looping out of existing 132 KV line from Agartala to Dharmanagar at 132 KV Kumarghat sub-station. The scheme also envisages construction of Switching Stations/Sub-stations at Haflong, Jiribam, Aizawl and Kumarghat. As regards progress of work, the 132 KV single circuit line from Khandong to Haflong has already been completed and has been energised at 33 KV and ASEB is drawing power at 33 KV from this Switching Station. The 132 KV Single Circuit line from Haflong to Jiribum has been completed. The works in other two line sections namely, 132 KV single circuit Jiribum-Aizawl section and 132 KV Single Circuit Aizawl-Kumarghat section are also under progress. Based on the actual progress NEEPCO has reviewed the schedule of completion of these line sections. While Aizawl-Kumarghat section is expected to be completed by December, 1986 as per the earlier schedule, NEEPCO has re-scheduled the completion of 132 KV Jiribum-Aizawl section which is now expected to be completed in April/May, 1987. The details regarding progress of transmission line and substation upto June, 1986 are given below:

Transmission LinesPart-I

Sl. No.	Activities	Unit	Khandong-Halflong	Halflong-Jiribum	Jiribum-Aizawl			
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Preliminary Survey.	KM	64	Completed.	100	Completed.	170	170
2.	Check Survey	KM	64	-do-	100	-do-	170	170
3.	Foundations.	Nos	190	-do-	305	-do-	464	360
4.	Tower erections	Nos	190	-do-	305	-do-	464	283
5.	Stringing	KM	64	-do-	100	-do-	170	39

Part-II

Sl. No.	Activities	Unit	Aizawl-Kumarghat	Looping in and Looping out at Kumarghat.		
1.	2.	3.	4.	5.	6.	7.
1.	Preliminary Survey	KM	129.5	129.5	1.5	1.5
2.	Check Survey	KM	129.5	129.5	1.5	1.5
3.	Foundations	Nos	380	378	7	7
4.	Tower erections	Nos	380	377	7	7
5.	Stringing	KM	129.5	100	1.5	1.5

The inter-connecting 132 KV line between NEEPCO switching station and Mizoram Govt's sub-station is expected to be ready by middle of 1987.

Works of Haflong switching station, Jiribum sub-station and Kumarghat sub-station are completed. The 132 KV switching station at Aizawl is expected to be ready by December, 1986.

3.13 The latest approved cost of the Additional Transmission Lines project is Rs.2028.50 lakhs. NEEPCO has further revised the cost estimate to Rs.2682.00 lakhs mainly due to cost escalation, increase in route length of the transmission lines from 440 Km to 460 Km etc.

The Central Electricity Authority has cleared the estimate and Planning Commission has also approved the same and the estimate is under examination by the Ministry of Home Affairs for issuing Administrative Approval. Subsequently it has been assessed by NEEPCO that a further amount of Rs.130.00 lakhs being interest on LIC loan liability will need to be accommodated in the re-revised estimate and with this the cost of the revised estimate will stand at Rs.2812.00 lakhs. Approval/instruction of Ministry of Home Affairs in this regard is awaited. A small portion of 132 KV inter-connecting transmission line of about 8-10 Km length is also required from NEEPCO's Switching station at Aizawl (Lunngmual) to Mizoram Government's sub-station at Aizawl (Zemabawk) to enable Mizoram Govt. to avail of power from the regional grid power. It was decided that NEEPCO will provide this inter-connecting line and it was assessed that the cost on account of this line could be absorbed by the approved cost estimate. From a recent review made by NEEPCO, it appears that the cost of the project will escalate further and likely to be of the order of Rs.3010 lakhs. This is mainly due to labour cost escalation and partly due to the coverage of the inter-connecting line between NEEPCO's 132 KV Switching Station at Aizawl (Luangmual) and Mizoram Government's sub-station at Aizawl (Zemabawk) etc.

3.14 An amount of Rs.2400.00 lakhs has been released/made available for the project upto 1985-86. This included an amount of Rs.300.00 lakhs raised by NEEPCO as OIC loan. In the approved NEC Plan for 1986-87, there is a provision of Rs.200 lakhs for the project which is to be raised as LIC loan against this the anticipated expenditure for the year is Rs.400 lakhs. An amount of Rs.200 lakhs is proposed for the project during 1987-88.

### 3. Doyang Transmission Line Project:

3.15 The project report submitted by NEEPCO for the Doyang Transmission Line Project has been approved by

Ministry of Home Affairs in March, 1985 at an estimated cost of Rs.4087.00 lakhs. This transmission system will be utilised for the evacuation of power from Doyang Hydel Project. Besides this, the transmission system will also enable flow of power from Kopili and Loktak Hydro Electric Projects. An amount of Rs.450.00 lakhs has been released to NEEPCO for this project upto 1985-86. The approved provision for this project in 1986-87 Plan is Rs.700.00 lakhs of which an amount of Rs.250.00 lakhs is expected to be incurred during the current year. An amount of Rs.700.00 lakhs is proposed for this scheme during 1987-88. While preliminary works like preparation of tender specification, invitation of tender etc. are in progress achievement on the ground upto July, 1986 are as below :

Doyang Transmission Line Project (Survey Works)

(a) Transmission Line:

1. 1st Section - Doyang-Dimapur Line (85.00 Km)  
-132 KV Double Circuit Line - Survey works completed.
2. 2nd Section - Dimapur-Imphal Line (168.00 Km)  
-132 KV Single Circuit line - -do-
3. 3rd Section - Dimapur-Misa (Kathiatali) (100.00 Km)  
-220 KV Double Circuit Line - -do-

(b) Sub-Station/Switching Station

1. 1st - 132 KV/220 KV Dimapur Sub-Station - Land for sub-station acquired and land levelling work completed.
2. 2nd - 220 KV Misa (Kathiatali) Switching Station - Land for switching station acquired and land levelling works completed.
3. 3rd - 132 KV Imphal Switching Station - Land for Switching station has been acquired.
4. 132 KV Gohpur-Itanagar line and establishment of 132 KV sub-station at Itanagar.

3.16 During June, 1986 Ministry of Home Affairs has conveyed approval to the project at an estimated cost of Rs.239.22 lakhs. The scheme is to be executed by the Assam State Electricity Board within Assam and Arunachal Pradesh PWD in Arunachal Pradesh. There is an approved provision of Rs.100 lakhs in NEC Plan 1986-87, which is expected to be fully utilised. An amount of Rs.100.00 lakhs is proposed for 1987-88.

NEW

5. Ranganadi Transmission Line Project:

3.17 NEEPCO has submitted a project report for construction of two numbers of 400 MV Double Circuit line from the proposed Ranganadi Hydel Project Stage-I (3x135 MW) to Balipara including sub-station works at Balipara at an estimated cost of Rs.4632.00 lakhs. The project report has been techno-economically cleared by CEA. The project report has been updated recently and the estimated cost now stands at Rs.5511.00 lakhs. The scheme is yet to be cleared in all respect. An amount of Rs.100.00 lakhs is proposed for the scheme during 1987-88.

C. SURVEY AND INVESTIGATION

On-going

1. Investigation of Loktak Downstream and Tuivai Hydel Project in Manipur.

3.18 The approved estimated cost for investigation of Loktak Downstream hydel project is Rs.119.07 lakhs and that of Tuivai hydel project is Rs.131.30 lakhs. The power Department, Govt. of Manipur is investigating these projects since Fifth Plan Period. The total expenditure in respect of investigation scheme of Loktak Downstream hydel project upto March'86 is Rs.129.86 lakhs and that of Tuivai hydel project is Rs.132.63 lakhs. Manipur authorities have indicated that project report for investigation works are being revised. It is anticipated that the approved allocation of Rs.15 lakhs for 1986-87 will be utilised during the current year. A provision of Rs.1.00 lakh is proposed for these schemes in 1987-88. The field investigation works of Tuivai hydel project have been completed and that of Loktak Downstream are also nearing completion. However, the project report based on results of investigation for this scheme are expected sometime in 1987-88.

2. Investigation of Tuivai hydel project in Mizoram

3.19 The approved estimated cost of this investigation project is Rs.356.26 lakhs. The Central Water Commission is investigating the scheme in Mizoram.

The expenditure incurred for the investigation upto March, 1986 is Rs. 230.99 lakhs. The approved outlay for the project in 1986-87 is Rs. 50 lakhs against which likely expenditure during the year is Rs. 80 lakhs. An outlay of Rs. 25 lakhs is proposed for 1987-88. The investigation works are in advanced stage of completion and moreover some works pertaining to drilling and drifting need to be completed. The field works are likely to be completed by the middle of 1987.

3. Investigation of Barak Stage-I and Irang Hydel Project in Manipur.

3.20 The approved estimated cost of investigation scheme of Barak Stage-I is Rs. 101.59 lakhs and that of Irang hydel project is Rs. 132.27 lakhs. The Power Department of Govt. of Manipur is the investigating Agency for these two schemes. An expenditure of Rs. 40.93 lakhs and Rs. 31.17 lakhs have been incurred in respect of investigation of Barak Stage-I and Irang hydel project respectively upto March, 1986. The approved outlay for these two investigation schemes for 1986-87 is Rs. 80.00 lakhs and this provision is likely to be fully utilised during the financial year. An outlay of Rs. 60 lakhs is proposed for 1987-88 for these two investigation schemes. The works of these two investigation schemes are in progress. Topographical survey has been completed. Construction of a number of buildings, making of trace path and jungle cutting have been completed. Works of construction of approach road are in progress and number of equipment for undertaking the investigation works have already been arranged. Taking up of works of geological survey for these two schemes have been programmed during the year. The field investigation works in respect of these two schemes are expected to be completed in 1988-89.

4. Investigation of Ranganadi, Damwe and Papu hydel project in Arunachal Pradesh.

3.21 The North Eastern Electric Power Corporation Limited is doing the investigation of these hydel



projects. The approved estimated cost for the investigation projects of Ranganadi, Damwe and Papu in Arunachal Pradesh are respectively Rs.216.91 lakhs, Rs.211.30 lakhs and Rs.57.94 lakhs. The North Eastern Electric Power Corporation Limited has, however, revised estimate for investigation of Ranganadi hydel project to Rs.283.53 lakhs (gross). The same was sent to Central Electricity Authority for techno-economical clearance who has made certain observations on the revised estimate. Action has been initiated to examine the scheme in light of Central Electricity Authority's observations for arranging necessary approval to the revised estimate amounting to Rs.283.53 lakhs. The project report for Ranganadi Hydel Project Stage-I (405 MW) have already been prepared and submitted by the North Eastern Electric Power Corporation and some has been techno-economically cleared by the CEA for an amount of Rs.270.40 lakhs. The field investigation works for Stage-II have already been practically completed. The investigation works of Damwe hydel project is also in advanced stage of completion and field works are likely to be completed during 1986-87. The investigation works of Papu hydel project remained suspended due to some local problem.

3.22 An expenditure of Rs.459.82 lakhs has been incurred for this investigation schemes upto March'86. The provision of Rs.30.00 lakhs for these schemes in Annual Plan 1986-87 is likely to be fully utilised. An outlay of Rs.25.00 lakhs is proposed for 1987-88 for these schemes.

5. Preliminary investigation of Kynshi hydel project in Meghalaya.

3.23 The approved estimated cost of preliminary investigation of Kynshi hydel project is Rs.96.18 lakhs (gross). The expenditure for the investigation scheme upto March,1986 is Rs.27.30 lakhs. The approved outlay for the project for 1986-87 is Rs.41.00 lakhs and according to the implementing agency/

Meghalaya Govt. this provision will not be utilised as the work for the investigation scheme had to be suspended due to some local problems. The State Govt. hopes that on resolution of the problem it will be possible to proceed with the project works and an amount of Rs.35.00 lakhs would be required for 1987-88. Accordingly, an amount of Rs.35.00 lakhs is proposed for 1987-88. So far the implementing agency has done some preliminary works and acquired some Tools and Plants for the investigation works.

6. Investigation of Serlui-B and Tuirial Hydrel Project in Mizoram.

3.24 The approved estimated cost of investigation scheme of Serlui-B and Tuirial hydrel project is Rs. 78.20 lakhs (gross). The Govt. of Mizoram is getting the investigation works done through the agency of Central Water Commission. The expenditure for the project upto March '86 is Rs.52.25 lakhs. The approved outlay for the project for 1986-87 is Rs.25.00 lakhs and the provision is likely to be fully utilised. A provision of Rs.1.00 lakh is proposed for 1987-88. The field investigation works have been completed. Preliminary indications are that a firm power potential of 3.1 MW could be expected from Serlui-B hydrel project and about 10 MW from Tuirial hydrel project.

7. Investigation of Dikrong Hydrel Project in Arunachal Pradesh.

3.25 The approved estimated cost for investigation of Dikrong hydrel project is Rs.54.54 lakhs (gross). The North Eastern Electric Power Corporation Limited is the investigating agency for the project. An amount of Rs.30.00 lakhs have been released to NEEPCO upto March, 1986. The approved provision of Rs. 15.00 lakhs in 1986-87 plan is likely to be fully utilised. An outlay of Rs.5.00 lakhs is proposed for 1987-88. As regards the physical progress, survey at dam site and power house site has been completed, preliminary geological survey has been conducted and investigation of geological foundation of power house is in progress.

Areas of availability of construction materials have been identified. Hydrological and meteorological observations have been recorded and are continuing. The field investigation works are likely to be completed towards the end of 1987-88.

8. Residual Investigation of Kameng Hydel Project.

3.26 The Central Water Commission has completed the investigation works of this project and have submitted the project report which envisages generation of 600 MW at an estimated cost of Rs.586 lakhs. The estimate for the generation project has been recently updated by NEEPCO. The Central Water Commission has submitted a final settlement of account which indicates a cost of Rs.144.93 lakhs (gross) and Rs.131 lakhs (net) for the investigation scheme. There is a provision of Rs.3.00 lakhs during 1986-87 for meeting residual expenditure on the scheme and will be fully utilised. Further provision of Rs.1.00 lakh is proposed for 1987-88 for clearance of liabilities.

9. Residual investigation of Tipaimukh High Dam Project

3.27 The project is located at the tri-junction of Assam, Manipur and Mizoram. The Central Water Commission has completed the investigation works and have submitted the project report for setting up of a hydel generation capacity of 1500 MW at an estimated cost of Rs.1078 crores. The original estimate of the investigation scheme was revised from Rs.233.00 lakhs to Rs.341.43 lakhs (gross). The Central Water Commission has submitted the final settlement of account which shows a gross expenditure of Rs.358.65 lakhs and net expenditure of Rs.271.07 lakhs for the investigation scheme. There is an approved outlay of Rs.5.00 lakhs in 1986-87 to meet the residual liabilities. A further provision of Rs.1.00 lakhs is proposed for 1987-88 for clearance of liability.

10. Sedimentation Survey of Umium Reservoir in Meghalaya.

3.28 A number of hydel power projects are in operation in the North Eastern Region and number of other

hydel projects are coming up. One of the problems associated with the reservoir in hydel stations is loss of effective storage capacity due to silting. It is therefore, necessary to study how the reservoirs are affected due to silting so that appropriate remedial measures against excessive silting could be taken to avoid loss of storage capacity and consequent reduction in life of the reservoir. A scheme for the study of sedimentation in Umium Reservoir using latest technology was drawn up at an estimated cost of Rs.12 lakhs and sent to Central Electricity Authority for necessary scrutiny and approval. The scheme has since been approved. There exists a provision of Rs.6.00 lakhs in Annual Plan 1986-87 against which it is anticipated that an expenditure of Rs.5.00 lakhs will be incurred. An amount of Rs.3.00 lakhs is proposed for 1987-88.

11. Other Investigation schemes of hydel project including mini/micro hydel projects.

3.29 The North Eastern Electric Power Corporation Limited has submitted estimate for investigation of Papumpama hydel project in Arunachal Pradesh at an estimated cost of Rs.144.62 lakhs. The same was sent to Central Electricity Authority who has made certain comments on the estimate. These are under examination.

3.30 The Govt. of Manipur has submitted a scheme for investigation of Maklang hydel project in Manipur. Certain information/clarification on the estimate has been requested for Govt. of Manipur. Replies thereto are awaited. Proposal for investigation of a few sites for mini and Micro hydel projects have been received from the Govt. of Manipur, Arunachal Pradesh and Nagaland. These are under various stages of examination. It will be necessary to continue hydrological observation in respect of Kameng and Ranganadi Hydro Electric projects. The approved outlay for the investigations of hydel projects including mini and micro hydel project for 1986-87 is Rs.50.00 lakhs. Considering the Status of clearance of these schemes it is anticipated that an expenditures of about Rs.40.00 lakhs might be

incurred during the current year. An amount of Rs. 75.00 lakhs is proposed for these investigation schemes and any other prospective schemes in 1987-88.

## II. RENEWABLE RESOURCES OF ENERGY:

3.31 In recent years special emphasis has been given on the implementation of programmes relating to the development of New and Renewable Resources of Energy and Integrated Rural Energy Programmes. In the 7th Plan document it has been stated that Rural Areas suffer from poor availability of Commercial sources, as also inefficiency in the use of non-commercial sources and in order to correct this, micro-level decentralised energy planning is necessary. The energy for the villages has been included in the New 20-Point programme announced in August '86 and it was stated that alternate sources of energy, particularly biogas and promote integrated area specific programmes for rural energy, to meet the energy need of the rural population, be developed.

3.32 As a matter of fact, the rich endowment biogas resources, abundance of Solar Energy, swift wind in ridges of hills and existence of large number of hill revulets, provide immense potential for use of renewable resources in the NE Region. There is vast scope of using these resources mainly to cater to the energy needs of the large number of under-developed isolated villages of the region. With a view to promoting wider use of Renewable Resources of Energy, the NEC took up a programme under the 6th Plan for installation of demonstrational units using renewable energy resources in the constituent units. Some surveys, preparation of Feasibility Report in the area of Renewable Energy use were also initiated from the Council Sectt. It has been found that these have made visible impact and have helped to create general awareness about the usefulness of New and Renewable Resources of Energy. Upto the end of June '86 the NEC has sanctioned 188 Bio-gas Plants, 47 Solar Pumps, 21 Wind Energy Devices,

4 Solar Dryers, 10 Solar Hot Water Systems and 17 other Solar Devices. Scheme for electrification of 9 villages by Solar PV has been sanctioned in the different States/UTs. One Pilot Micro Hydel-cum-Irrigation Project is sanctioned in Mizoram. Two Wood Gasefier systems have been sanctioned, one for Meghalaya and one for Tripura. The first Rural Energy Centre has been set up in the region with NEC support at Laldengabari in Tripura. Another Rural Energy Centre is in progress in Tripura as NEC schemes. To facilitate collection of data in respect of Wind and Solar Energy 8 (eight) data collection centres are being set up. Approved 6th Plan outlay for this sector was Rs.77.00 lakhs and expenditure upto March 1985 has been Rs.51.17 lakhs. The approved outlay for the 7th Plan is Rs.200.00 lakhs. During the year 1985-86 actual expenditure was Rs.28.50 lakhs against a provision of Rs.50.00 lakhs.

3.33 In the NEC Plan 1986-87 there is a provision of Rs.50.00 lakhs for Renewable Resources of Energy, Rs.10.00 lakhs for minimum need programme and Rs.15.00 lakhs for Integrated Rural Energy programme. Thus the total provision in the NEC Plan 1986-87 for programme to be taken up under RRE Sector is Rs.75.00 lakhs and anticipated expenditure for 1986-87 is expected to be of the order of Rs.50.00 lakhs. For the year 1987-88 Rs.84.00 lakhs is proposed for the following programmes:

1. New and Renewable Resources of Energy.

3.34 The tempo of Renewable Resources of Energy development activities in the region has just gathered momentum. It is proposed to continue sponsoring programmes for setting up demonstration of equipment/devices using renewable energies in the region so as to popularise the use of such energies as substitute of conventional energy. It would be also necessary to continue support data collection, research and development activities and training programmes. The following is the break up of proposed allocation of Rs.54.00 lakhs for different activities/programmes -

(i) Establishment, consultancy and staff support.	- Rs.5.00 lakhs	
(ii) Training of Technical Personnel.	- Rs.2.00	"
(iii) Research and Development	- Rs.5.00	"
(iv) Micro Hydel Scheme	- Rs.20.00	"
(v) Pilot/Demonstrational schemes	- Rs.20.00	"
(vi) Development of manufacturing activities for Renewable Resources of Energy Equipment/Devices.	- Rs. 2.00	"
		-----
		Rs.54.00 lakhs

2. Minimum Need Programme  
(Domestic Cooking Energy Needs)

3.35 This programme has been initiated during the year 1986-87 and is proposed to be continued during the year 1987-88. Rs.10.00 lakhs is proposed for this programme during 1987-88.

3. Integrated Rural Energy Planning Programme

3.36 Integrated Rural Energy Programme is a programme developed by the Planning Commission. The main features of this programme is the preparation of an area based block level Integrated Rural Energy Planning through which optimum needs of different sources of energy, conventional and non-conventional, commercial and non-commercial are provided for different energy needs of the Rural Population. This programme was started by the Planning Commission during 6th Plan period and has been extended to the North Eastern Region during the 7th Plan period. The NEC has started this programme during 1986-87. In the Annual Plan 1986-87, Rs.15.00 lakhs has been provided for this programme. Govt. of Mizoram has already prepared a Project Report for Integrated Rural Energy Programme at Tupang Block in Chimpuitui district in Mizoram and has submitted the same for NEC support. The work of preparation of such report are in progress in some other State/UTs of the region and some of such projects may be considered for NEC support. It is considered necessary to continue this programme during 1987-88 and Rs.20.00 lakhs is proposed for this programme during 1987-88.

### III. WATER DEVELOPMENT:

#### Introduction

3.37 Irrigation is one of the most important single input for increasing agricultural production and thereby for improving economic status of a large segment of agrarian population in the NE Region. Level of development of irrigation in the past in this region has not been very significant. Because of its steep hilly terrain and narrow valley, scope for development of irrigation potentialities through major projects is rather limited. As irrigation is a very important input for increasing agricultural production, development of irrigation potentialities to the maximum possible extent through various minor, medium or even major schemes/projects will be of great importance. During Sixth Plan, NEC has started survey and investigations of a few irrigation projects that will cover/benefit more than one constituent unit for preparation of project reports. The investigations are being completed and implementation of feasible schemes/projects would be examined/considered. Brief write-up of different projects/schemes under investigation are given in the succeeding paragraphs.

#### Continuing Schemes:

##### 1. Micro-hydel-cum-irrigation in Mizoram.

3.38 The Central Water Commission undertook survey and investigation of a few micro-hydel-cum-irrigation projects to study possibilities of meeting the energy requirement of rural areas of Mizoram especially for irrigation purposes. 28 schemes in all were identified and the NEC has funded a few pilot schemes under this programme. The 7th Plan outlay for this programme is Rs.21.45 lakhs. During 1985-86 Rs.10.00 lakhs were spent for 1986-87. Rs.10.00 lakhs, the approved outlay and is expected to be utilised fully. Proposed outlay for 1987-88 is Rs.1.45 lakhs.



2. IRRIGATION PROJECTS:

3.39 The following 3 medium irrigation projects:

- i) Tiphu Down stream irrigation project, in Nagaland.
- ii) Jiri medium irrigation project in Manipur and
- iii) Tirap medium irrigation project in Arunachal Pradesh.

are to be taken up for implementation during the 7th Five Year Plan. The 7th Plan approved outlay for these 3 projects is Rs.218.39 lakhs. The preliminary investigation works pertaining to these 3 projects are being continued and funded under the Chairman's Survey. An interim reports on Jiri and Tirap irrigation submitted by the Govt. of Manipur and Arunachal Pradesh have indicated prospects of taking up the projects. However, before an investment decision is taken it is necessary to go for a detailed investigations. The cost estimates for detailed investigation projects submitted by the concerned State Govts are exceeding the ceiling of Rs.5.00 lakhs for each project, for being considered under Chairman's Survey Investigations. It is, therefore, proposed to fund the detailed investigations for these projects for the year 1986-87 as well as 1987-88 from the 7th Plan allocation made for this scheme. For the year 1986-87 an outlay of Rs.10.00 lakhs is proposed for utilisation and for the year 1987-88 an outlay of Rs.40.00 lakhs is proposed for investigation works for these projects.

NEW SCHEMES:

3. Longlai Investigation, Tripura.

3.40 This is a flood control project for the district of Cachar and a dam is proposed to be built near the Tripura-Cachar Border and is expected to be a multi-purpose, benefit nature. Under the 7th Plan, an outlay of Rs.40.00 lakhs has been approved for the scheme. The Central Water Commission has been asked to take up the investigation work. A provision of Rs.10.00 lakhs is proposed for the year 1987-88.

4. Airborne Survey on Barak River System by NRSA.

3.41 With a view to preparing a comprehensive master plan for the river system of Barak river and its tributaries. It was, proposed to carry out systematic study of the available water resources and its purposeful utilisation by Air-borne survey with the help of National Remote Sensing Agency (NRSA). The approved outlay for the 7th Plan is Rs.5.33 lakhs. A provision of Rs.5.33 lakhs was made for the year 1986-87. However, the survey could not be taken up and hence no utilisation of fund during the current year is anticipated. For 1987-88 an outlay of Rs.5.33 lakhs is proposed.

5. Institute of Water Management Resources in Assam.

3.42 The scheme envisages establishment of a Institute of Water Management and Command Area Development for the North Eastern Region to study the various aspects of Water Management including Flood Control, Irrigation and also the development of Command Areas of Irrigation Projects. The approved outlay for the scheme under the 7th Plan is Rs.131.28 lakhs. For the year 1986-87 an outlay of Rs.5.00 lakhs was provided. However, the anticipated expenditure would be of the order of Rs.2.00 lakhs as the scheme is still to be cleared by the Govt. of India. An outlay of Rs.50.00 lakhs is proposed for the year 1987-88.

6. Tsurang Irrigation Investigation.

3.43 As a preliminary survey, it was observed that there is scope for providing irrigation to areas in Nagaland and Assam by taking up Tsurang irrigation scheme in Nagaland. It was, therefore, proposed in the 7th Plan to undertake detailed investigation survey for this purpose. The Planning Commission approved an outlay of Rs. 5.00 lakhs for the purpose during the 7th Plan. Rs.5.00 lakhs was approved as an outlay for the year 1986-87 against which the anticipated expenditure is Rs.2.00 lakhs. An outlay of Rs.3.00 lakhs is proposed for 1987-88.

3.44 The plan allocation for the schemes mentioned above is indicated in the annexed statement.

WATER AND POWER DEVELOPMENT

Statement  
( Ref Para- 3.13)

( Rs. in lakhs)

Name of the Scheme	7th Plan approved outlay	1985-86 actual expenditure	1988-87		1987-88 Proposed Outlay
			Approved Outlay	Anticipated expenditure	
1	2	3	4	5	6
<b>I. <u>POWER DEVELOPMENT</u></b>		<b><u>3819.89</u></b>	<b><u>5681.00</u></b>	<b><u>4507.00</u></b>	<b><u>5993.00</u></b>
<b><u>A-GENERATION</u></b>		<b><u>2525.00</u></b>	<b><u>4360.00</u></b>	<b><u>3458.00</u></b>	<b><u>4660.00</u></b>
<b><u>ON-GOING</u></b>					
1. Kopili Hydro Electric Project	3100.00	2100.00	900.00	2500.00	900.00
2. Garo Hills Thermal Project	3000.00	-	10.00	1.00	10.00
3. Doyang Hydro Electric Project	10,000.00	425.00	1600.00	400.00	1600.00
4. Ranganadi Hydro Electric Project.	5000.00	-	1800.00	550.00	2000.00
5. Casturbine in Tripura	-	-	50.00	7.00	150.00
<b>B. <u>TRANSMISSION</u></b>		<b><u>1059.00</u></b>	<b><u>1001.00</u></b>	<b><u>751.00</u></b>	<b><u>1101.00</u></b>
<b><u>CONTINUING</u></b>			<b><u>1001.00</u></b>		<b><u>1001.00</u></b>
1. Kopili Transmission Project	10.00	9.00	1.00	1.00	1.00
2. Additional Transmission Line Project.	822.00	600.00	200.00	400.00	200.00
3. Doyang Transmission Line Project.	4000.00	450.00	700.00	250.00	700.00

(3.23)

Contd...2...

	1	2	3	4	5	6
4. 132 KV Gohpur-Itanagar Line Project			-	100.00	100.00	100.00
<u>NEW</u>		<u>500.00</u>	-	-	-	<u>100.00</u>
5. Ranganadi Transmission Line Project.		500.00	-	Nil	Nil	100.00
<u>C-SURVEY AND INVESTIGATION CONTINUING</u>			<u>235.00</u>	<u>320.00</u>	<u>298.00</u>	<u>232.00</u>
1. Loktak down stream & Tuivai Hydel Investigation.	15.17		2.42	15.00	15.00	1.00
2. Tuivai Hydel Investigation in Mizoram.	211.12		73.78	50.00	80.00	25.00
3. Barak and Irang Hydel, in Manipur.	198.85		46.00	80.00	80.00	60.00
4. Ranganadi, Damwe & Papu in Arunachal Pradesh.	63.85		22.19	30.00	30.00	25.00
5. Kynshi Basin in Meghalaya	86.18		25.00	41.00	Nil	35.00
6. Serlui 'B' & Tuirail in Mizoram	58.18		37.00	25.00	25.00	1.00
7. Dikrong Hydel in Arunachal Pradesh.	39.54		20.00	15.00	15.00	5.00
8. Residual Investigation of Kaneng.	4.00		-	3.00	3.00	1.00
9. Tipaimukh High Dam Investigation	6.00		-	5.00	5.00	1.00
10. Sedimentation Survey of Umiam reservoir	11.00		3.40	6.00	5.00	3.00
11. Other Investigation	-		-	50.00	40.00	75.00

(3.24)

	1	2	3	4	5	6
II- <u>RENEWABLE RESOURCES ENERGY</u> <u>INTEGRATED RURAL ENERGY</u> <u>PROGRAMME ETC.</u>	200.00	28.50		75.00	50.00	84.00
<u>WATER DEVELOPMENT</u>	421.45	10.00		25.33	24.00	109.78
<u>Continuing Scheme</u>						
1. Micro hydel Irrigation, Mizoram	21.45	10.00		10.00	10.00	1.45
2. <u>Irrigation Project</u>						
(a) Diphu Down Stream Irrigation -Nagaland	218.39	-		-	10.00	40.00
(b) Jiri Medium Irrigation Project, Manipur.						
(c) Tirap Medium Irrigation Project, Arunachal Pradesh						
<u>NEW SCHEMES</u>						
3. Longai Irrigation- Tripura	40.00	-		-	-	10.00
4. Air borne Survey on Barak river system by NRSA	5.33	-		5.33	-	5.33
5. N.E. Region Institute of water Management.	131.28	-		5.00	2.00	50.00
6. Tsurang Irrigation Investigation -Nagaland.	5.00	-		5.00	2.00	3.00
<b>GRAND TOTAL :-</b>			3858.39	5781.33	4581.00	6186.78

( 3.25 )

## CHAPTER - 4

### INDUSTRIES & MINING

#### A. Industries & Minerals

4.01 The efforts made during the VIth Plan for utilisation of natural resources of N.E.Region, growth of mineral-based industries and introduction of modern technology has been partially successful. The limited achievement can be attributed to the difficulties of terrain and institutional bottle-necks.

4.2 The geological resources of the North Eastern Region cover a large variety of minerals, of which the most important are petroleum, limestone and coal which can be the base for the establishment of big industries, this calls for large investment and high level technology. In the N.E. Region only the Government Organisations and Public Undertakings can at the present stage provide the necessary finance and expertise. In addition to these minerals, there are reports of small occurrences of ceramic material, clay, glass-sands, abrasive material, fertiliser rocks and refractory minerals which require limited capital and the adoption of known technology. Such industries can easily be taken up by the local residents to meet the needs of the increasing demands of pottery, glass, abrasive papers and other material required for day to day purpose. The finance required for taking up such industry are not very large and with a little support, both financial and technical, small scale units can be established. In addition, there are industries which require a higher capital than the common ones mentioned above as in the manufacture of industrial abrasives and polished tools.

The Government Undertakings can easily take up work in this field. The industry relating to metalliferous deposits such as chromite, magnetite, clay and other base metal minerals requires positive identification and establishment of reserves and would also come under large scale capital intensive industry.

4.03 The contribution of petroleum of the North Eastern Region, to the economy and industrial development of the country hardly needs mention. However, as regards the North East Region itself, apart from the limited advancement which the petroleum industry has created by providing employment opportunities to technicians, skilled and unskilled workers, its contribution to industries based on the petroleum derived product has been very little. The multi-purpose use of natural gas, and of oil refinery effluence has practically been nil and most of this highly useful by-products have been allowed to escape into the air. It is very necessary that these valuable products are also made use of, in the production of petroleum by-products and to some extent in the production of power. In the proposals for the VIIth Plan, Tripura State has come up with a demand for an Urea Plant based on the natural gas in Tripura, making use of only part of it. There is immediate need for the establishment of several industries based on this petroleum derived by-products in the region particularly in Assam.

4.04 The abundance of resources of limestone specially in Meghalaya, Assam and to a lesser extent in Nagaland and Arunachal Pradesh, can support large scale cement and lime manufacture and chemical-grade lime product industry. However,

while thinking of exploitation of these natural resources, it is very necessary to identify clearly the other raw material technology, such as <sup>as</sup> ~~and~~ <sup>and</sup> coal. The quality of most of the limestone in NE Region is such that it can directly be used in the manufacture of cement provided the technology of rotary kiln is used. A change in the technology to a VSK type obviously brings about rigidity in the raw material quality and only part of the huge resources of limestone would become suitable. While deciding on the appropriate technology for cement or lime manufacture based either on the economic operation or efficiency of operation, it would clearly be necessary to select the feed raw material required for the purpose namely coke or coal. If such an evaluation is made, it is found that the very large coal resources of the N.E. Region cannot directly be used when the technology is of a very specialised type and conversion of coal to a suitable form becomes necessary. The (three) mini-cement plants which are now nearing completion have, to some extent been delayed because of the necessary re-thinking on the technology aspect from the conventional type for which the raw material as they are available were found suitable.

4.05 The vast resources of coal in the North Eastern Region have been described and accepted as belonging to a particular type based on physical and chemical characters. The coal is generally described as highly friable, powdery, lignite-bituminous with low ash content, high volatile and sulphur contents and with a very high calorific value. While these descriptions are appropriate, by <sup>and</sup> large, they only apply as an average to the north eastern coal, but the variations



of characters in the coal would make the acceptance of the general characters as local characters unreliable. It is, therefore, essential to make an inventory of the coal occurrences starting from one end to the other in Meghalaya, Assam, Nagaland and Arunachal Pradesh giving all the characteristics, physical and chemical, wherever these coal occurrences are explored. An inventory of the secular characteristics will directly help in finding out whether the coal at a coalfield can be used for a particular industry.

4.06 The determination of the characters of geological material such as coal, clay, abrasives, glass-sands, sillimanite, kyanite and bauxite etc. is equally necessary so that their suitability for use in an industry can be judged directly. It is also equally necessary to arrange for beneficiation/conversion tests for their use in a particular industry. An inventory of this type will also be helpful.

4.07 The usefulness of preparing inventory on this lines is demonstrated by the need which has risen as regards the supply of coke breeze for the cement and lime plants. In the feasibility reports prepared for these plants, it was expected that coke breeze would be brought from Bengal-Bihar or UP or lump coal from the NE coalfield would be available. The difficulties which are now being anticipated and expected are in the transport of coal or coke breeze, the inability of the NE Coalfield to supply lump coal and unsuitability of some of the NE Region coal for conversion. As a result, it becomes necessary to arrange for R&D projects for the conversion of some of the NE Region coal. The possibility of conversion has been established on a laboratory test-scale and it is expected that the operation scale can be increased. In this context, it becomes necessary to assess the total requirements of coke breeze for the identified mini-cement and lime plants, and contemplated ones. The plant for conversion of coal to coke breeze could be set up in one of the coalfields of NE Region and arrange for a large scale

conversion plant at one of the coalfields.

4.08 One of the essential functions for the assessment of geological natural resources both as regards its quality and reserves is a continuous process of exploration which would include geological mapping, core drilling and exploratory mining. The programme of such exploration specially for limestone and coal in the NE Region is being carried out by the GSI and the concerned State Departments of Geology or Mineral Resources. In continuation of the preliminary exploration by these organisations, it becomes necessary to carryout detailed exploration on similar lines to establish the quality and reserves for opening of mines or for identifying the material for a particular industry, and NEC is arranging and sponsoring such detailed work.

4.09 As a sequence to the identification of geological raw material which would sustain an industry it would become necessary to arrange for feasibility studies for the establishment of the mineral-based industry. In this connection, the availability of large reserves of limestone, of mineable coal near vicinity, and of electric power close by at Siju in Garo Hills, Meghalaya makes it possible to think in terms of a very large cement plant, which would even be of the capacity of one million tonne<sup>per</sup> year. Feasibility studies for accurately demarking and defining the raw material in terms of quality and quantity and of the infrastructure are being arranged. In addition, similar raw material conveniences and infrastructure present near Umrangso in N.C.Hills, Assam also leads to the conclusion that feasibility studies for the setting up of a million tonne cement plant could be taken up.

4.10 As regards the natural resources available for paper manufacture there is abundant bamboo and other suitable forest vegetation. In order to evaluate the possibility of putting up paper mills, an expert

group set up by NEC for the development of paper industry in the NE Region carried out resource and infrastructure survey. Its conclusions are that several concessions would have to be provided for economic operation of the most justifiable 30 tpd mini-paper plants. It also suggested the preparation of feasibility report for five areas namely, Tirap district in Arunachal Pradesh, Garo Hills in Meghalaya, Tripura, Mizoram and Manipur. Several difficulties have been encountered while identifying infrastructure and the probable cost. The mini-paper mills may not or not be viable because of various factors.

4.11 One of the common endemic diseases of the NE Region is goitre caused by deficiency in iodine metabolism. The iodisation of common salt used in source has been found to be an effective measure amongst this disease and efforts of WHO need hardly be mentioned. During the Vith Plan, NEC had recommended the establishment of six salt iodisation plants. But the decision of the Govt. of India to open this field to private sector only last year has lead to a situation where private entrepreneurs are not taking sufficient interest in putting up the iodisation plants. In view of the urgent need for containing this disfigure in disease, it is proposed to carry out feasibility studies initially and to set up the plants.

4.12 While sponsoring the establishment of mini-cement plants in the NE Region during the Vith Plan, the programme of getting the technicians from the region trained in the operation and maintenance of the cement plant was also arranged. This training took place at the successfully operating mini-cement plants in Karnataka and Madhya Pradesh. The required number of technicians for the three mini-cement plants have been trained.

4.13 One of the main requisities for proper identification of the physical and chemical characters of geological material is a well-equipped, petrology and

analytical laboratory. Vast improvements have been taken place in designing instrumental techniques of analyses which take much less time and give more definitive results. The present proposal of the geology of Nagaland for addition of equipment is justifiable, but it could be converted into a regional laboratory where geological material from other units can also be analysed and identified.

4.14 In pursuance of the general outline mentioned above, the schemewise details of approved proposal included in the NEC 7th Five Year Plan is given in following paragraphs.

#### Detailed Mineral Exploration and Proving

4.15 In assessing the reserves of the geological raw material either coal or of limestone and the quantum of detailed work to be carried out to establish such reserves, the data generated by the GSI and the concerned department of Geology or Mineral Resources has been used as the base. As a result of detailed work further carried out under NEC sponsorship in the coalfields/limestone either the final picture in terms of quality and quantity has emerged or a justification for further detailed work in adjoining areas to enhance the reserves because of the promising nature. All the investigations which are now listed under the detailed mineral exploration and proving are based on the information obtained till now. In all cases, the objective is either to trace the extension of valuable coal or limestone in adjoining area or establish the continuity of such a reserve within the known area. While deciding to carry out the required investigation the actual task could be entrusted to Mineral Exploration Corporation, Central Mine Planning and Design Institute, Cement Corporation of India or the Department of Geology and Mining or Mineral Resources in which the deposit is located. The financing of the investigation by NEC

through those organisation is subject to time-schedule, monitoring and submission at regular from the entrusted organisation.

#### COAL

4.16 The tertiary coalfields which are located in Assam and in Arunachal Pradesh are the most extensive in the NE Region and deserve special attention because of the accessibility and transport conditions. The coal formations of both these units belong to the same geological horizon, which extend beyond the limits of the known coalfields. These areas are covered by soil or alluvium and coal seams are not visible. This may also be due to geological and structural patterns which may be responsible for their occurring at greater depth than in the coalfield.

#### Continuing Schemes:

4.17 The following schemes under the detailed minerals investigation and proving have been completed.

- i) Siju lime & Coal exploration, Meghalaya.
- ii) Borjan Coal Exploration, Nagaland.
- iii) Dilli-Joypore Coalfield, Assam.
- iv) Bokajan Lime Stone.
- v) Namchik-Nampuk Coalfield, Arunachal Pradesh.

To clear pending liabilities an amount of Rs.1.00 lakh is proposed for the year 1987-88.

#### 1. Lanqrin Coal Investigation, Meghalaya.

4.18 The proposed 7th Plan outlay for this project is Rs.50.00 lakhs. Though the work was started in August'85, no expenditure could be incurred during the year 1985-86 due to non finalisation of agreement. As per the agreement the work is to be completed by the end of July'87. The approved outlay for the scheme for 1986-87 is Rs.18.00 lakhs against which the anticipated expenditure is assessed at Rs.34.00 lakhs. Taking into account the balance work is to be done during 1987-88, provision of Rs.16.00 lakhs is proposed for 1987-88.

2. Makum Coalfield, Assam.

4.19 The Makum Coalfield Investigation was approved at an outlay of Rs.99.50 lakhs and the investigation was entrusted to CMPDI. The approved outlay on the scheme for the 7th Plan is Rs.29.98 lakhs. Upto the end of the year 1985-86 an amount of Rs.83.40 lakhs was spent. The approved outlay for the scheme for the year 1986-87 is Rs.5.00 lakhs and will be utilised to clear the liabilities as the work has been completed in February, 1986.

New Schemes:

3. Jairampur Coalfield, Arunachal Pradesh.

4.20 The approved outlay for the project during the 7th Plan is Rs.40.00 lakhs. A provision of Rs. 5.00 lakhs was approved for the year 1986-87. The Mineral Exploration Corporation was requested to obtain coal data at possible coal extensions but still the project is not yet finalised. Therefore, no amount will be spent during the year 1986-87. However, an amount of Rs.5.00 lakhs is proposed for 1987-88.

4. Extension of Namchik Coalfield, Arunachal Pradesh.

4.21 The approved outlay for the scheme during the 7th Plan is Rs.35.00 lakhs and a provision of Rs.12.00 lakhs was made for the year 1986-87. The proposal is being finalised and no expenditure is anticipated during 1986-87. An outlay of Rs.10.00 lakhs is proposed for 1987-88.

5. Dilli-Joypore Coalfield, Assam.

4.22 The Dilli-Joypore coalfield is located in Sibsagar and Dibrugarh districts near the town of Joypore. It has been traced over a strike length of 10 Kms an average width of 0.8 Kms. The coalfield is divided into two parts by the river Dilli. The western one is called Dilli sector and the eastern one Joypore sector. NE coalfields are mining in the two sectors but the coalfield can be expected to

continue beyond the present known area. Exploratory work carried out during the Vith Plan has shown the existence of a coal seam 18 metres in thickness.

4.23 The exploratory work carried out during the Sixth Plan by NEC and Department of Geology & Mining, Assam has established the continuity of the basal coal seam which reaches a thickness of 18 meters at places. The quality of coal, which is similar to that of Makum coalfields, and the reserves conjectured as the earlier exploratory work has encouraged Coal India Ltd. to intensify the drilling for delineation of mining blocks, and for obtaining mining licence in the adjacent area. It is proposed to explore the westward continuation of the Dilli sector of the coalfield. This may add valuable reserves in an unexplored area. The allocations for 7th Plan is Rs.35.00 lakhs and Rs.12.00 lakhs has been approved for 1986-87 Plan and will be utilised fully. An amount of Rs.5.00 lakhs is proposed for the year 1987-88.

6. New Umrangsho, NC Hills, Assam.

4.24 The limestone occurrence of New Umrangsho, NC Hills, Assam is located in the extensive limestone bearing geological formation which forms the hills of Meghalaya and southern part of Assam. The limestone is suitable both for cement manufacture and for chemical-grade lime when beds within the limestone are specially selected and mined for this purpose. The coal seams occurring below also require exploration to find out if sufficient reserves of coal, and viable thickness of seams are present and can be used for the cement and lime manufacture.

4.25 As a result of geological mapping and exploration carried out in connection with the feasibility studies for the lime plant and cement plant, about 10 million tonnes of the required grade of limestone has been identified in (indicated-proved) category. In order to make an estimate of the reserves and the grade

which will be required for setting up a much larger cement plant and for an extended capacity of the lime plant is proposed to carry out exploration by drilling at widely spaced intervals to locate the extension of suitable bands and at closer spaced drill holes for delineating the required grade of limestone band and the quality. It would also be necessary to carry out certain amount of geological mapping on a large scale as a preliminary requisite for exploration by drilling.

4.26 It is proposed to carry out drilling in part of the area, to be covered by reconnaissance geological mapping to establish about 100 million tonnes of limestone resource and at the same time arrange a feasibility study for the establishment of a million tonne cement plant. A sum of Rs.25.00 lakhs for carrying out drilling is approved for 7th Plan and Rs.8.00 lakhs has been approved for 1986-87 Plan and the same will be utilised fully. An amount of Rs.3.00 lakhs is proposed for 1987-88.

7. Nimmi, Tuensang district, Nagaland.

4.27 The approved outlay for the project during Seventh Plan is Rs.24.00 lakhs. The revised scheme submitted by Government of Nagaland requires funds more than the double than the provision made in the Seventh Plan. The proposal is being examined for clearance. The approved outlay of Rs.5.00 lakhs for the year 1986-87 will be utilised. A provision of Rs.10.00 lakhs is proposed for the year 1987-88.

8. Detailed investigation of high grade limestone in Lumshnong North Block, Jaintia Hills Meghalaya.

4.28 The approved outlay for the scheme during Seventh Plan is Rs. 16.00 lakhs and approved provision of Rs.4.00 lakhs has been made for the



year 1986-87. The project is not yet finalised and as such no expenditure is anticipated during 1986-87. However, an outlay of Rs.7.5 lakhs is proposed for the year 1987-88.

9. Exploration for ground-water in Mizoram.

4.29 The requirement of funds for the project during Seventh Plan will be of the order of Rs.50.00 lakhs. A provision of Rs.8.00 lakhs was approved for 1986-87. The scheme is being finalised for sanction and therefore, the approved outlay of Rs.8.00 lakhs will be utilised. An outlay of Rs.10 lakhs is proposed for the year 1987-88.

LARGE AND MEDIUM INDUSTRIES:

Continuing Schemes:

10. Wazeho Mini-Cement Plant (50 tpd), Nagaland.

4.30 The plan was approved in July, 1982 with a capital outlay of Rs.140.00 lakhs. Till March, 1986 an expenditure of Rs.135.50 lakhs has been incurred. An approved outlay of Rs.21.50 lakhs was made during the Seventh Plan. The revised proposal from NEITCO has been received with project cost of Rs. 227.76 lakhs. The proposal is being sent to the Planning Commission and the concerned Ministry for technical clearance. Against the approved outlay of Rs.8.00 lakhs and anticipated expenditure during the year 1986-87 is being Rs.35.00 lakhs. An amount of Rs.57.26 lakhs has been proposed for 1987-88.

11. Hundung Mini-Cement Plant (50 tpd), Manipur

4.31 The plant was approved within a capital outlay of Rs.175.00 lakhs. Till March, 1986 an expenditure of Rs.158.67 lakhs has been incurred.

The approved outlay for the Seventh Plan was Rs.40.80 lakhs and approved outlay for the year 1986-87 is Rs.5.50 lakhs. The project was initially approved for capital outlay of Rs.175.00 lakhs. However, the NEITCO has now submitted the revised proposal for Rs.260.64 lakhs. The proposal has been submitted to the Planning Commission and the concerned Ministry for technical clearance. As the work is expected to be completed by March, 1987 the anticipated expenditure during the year 1986-87 is Rs.40.00 lakhs and an outlay of Rs.7.97 lakhs for 1987-88 is proposed.

12. Umrangsho Mini-Cement Plant (200 tpd).

4.32 The Project to be a non-starter as environmental clearance for the plan site has not so far been given and in the meantime project cost has also gone up by 100%. It appears that the project is not feasible at this stage. As such the provision of Rs.20.00 lakhs made for the year 1986-87 may not be utilised. However, a token provision of Rs.1.00 lakh is proposed for 1987-88.

13 & 14. Paper grade lime plants (200 tpd), Lumshnong, Meghalaya and Umrangshu, Assam.

4.33 The approved outlay during 7th Plan for these projects is Rs.10.00 lakhs and Rs.1.00 lakh respectively. A token provision of Rs.1.00 lakh each was approved for 1986-87. During the year 1986-87 no expenditure is anticipated against these plants. As for new Umrangshu plant the HPC set up a captive plant while for Lumshnong, the Govt. of India has not <sup>agreed</sup> to give an industrial licence as this item is reserved for exclusive manufacture in SSI sector. The matter is still being pursued with the Government of India and as such there is likelihood of taking up this project during 1987-88. An amount of Rs.5.00 lakhs each is proposed for these projects during 1987-88.

Raw Material Investigation for specific Project.

15. Glass-sands, Clays, Garnets, other  
abrasive material and refractories.

4.34 While considerable attention has been given to geologic raw material, which can sustain large scale industries, minor minerals, which can be the base for several small scale industries, have not been investigated in details. Apart from the uncertainties regarding grade and reserves, systematic tests have also not been carried out to find out if they can be used directly or after beneficiation and conversion.

4.35 A number of occurrences of glass-sands have been reported from the region, the most well known of which are in Meghalaya and Tripura. These glass-sands are reported to contain 99.36 to 99.44% Silica in Meghalaya and 91.45 to 99.15% Silica in Tripura. These glass-sands may be used in the manufacture of market glass, if not found suitable for industrial glassware.

4.36 Similarly, a large number of occurrences of China clay or ordinary clay has been reported from a number of places in the region. Some of them have been tested but they have been reflected as being unsuitable for white table ware. While this evaluation has been made only for high purity products, their uses in several non-whiteware, sanitary ware and other non-specific purposes, have not been attempted. The use of non-porcelain clay for the manufacture of bricks has been received scant attention.

4.37 Garnets, and other minerals, which can be used in the manufacture of household abrasive papers are also known to occur in many places but detailed investigations have not been carried out. Other requirements such as paper and binding material are available easily and small scale industries can be set up, without need for high technology.

4.38 A number of occurrences of refractory minerals have also been mentioned but have not been investigated in detail. High grade S.M.S. quality limestone also occurs in part of the large reserves of limestone.

4.39 It is proposed to give the required attention to the occurrences of such minor minerals, arrange for field evaluation in terms of grade and reserves, and for beneficiation or conversion tests. While the national institutes have the facility for carrying out tests on raw material, the field evaluation will be arranged through national exploration agencies or through the concerned departments of Geology and Mining. The initial stage of making a list of known occurrences of useable minor mineral occurrences, the present-day status of knowledge on such deposits, and the identification of -(a) the field work necessary for calculating the reserves and grade; and (b) of the laboratory tests for beneficiation or conversion has begun and it is expected that towards the end of plan period, industries based on minor minerals will come up. An outlay of Rs.15.00 lakhs was approved for the 7th Plan. Mineral Exploration Corporation has been requested to submit a scheme.

#### 16. Sillimanite & Kyanite, Assam & Meghalaya.

4.40 Refractory grade sillimanite has been mined in Meghalaya for a considerable time. The richer deposits of sillimanite are being rapidly depleted, and it would be necessary, in the interest of conversion of scarce minerals, to find out if the sillimanite in the rock can be beneficiated. Sillimanite deposit occur in Sonapahar and Nongstoin in Meghalaya and Chingsinalla area in Karbi Anglong district of Assam.

4.41 Samples have already been collected by the State Dept. of Geology and Mining and Mineral Resources of the two States and some difficulties have been experienced in arranging for beneficiation tests. An amount of Rs.8.00 lakhs was approved for 7th Plan. The scheme is being finalised.

17. Beneficiation Test on Garnet and Other  
Minor Abrasive Minerals.

4.42 Garnet, quartz and some of the other common minerals which occur in the rock formations in almost all the units of the NE Region, can be used as raw material for the manufacture of minor abrasive paper commonly used for polishing of wood. This can be put under cottage industries and the other necessary raw material such as thick paper and organic bonding material can easily be obtained from the natural vegetation of the region.

4.43 Detailed studies of the occurrence of such suitable geologic material have not been carried and it would be necessary to obtain some data on them and also arrange for the required tests. Total outlay approved is Rs.24.00 lakhs for Seventh Plan. The scheme is being finalised in consultation with C.G. C.R.I.

18. Feasibility studies and project report  
for a million tonne cement plant in  
Umrangsho N.E. Hills, Assam.

4.44 The extensive deposits of limestone in Meghalaya and Assam, classified as Sylhet limestone of Jaintia formations have been mapped by the GSI during their systematic mapping. Detailed exploration of parts of the limestone formations has been carried out mainly for meeting the requirements of cement and lime plants. Two cement plants, one in Meghalaya at Cherrapunji, and the other at Bokajan in Assam, are located where such detailed investigation have been carried out. One mini-cement plant at Umrangsho in Assam and two lime plants, one at Umrangsho in Assam and the other at Lumshnong in Meghalaya have been planned and included in the 6th Plan proposals. These have been held up because of other factors.

4.45 The Jaintia, limestone in its bulk composition

is suitable for cement manufacture, where the conventional rotary type of plants are contemplated. However, when the technology is changed to a vertical shaft kiln type as in mini-cement and lime plants, only certain bands in the deposits possess the required quality and selective mining has to be resorted to. In addition to a reduced reserve position, mining patterns employing selectivity have to be adopted.

4.46 Besides, the restriction of the reserves of limestone to lesser amounts, the change of technology, at present, to a vertical shaft kiln calls for a selected quality of coal, with limited sulphur and ash content, and a physical property different from the highly crushed common type of coal characteristics of N.E. Coal. Conversion to coke or coke breeze becomes necessary. At present the simplest technology of conversion of coal to coke, which involves destruction of coal with no attendant by-product recovery, has to be adopted because of lack of facilities for use of by-products.

4.47 In view of the difficulties experienced in setting up vertical shaft kiln cement plants, requiring specially converted coal and in the transport of cement in the region, it is considered more effective to manufacture clinkers of a central large plant and transport the clinkers to grinders set up near places for use.

4.48 The resources necessary for contemplating such a large cement plant, of the capacity of a million tonne per year, appear to be present in the N.C. Hills, New Umrangsho in Assam. In this area the reserves of limestone suitable for cement manufacture are large, water and power sources are adequate, transport and communication over flat country mostly are easy. Coal can easily be brought by railway to Lanka from the Upper Assam Coalfields or if the reserves of coal seams present below the limestone beds, are large they can easily be mined.

4.49 It is, therefore, proposed that a feasibility study for the establishment of a one-million tonne cement clinker plant at Umrangsho be taken up. The study calls for the identification of -(a) limestone to the extent of about 100 million tonnes, (b) characteristics of limestone in terms of Cao, R2O3, silica, and alkalis, (c) benchwise evaluation of reserves and quality, (d) infrastructure facilities, and (e) possibility of mining coal seams in the area below the limestone as also alternative to obtaining coal from the organised coal mines of Upper Assam. A programme of exploration of limestone in the area has been included in the 7th Plan, with an outlay of Rs.30.00 lakhs for establishing reserves to the extent of 100 million tonnes expected to be completed by 1988-89. The feasibility studies should identify any specific need for drilling or sample collections of limestone, coal and clay on which all the required tests would be carried. The feasibility studies would conclude only after the detailed investigations are completed. In other words, the feasibility study with concurrent exploration, should lead to a definite project report which would identify the technology and its details. The proposal calls for an identification of all requirements at the first instance, leading to the fulfilment of the requirements.

4.50 For the above schemes at 1 to 4, Rs.10.00 lakhs has been provided for 1986-87. Since the schemes are yet to be finalised no expenditure is anticipated during 1986-87. A provision of Rs.10.00 lakhs is proposed for 1987-88.

19. Feasibility studies for chemical-grade limestone.

4.51 During the investigation being carried out for identifying limestone, suitable for the manufacture of cement, the analyses of certain samples show that the limestone can be used for the manufacture of chemical grade limestone. It has also been noticed that some of these bands are continuous and may lead to the establishment of chemical-grade limestone reserves which can be exploited.

4.52 It is proposed to arrange a study of all the analyses of limestones, carried out during exploration to find out if continuous bands of chemical-grade limestone could be established. After identification of these bands it would be necessary to get bulk samples analysed from the limestone occurrences. A provision of Rs.5.00 lakhs has been requested. Rs. 2.00 lakhs during 1987-88 and Rs.3.00 lakhs during 1988-89.

R&D Projects for industrial utilisation of regional raw material.

New Schemes.

20. Low temperature carbonisation of NE Coal.

4.53 The tertiary coals of the NE Region are unsuitable for certain purposes, but an exceptionally high volatile content may be of use of low temperature carbonisation, and the sulphur may be extracted. It is proposed to arrange for laboratory scale studies for such items in the VIth Plan with a provision of Rs.10.00 lakhs and Rs. 2.00 lakhs approved for 1986-87. RRL, Hyderabad have agreed to carry out the task and MIDC has sent 100 Kgs of coal for laboratory studies. The approved outlay of Rs.2.00 lakhs will be utilised during 1986-87. An outlay of Rs.4.00 lakhs is proposed for 1987-88.

21. Fluidised bed technology for NE Coal.

5.54 NEC had arranged for this R&D through the Regional Research Laboratory, Jorhat in the 6th Five Year Plan. The results of the work carried out by RRL in collaboration with BHEL are awaited. In continuation of the results of the controlled combustion of coal with associate by-products some more followup may be necessary before it can be established as an industry. A provision of Rs.10.00 lakhs & Rs.2.00 lakhs has been made for 7th Plan and 1986-87 Plan respectively. The proposals have been received from RRL, Jorhat and are being sent to the concerned Ministries of Govt. of India for technical



clearance. No expenditure is anticipated during 1986-87. A provision of Rs.2.00 lakhs proposed for 1987-88.

22. Flue gas desulphurisation.

4.55 In most of the conversion techniques used on coal, the escaping flue gas can be used as a base for hydro-carbon products, but the sulphur content is a deleterious. In the proposal for R&D on this item, it is expected that the sulphur also can be extracted in addition to making the flue gas useful. The laboratory scale test has been envisaged in the proposed idea during 1986-87, and a provision of Rs.1.00 lakh has been approved for 1986-87 with a approved outlay of Rs.5.00 lakhs for 7th Plan. The proposal received from RRL, Jorhat is being processed. No expenditure is anticipated during 1986-87. A provision of Rs.1.00 lakh is made for 1987-88.

23. Compendium on Physical and chemical characteristics of the NE tertiary coal.

4.56 The general characteristics of the NE tertiary coal are generally well known, but the secular variations in the constituent characters have not been specifically identified. As a result, it becomes necessary to carry out special test and analysis when the coal from a particular area has to be selected for any industry.

4.57 It is, therefore, proposed that a compendium giving the characteristics of the coal at regular intervals along all the coal belts may be prepared from the data which already projected. The exploration work is being carried out by CCI through CMPDI, GSI, MEC, CFRI, individual coalfields and other organisations, and it would be necessary to identify an organisation which can collect all the data and supplement by collecting systematic samples and analysing them. The scheme essentially calls for a compilation from the literature present in all the reports of exploration and exploitation followed by any tests which are necessary. CMPDI

which has such data on various coalfields of India may be entrusted with the task of preparing such a report which specifically shows the characteristics at located coal occurrences on the belt. An outlay of Rs.30.00 lakhs has been approved for 7th Plan and Rs.15.00 lakhs for 1986-87 has been approved. Proposal is being finalised. No expenditure is anticipated during 1986-87. An outlay of Rs.15.00 lakhs is proposed for 1987-88.

24. Setting up of a Chemical & Petrological Laboratory, Dimapur, Nagaland.

4.58 The exploration which is being carried out in all the units of States justify the setting up of a chemical and petrological laboratory in any one of the units of NE Region to meet analytical needs of all of them. At present departments of Geology and Mining are present in only three states - Assam, Meghalaya and Nagaland, and in the other units the work is being looked after by the Industries Deptt. Facilities for such work are available to some extent in the States, but it would be advantageous to consider setting up a much better equipped laboratory, to take care of the needs of physical and chemical analyses of the samples collected during exploration on the units. The location at Dimapur is justifiable, and a qualified scientist working in the department may be trained in the operation of the instruments.

4.59 While presenting proposals, the DGM, Nagaland has not provided the financial requirements, but an assessment has been made. The study of geological material is carried out under two categories - 1) identification and physical characters of the constituent materials, and 2) chemical composition of the total material requiring the use of suitable equipment. For the physical character studies are automatic section cutter and grinding machine, scanning photograph and polarising microscope. The equipment will have to be imported and the cost will be about Rs.12.00 lakhs.

4.60 For chemical analyses and for determination of the mineral plan, it would be better to make use of an X-ray fluorescence and diffractometer unit. The expected cost of the equipment, which has to be imported, will be Rs.15.00 lakhs.

4.61 The total expenditure for the required laboratory equipment will be about Rs27.00 lakhs, in foreign exchange, and the expenditure for the modification of an air-conditioning and air renewal will be another Rs.7.00 lakhs. Approved outlay for the scheme in 7th Plan is Rs.33.00 lakhs. Rs.3.00 lakhs has been provided for 1986-87 Plan and will be utilised fully. The scheme is at the last stage of finalisation. An outlay of Rs.10.00 lakhs is proposed for 1987-88.

#### Pilot and Industrial Plants.

##### 25. Coke breeze Plant '30,000 tonnes capacity' to meet the requirements of VSK cement and lime Plants.

4.62 Mini-cement plants which are based on VSK technology and lime plants which are entirely based on the VSK technology require coke breeze or lump coal with very low sulphur content. It has been found that the coke breeze supply which is expected from outside the NE Region uncertain because of difficulties of rail transport. In view of the uncertainties regarding such transport and the inability of the NE Coalfields to provide HP lump coal, it is proposed to set up a coke breeze plant at one of the coalfields in NE Region. The R&D carried out by RRL, Jorhat at the behest of NEC, has shown that the conversion of NE coal can be carried out in a beehive coke plant. This was demonstrated on a very small scale, but by appropriate devices it can be increased to an industrial plant, of capacity of 100 tpd. The large scale mining and other facilities available show that Margherita coalfields can be selected for establishing the plant, and that coal can be obtained from the same coalfield. An assessemnt of the requirements of the three mini-cement plant

(Wazeho, Nagaland - Hundung, Manipur - and Tezu, Arunachal Pradesh) and the proposed lime plant at Umrangsho in Assam shows that about 25,000 tonnes of coke breeze would be required annually. The development work carried out by RRL shows that about 70,000 tonnes of coal would be required for conversion to 25,000 tonnes of coke breeze. The requirements of direct coal using mini-cement plants of the rotary type to be set up at Umrangsho can be supplied by the ROM coal from Margherita coalfield. After the conversion of coal to coke breezes in the Margherita about 2000 tonnes of coke breezes could be directly transported by road for the Siju plant, 4000 tonnes each for Hundung and Wazeho by rail transport to Dimapur from where they would be carried by road, 15000 tonnes by rail transport to Lanka from where it would be transported by road to Umrangsho.

4.63 For establishing a 100 tonne capacity of coke breeze an outlay of Rs.166.00 lakhs has been proposed. It was also considered necessary to carry out pilot plant studies which can be stepped to the required output, on an enhanced design. The feasibility report with attendant pilot scale studies were to be carried during the first year. Rs.5.00 lakhs were approved for 1986-87. NEITCO has been assigned to prepare feasibility studies. These are expected to be completed during 1986-87. An anticipated expenditure during 1986-87 is Rs.0.50 lakhs. An amount of Rs.15.00 lakhs is proposed for 1987-88.

#### 26. Plants for Iodisation of Salt.

4.64 During the 6th Plan NEC had some proposals for the establishment of plants for the iodisation of salt, recognised as a very simple remedy for the endemic disease of goitre prevalent in some of the areas of NE Region. NEC had also proposals to arrange the feasibility studies for three iodisation plants in Arunachal Pradesh, Meghalaya and Tripura at the rate of Rs.35,000 each. While correspondence was going on with the Salt Commi-

ssioner, Govt. of India decided on 6th June, 1983 to throw open the iodisation of salt to private sector. As a consequence, a number of applications were received by the Salt Commissioner who also informed that it cannot be ascertained as to how many parties would actually set up the plants, and also at what quantity of iodised salt in the private sector would be available soon after.

4.66 This scheme is not picking though assistance has been offered to Govt. of Mizoram. Expenditure is anticipated during the current year. A token provision of Rs.1.00 lakh is proposed for 1987-88.

#### 27, Cement Clinker grinding units, Mizoram.

4.66 The constant shortage of cement resulting both from allotment, distribution and transport uncertainties has prompted the Government of Mizoram to think in terms of establishing a cement clinker grinding unit in Mizoram. The obvious advantages are that the clinker can be transported in bulk and does not require the intensive care required for packing or transporting. In addition obtaining transport for bulk movement is easier than for small packages. Government of Mizoram is of the opinion that if cement clinkers is made available from any of the cement plants in the NE Region, there would be better distribution of cement. Establishing a cement clinker grinding unit requires adequate electric power and the transport of gypsum for the final production of cement. Govt. of Mizoram is confident of supply of adequate power.

4.67 The proposed work has been categorise under- 1) feasibility of studies for the setting up of clinker grinding plant alongwith the identification of gypsum required and all other infrastructure facilities, 2)

identifying the source for cement clinker either within the region or from outside. A provision of 40 lakhs of rupees will be required for establishing a 50 tpd grinder unit along with other facilities in Mizoram. An outlay of Rs.5.00 lakhs has been made for 1986-87 for preliminary studies and facilities. The estimated requirement for 7th Plan is Rs.40.00 lakhs. No scheme has been received from Govt. of Mizoram though NEITCO had sent proposal to them. No expenditure is therefore anticipated during 1986-87. An outlay of Rs.5.00 lakhs is proposed for 1987-88.

28. Pilot plant beneficiation test.

4.68 This scheme is expected to be a sequence to the data that would be collected for determination of the physical and chemical characteristics of N.E.Coal. During the compilation of the data on the secular variations of coal characteristics, cases may come up where the conversion of the coal to suitable form make it useful for a specified industry (Power, hydro-power by-products, mineral-based industry). Tests for such conversion may be carried out on samples collected specially for this purpose. During the investigations also for coal, it may become necessary to arrange for conversion tests on laboratory or pilot plant size. Rs.25.00 lakhs has approved for 7th Plan. The scheme can be taken up only after the work connected with the determination of physical and chemical characteristics of North-East Tertiary coal is completed. This work is expected to be taken up during 1988-89.

B. Village & Small Scale Industries

SERICULTURE

1. Establishment of Mulberry Nursery-cum-Chowki Rearing Centre, Tripura.

4.69 The North Eastern Region has not been able to meet the demands of Mulberry Silk and to meet this shortage large quantities of silk is being imported from Karnataka at a huge cost every year. It is necessary to improve quality of cocoon, Chowki Rearing Centres and Nurseries with Rearing Houses. During the 6th Plan period such centres have been established at Bagafa, Udaipur and Kailashahar at an estimated cost of Rs. 24.15 lakhs. 232 families have taken up mulberry cultivation. Already 98 hectares of land including farm area has been brought under mulberry cultivation but the project could not be completed during the 6th Five Year Plan. The main work to be taken up during the 7th Plan is construction of 3 Rearing Houses. An expenditure of Rs. 18.72 lakhs was made up to the end of the 6th Plan. Rs. 9 lakhs has been approved for the 7th Plan for continuation of the scheme. An amount of Rs. 4.50 lakhs was spent during the year 1985-86. An amount of Rs. 4.80 lakhs has been approved for the year 1986-87 and will be utilised. Rs. 1 lakh are proposed for the year 1987-88 as an outlay.

2. Establishment of Muga Plant and Oak Plant Nursery in Arunachal Pradesh

4.70 Arunachal Pradesh has the potential for the development of Muga and Oak activities and during the 6th Plan a scheme was sanctioned for Rs. 25.76 lakhs. The project could not be completed during the 6th Plan and has been extended during the 7th Plan with an approved outlay of Rs. 10.5 lakhs. During 1985-86, Rs. 0.27 lakhs were spent. Approved outlay for the year 1986-87 is Rs. 1 lakh and will be utilised. The physical programme of work under the scheme was to develop 20 hectares of land, construction of staff quarters, purchase of seeds and agriculture equipment etc. These targets have not yet been completed and work will continue till 1987-88. Rs. 1.00 lakh is proposed for the year 1987-88.

3. Establishment of Mulberry Nursery-cum-Chowki Rearing Centre, Arunachal Pradesh

4.71 Mulberry sericulture activities are new developments in Arunachal Pradesh and there is good scope for carrying out this programme. One scheme was sanctioned during the 6th Five

Year Plan at an estimated cost of Rs. 8.05 lakhs. Rs. 2.50 lakhs has been approved for the 7th Five Year Plan. Rs. 1.95 lakhs were spent during 1985-86 and for the year 1986-87 Rs. 1 lakh has been allocated and will be utilised. Rs. 1 lakh will be required for the year 1987-88 to complete the establishment of this centre.

#### New Schemes

#### 4. Establishment of 3 Reeling Units in Assam

4.72 Assam enjoys the unique distinction of having suitable climatic conditions for the production of silk and has been found to be one of the leading States for silk Industry. However, there has not been much development for reeling facilities with modern techniques. With the introduction of new type of reeling machine at district level within easy reach of the village rearers, the growers will find an easy access to a ready market. The establishment of reeling units will encourage more development in sericulture activities in the villages. The Govt. of Assam has proposed to establish 3 Reeling Units during the 7th Plan period. The Reeling Units will be set up in 3 districts in Assam which would be producing 2,88,000 Kgs of reeling cocoons.

4.73 The requirement of funds for 1 Reeling Unit is Rs.11.30 lakhs. Since 3 Reeling Units will be established the estimated cost during the 7th Plan period is Rs. 33.90 lakhs. The 7th Plan allocation for this scheme is Rs. 8 lakhs. It is essential to have 3 Reeling Units to utilise the production of 2,88,000 cocoons. The additional funds of Rs. 21.90 Lakhs will be needed during the 7th Plan period. The approved outlay for 1986-87 is Rs. 3.00 lakhs and expected to be utilised fully. The scheme is awaiting approval of CSB. The requirement of funds for the year 1987-88 is Rs. 3.00 lakhs.

#### 5. Scheme for modernisation of mulberry silk Reeling unit in the State of Meghalaya.

4.74 Work in mulberry silk reeling in the State of Meghalaya has been hampered by the lack of modern improved technology particularly due to the non-existence of modern reeling machinery for quality production of raw silk. It is necessary to equip the



existing reeling units in the State with up-to-date machines. State of Meghalaya has therefore, drawn up a scheme for modernisation of silk reeling in order to step up production of good quality raw silk from the present level of  $\frac{1}{2}$  ton to 1.5 tonnes annually. The project consists of setting up of a small viable silk reeling unit at an estimated cost of Rs. 20 lakhs during the 7th Plan period. The approved 7th Plan outlay for this scheme is Rs. 3 lakhs only and Rs. 2 lakhs for the year 1986-87. An anticipated expenditure for the year 1986-87 is Rs. 8.00 lakhs. An outlay of Rs. 12.00 lakhs is proposed for 1987-88.

6. Establishment of Silk Reeling, Spinning, Weaving Training-cum-Production Centre at Kolasib in the State of Mizoram.

4.75 Sericulture provides employment opportunities to the rural population to enable them to increase the income as a subsidiary industry. During the 6th Plan a sound base has been created in sericulture development and has to be geared up to gather further momentum. This scheme aims at strengthening of the administrative set up in sericulture, increase of seed production, establishment of a training centre and development of sericulture marketing. The Govt. of Mizoram has proposed this project at an estimated cost of Rs. 15 lakhs during the 7th Plan period. Rs. 15 lakhs is the approved outlay for 7th Plan and Rs. 2 lakhs for the year 1986-87 and is expected to be utilised. Proposed outlay for 1987-88 is Rs. 5.00 lakhs.

7. Establishment of an Integrated Reeling and Twisting Unit in the State of Nagaland.

4.76 Great importance has been given for the development of mulberry culture in the State of Nagaland for the production of 8000 to 10000 Kgs of raw silk during the 7th Plan period. Silk is currently being produced by reeling in Charkha Cottage Basin scattered in various places of the State. The Charkha Machines produce poor quality of silk which does not have a good market. The Govt. of Nagaland now proposes to develop this industry in an intensive manner by the establishment of a mulberry silk reeling unit at an estimated cost of Rs. 64.13 lakhs for production of grade silk of uniform quality during the 7th Plan. The allocation for the 7th Plan is Rs. 3 lakhs only and Rs. 1 lakh is the outlay for the year 1986-87 and will be utilised fully. Rs. 1.00 lakh is proposed for 1987-88.

8. Silk Reeling Unit in the State of Tripura

4.77 Mulberry grows very favourably in the State of Tripura and there is great scope for development of mulberry silk by establishing modern reeling methods. The Govt. of Tripura proposes to instal a Reeling Unit which will encourage more development in sericulture activities in the villages. A scheme for a Reeling Unit has been submitted by the Govt. of Tripura at an estimated cost of Rs. 8 lakhs showing sale proceeds of raw silk to the extent of Rs. 3.50 lakhs in the last year of the 7th Plan. The 7th Plan outlay for this scheme is Rs. 8 lakhs and the annual Plan allocation for the year 1986-87 is Rs. 1 lakh which will be utilised. An outlay of Rs. 3.50 lakhs is proposed for 1987-88.

9. Silk Weaving Unit of 10 looms in the State of Manipur

4.78 The development of mulberry has been making satisfactory progress in the State of Manipur due mainly to favourable climatic condition and participation by the villagers for production of silk. The Govt. of Manipur has proposed a Silk Weaving Unit during the 7th Plan at an estimated cost of Rs. 6.20 lakhs for setting up of 10 looms. The 7th Plan outlay is Rs. 8 lakhs only and there is no provision for the year 1986-87. The Govt. of Manipur is pressing urgently to start this Weaving Unit from the current financial year. Planning Commission may reconsider and allocate at least Rs.2 lakhs for the year 1986-87 for this Weaving Unit. An outlay of Rs. 10.00 lakhs is proposed for 1987-88.

10. Establishment of Mulberry Silk Reeling Unit, Arunachal Pradesh.

4.79 Sericulture was introduced recently in some of the pockets of Arunachal Pradesh. The rural people have taken up as a subsidiary occupation with encouraging result. The present production of reeling Cocoon is estimated to be around 6,000 Kgs. The State Government propose to raise the production of reeling cocoon to 25 thousand kgs. by the end of Seventh Plan period. Presently two ~~reeling~~ basins of reeling unit is working in Lonit District. Another one reeling machine is under installation of Roing in Dibang Valley District. ~~Apart~~ from that, the Cocoons produced are being reeled in Charkhas which give inferior silk. Therefore, in order to produce better quality of silk the State Govt. have proposed two more reeling unit in Siang and Tirap District. Only one unit has been approved as a pilot project. The approved outlay for 7th Plan is Rs. 5.00 lakhs. The scheme is to be taken up from 1987-88 and therefore, an outlay of Rs. 1.00 lakhs is proposed.

4.80 The plan allocation for the schemes mentioned above are indicated in the Annexed Statement.

ANNUAL PLAN 1986-87  
Development Schemes

INDUSTRIES & MINERALS:

(Rs.in lakhs)

S1. No.	Name of Schemes	Approved 7th Plan outlay	Actual expdr. 85-86	1986-87 Approved outlay	Antici- pated, Expdr.	Proposed outlay for 1987-88
1.	2.	3.	4.	5.	6.	7.

INDUSTRIES AND MINERALS:

I. Detailed Minerals Inves-  
tigation and Proving.

72.00      67.50

Continuing Schemes:

1. Siju Lime & Coal Explo- ration, Meghalaya.	20.00	21.02	-			
2. Borjan Coal Exploration, Nagaland.	5.78	1.46	-			1.00
3. Bokajan Lime Stone.	-	0.62	-			
4. Namchik-Nampuk Coalfield, Arunachal Pradesh.	10.00	7.59	-			
5. Dilli-Joypore Coalfield, Assam.	2.45	0.61	-			
6. Langrin Coal Explora- tion, Meghalaya.	50.00	-	18.00	34.00		16.00
7. Makum Coalfield Ledo- Borgolai, Assam.	29.98	21.43	5.00	5.00		-

New Schemes:

8. Jairampur Coalfield, Arunachal Pradesh.	40.00	-	5.00	-		5.00
9. Extension of Namchik, Nampuk Coalfield, Aruna- chal Pradesh.	35.00	-	12.00	-		10.00
10. Dilli Sector of Dilli- Joypore Coalfield, Assam.	35.00	-	12.00	12.00		5.00

Lime Stone (New Schemes)

11. New Umrangshu, Assam.	25.00	-	8.00	8.00		3.00
12. Nimmi, Nagaland.	24.00	-	5.00	5.00		10.00
13. Detailed investigation of high grade limestone in Lumshnong North Block, Jaintia Hills, Meghalaya.	16.00	-	4.00	-		7.50
14. Ground Water, Mizoram.			8.00	8.00		10.00

Large & Medium Industries:

35.50      75.00      76.23

Continuing Schemes:

1. Mini-Cement Plant at Hundung, Manipur (50 tpd) including Agency payment to M/s NEITCO.	40.80	10.96	5.50	40.00		7.97
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INDUSTRIES & MINERALS:

<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>	<u>7.</u>
2. Mini-Cement Plant at Wazeho, Nagaland (50 tpd) including Agency payment to M/s NEITCO.	21.50		5.08	8.00	35.00	57.26
3. Mini-Cement Plant Umrangshu, Assam (200 tpd)	164.45		-	20.00	-	1.00
4. Papergrade lime Plant at Umrangshu (200 tpd).	1.00		-	1.00	-	5.00
5. Papergrade Lime Plant at Lumshnong, Meghalaya.	10.00		-	1.00	-	5.00

Detailed Raw Material Investigation for specific projects (Feasibility Studies).

10.00                      12.00

New Schemes:

6. Glass & Sand beneficiation studies in Meghalaya, and Tripura.	15.00					
7. Sillimanite & Kyanite beneficiation test, Meghalaya.	8.00					
8. Benefication test on Garnet & other minor abrasive Minerals.	24.00			10.00	-	10.00
9. Feasibility & detailed studies for one million tonne cement plant.	30.00					
10. Feasibility and detailed studies for Chemical grade limestone.	5.00				-	2.00

R&D Projects for Industrial Utilisation of Regional Raw Materials.

23.00                      5.00                      32.00

New Schemes:

11. Low temperature Carbonisation of NE Coal.	10.00			2.00	2.00	4.00
12. Fluidised bed technology of NE Coal.	10.00			2.00	-	2.00
13. Fuel gas desulphurisation.	5.00			1.00	-	1.00
14. Determination of physical, Chemical characteristics of the NE tertiary coal Meghalaya, Nagaland, Assam & Arunachal Pradesh.	30.00			15.00	-	15.00
15. Pilot Plant/Scale beneficiation tests where studies at (d) indicate possibility.	25.00			-	-	-

INDUSTRIES & MINERALS:

<u>1.</u>	<u>2.</u>	<u>3.</u>	<u>4.</u>	<u>5.</u>	<u>6.</u>	<u>7.</u>
16. Setting up of Chemical & Petrological Laboratory at Dimapur, Nagaland.	33.00			3.00	3.00	10.00
<u>Pilot Industrial Project.</u>	<u>200.00</u>			<u>14.00</u>	<u>0.50</u>	<u>21.00</u>
<u>New Schemes:</u>						
17. Breeze Coke Plant (for 30,000 tonnes) to meet requirement of VSK cement and Lime Plant.	166.00			5.00	0.50	15.00
18. Salt Iodisation Plants, at Byrnihat, Lilabari, Kumarghat.	24.00			3.00	-	1.00
19. Clinker grinding Plant, Mizoram.				5.00	-	5.00
<u>Village &amp; Small Scale Industries (Sericulture)</u>	<u>82.00</u>	<u>6.72</u>		<u>15.80</u>	<u>23.80</u>	<u>38.50</u>
<u>Continuing Schemes</u>						
20. Establishment of Mulberry Nursery-cum-Chowki rearing centre, Tripura.	9.00	4.50		4.80	4.80	1.00
21. Establishment of Muga Plant and Oak Plant Nursery, Arunachal Pradesh.	10.50	0.27		1.00	1.00	1.00
22. Establishment of Mulberry	2.50	1.95		1.00	1.00	1.00
<u>New Schemes:</u>						
23. Establishment of Reeling Unit, Assam.	8.00	-		3.00	3.00	3.00
24. Establishment of Mulberry Silk Reeling Unit (one) Arunachal Pradesh.	5.00	-		-	-	1.00
25. Silk Weaving Unit, Manipur.	8.00	-		-	2.00	10.00
26. Scheme for Modernisation of Mulberry Silk Reeling Unit, Meghalaya.	8.00	-		2.00	8.00	12.00
27. Establishment of Silk Reeling Spinning, Weaving Training-cum-Production Centre at Kolasib, Mizoram.	15.00	-		2.	2.	5.00
28. Establishment of Integrated Reeling and Twisting Unit, Nagaland.	8.00	-		1.00	1.00	1.00
29. Silk Reeling Unit, Tripura.	8.00	-		1.00	1.00	3.50
<u>Total -</u>				<u>175.30</u>	<u>176.30</u>	<u>247.23</u>

## CHAPTER - 5

### TRANSPORT & COMMUNICATIONS

5.01 The north eastern region comprising of five States and two Union Territories with an area of 2,55,000 sq km is geographically isolated and is connected to the rest of the country through a narrow corridor of about 50 km width. The entire area except the Brahmaputra valley is hilly and mountainous with a difficult terrain. It is also economically undeveloped as compared to the rest of the country. Even for the internal movement of goods and passenger traffic the States have to predominantly depend on the road transport and the States are not connected with the proper railway system mainly because of the difficult terrain. During the floods many parts of the area are dependent on air dropping for the food supply. The infrastructure facilities like transport, communication and power which are essential for all developmental activities are <sup>inadequate</sup> and this has created a feeling of isolation.

5.02 The North Eastern Council has given high priority to the Transport and Communication sector right from the inception. During the Fifth and Sixth Plans of the NEC, this sector has remained to be the major priority sector of the NEC Plan. There is a wide gap in the all India averages and the averages of NE region in various modes of transport. All the means of transport, therefore, need development on large scale; being the basic infrastructure for all other developmental activities like industry, agriculture, mining, etc.

#### Fifth Plan of the NEC

5.03 During the Fifth Plan period 20 road schemes of improvement and new construction covering a total length of about 1500 km were taken up under the NEC Plan in the region. The expenditure on these road schemes upto March '80 was Rs.3,418 lakhs. Expenditure during Sixth Plan Period was Rs.3,110 lakhs and during the first year of Seventh Plan period (i.e. 1985-86) funds to the tune of Rs. 439 lakhs has been released. Thus total expenditure incurred on

Fifth Plan schemes upto 31.3.86 is Rs.6967 lakhs.

5.04 In addition to the development of the roads, survey on eight new railway lines costing approximately Rs.50 lakhs and 10 ropeways were also taken in hand under NEC Plan.

#### Sixth Plan of the NEC

5.05 The activities of the sector gained momentum in the Sixth Plan period and diversified in various other spheres of the transport and communication with an outlay of Rs.155 crores against which expenditure of Rs.185.27 crores was incurred.

5.06 Railways: Surveys on six more railway lines in the region were undertaken at an estimated cost of Rs.84.77 lakhs as under:-

1. Chaparmukh-Dibrugarh (350 km)
2. Dimapur-Chumukdima (20 km)
3. Lekhapani-Kharsang (26 km):

The survey report has already been received and under consideration of the Ministry of Railways.

4. Lalaghat-Vairangte (20.3 km):

The survey report has already been received and under consideration of the Ministry of Railways.

5. Kumarghat-Agartala (120 km)
6. Jiribam-Makru (18 km)

5.07 A total amount of Rs.75.00 lakhs was provided in the Sixth Plan for the above surveys out of which the expenditure upto March '85 was Rs.82.82 lakhs. The surveys on all these lines have been completed except for Jiribam-Makru for which also engineering survey has been completed and traffic survey is on progress. An expenditure of Rs.2.68 lakhs was incurred during 1985-86.

5.08 Ropeways: During the Sixth Five Year Plan, survey on two ropeways in Meghalaya, namely, Lumshnong-Badarnur for the paper grade lime plant and Siju-Dudhnai for the cement plant in the Garo Hills were undertaken. It was proposed to take up execution of one of the ropeways and as such a provision of Rs.265.00 lakhs was made in the Sixth Five Year



Plan of the Council. However, this did not materialise. Govt of Meghalaya has been keen for construction of Siju-Dudhnai ropeway for servicing the cement plant to be set up under the State Plan. Planning Commission has recently approved construction of a bicable ropeway from Siju to Patharigithim for a length of 12.16 km. A provision of Rs.100.00 lakhs had been made in the approved plan of 1986-87 for this ropeway. However, since the status and phasing of the cement plant is not yet communicated by Govt of Meghalaya and preparation of DPR of the ropeway is only likely to be completed during this financial year, the provision has been curtailed to Rs.10 lakhs in the revised outlay for 1986-87. A provision of Rs.100 lakhs has been made for 1987-88.

5.09 Inland Water Transport: During the Sixth Plan, the schemes for night navigation on Brahmaputra river (with 50% finance from NEC and 50% from Assam IWT), the construction of 6 Nos of floating jetties at various ghats and mechanical cargo handling facilities at Pandu were undertaken. The work for the night navigation has been completed. Out of the 6 Nos floating jetties one was procured from the NE Railway at a cost of Rs.14.89 crores. Estimate for two more floating jetties (of 500 tonne capacity each) were sanctioned for Rs.76.44 lakhs. Rs.75 lakhs has been released upto 1985-86 for these jetties. IWT Dept Govt of Assam has submitted a revised estimate for these 2 Nos jetties costing Rs.126 lakhs. The revised estimate has been technically cleared by IWT Directorate, OT, Govt of India. A provision of Rs.51 lakhs has been made in the revised outlay of 1986-87 for these 2 Nos jetties. The remaining 3 Nos of floating jetties are proposed to be taken up during 1986-87 as part of new schemes under Seventh Plan. Rs.400 lakhs have been provided for these jetties and for other works such as night navigational aids in Brahmaputra river and infrastructural facilities etc. in Badarpur ghat/Dhubri etc. Out of Rs.400 lakhs outlay in Seventh Plan, Rs.170 lakhs had been provided in the annual plan of 1986-87 for the new schemes of IWT. An estimate for 3 Nos floating jetties for an amount of Rs.189 lakhs has been submitted by IWT Dept., Govt of Assam, which is under examination of

IWT Directorate, MOT, Govt of India. The provision has, therefore, been reduced to Rs.35 lakhs in the revised outlay 1986-87 keeping in view the limited working period likely to be available during this financial year after sanction to the estimate is accorded.

5.10 The work of mechanical cargo handling plant at Pandu was also started in the last year of the Sixth Plan by M/s CIWTC for which Rs.115 lakhs was released to CIWTC till March '86. DPR for the scheme has been examined by IWT Directorate, MOT and they have recently technically cleared the scheme subject to fulfilment of some conditions by CIWTC. The original approved outlay of Rs.100 lakhs in 1986-87 plan has been reduced to Rs.40 lakhs in the revised outlay, since limited working period is likely to be available during this financial year after issue of sanction.

5.11 Roads: In addition to the road programmes taken in hand during Fifth Plan, further road lengths of 2023 km of the interstate roads were sanctioned during Sixth Plan which are in various stages of the construction. In addition to these interstate roads, another category of roads pertaining to economic importance was also taken up during Sixth Plan and about 2500 kms have been sanctioned against this category. These roads of economic importance are generally being executed by the Border Roads Organisation in all the States except in Assam where these are being executed by the Assam PWD. In Mizoram, apart from roads of economic importance being constructed by BFO, one such road scheme is also being executed by Mizoram PWD.

5.12 During the Sixth Plan period, the outlay on the roads was for Rs.109 crores against which expenditure of Rs.102.71 crores has been incurred. During 1985-86 funds to the extent of Rs.38.92 crores has been released for road schemes. An outlay of Rs.55.50 crores had been approved in the 1986-87 plan. This has now been revised to Rs.61.47 crores. This revised outlay includes an advance of Rs.9 crores to BFO for

purchasing of equipment in order to accelerate the pace of construction of NEC roads.

5.13 Bridge over river Brahmaputra: During the Fifth Plan a road bridge at Bhomoraguri near Tezpur was undertaken under NEC Plan. By the start of Sixth Plan little work could be done. Rs.1.075 crores funds were released upto March '80. The construction work on this bridge, however, gained momentum during the Sixth Plan. Though outlay of Rs.40 crores was approved in the Sixth Plan of the NEC for this bridge, the actual expenditure has been Rs.81.35 crores. During 1985-86, funds to the extent of Rs.2.10 crores were released. No provision was earlier made in the approved outlay for 1986-87, as the anticipated cost of completion was Rs.84.53 crores based on expected date of completion of December '85. However, during February '86 the likely date of completion and anticipated completion cost were reassessed by executing agencies. The project is now likely to be completed by early '87 and the anticipated completion cost has been reassessed as Rs.89.14 crores. A provision of Rs.4.61 crores has been made therefore in the revised outlay of 1986-87.

#### OUTLAY FOR ANNUAL PLAN 1987-88

5.14 The total outlay for various schemes of Transport and Communication sector in the Annual Plan for 1987-88 has been planned for Rs.71 crores. Annexure 5.1 refers. Details of various schemes are shown below.

5.15 Road & Bridges: The work on the road schemes taken up during the Fifth Plan remains still to be completed particularly in respect of permanent bridges and pavement on some roads which has spilled over to the Seventh Plan. In addition, the schemes taken up during the Sixth Plan have also spilled over to the Seventh Plan, as many of these were sanctioned only in the last two years of the plan. As such there are a considerable spillover of the on-going schemes sanctioned during Fifth and Sixth Plans. The total spillover for these schemes had been worked out as Rs.379 crores during the draft Seventh Plan discussions, as detailed in the Annexure 5.2.

In order to complete the on-going schemes as early as possible, the outlay of Rs.55.50 crores for on-going road schemes in the Annual Plan for 1986-87 has been revised upwards to Rs.61.47 crores in the revised plan. Similarly an outlay of Rs.64.45 crores has been planned for 1987-88 for the on-going schemes of roads/bridges. It will be necessary for the State PWDs and the Border Roads Organisation to strengthen their set up in order to utilise the outlay and complete the on-going schemes as early as possible.

5.16 New Road Schemes: An outlay of Rs.2.20 crores for new road schemes originally provided in the 1986-87 plan has been reduced to Rs.0.60 crores, as many of the road schemes are not yet approved by Interministerial Working Group of Planning Commission. The outlay has been increased to Rs.2.35 crores in the annual plan of 1987-88.

5.17 State-wise/road-wise details have been shown in the Annexure 5.3 to 5.10.

5.18 Bridge over Brahmaputra: The work on the bridge over Brahmaputra is expected to be completed by early '87. The revised anticipated completion cost is Rs.89.14 crores. The revised outlay for this bridge for 1986-87 has been kept at Rs.4.61 crores. No outlay has been provided for during 1987-88.

5.19 Railways: As the work of the survey on the new railway lines taken up during the Sixth Plan is expected to be completed by 1986-87, no provision has been made in the annual outlay for 1987-88 for railway surveys.

5.20 Ropeway: A revised outlay of Rs.10 lakhs has been planned for 1986-87 for preparation of DPR. For 1987-88 plan, provision of Rs.100 lakhs has been made.

5.21 Inland Water Transport: An outlay of Rs.200 lakhs has been provided in the Annual Plan 1987-88, for the scheme of mechanical cargo handling at Pandu port to be executed by M/s CIWTC. DPR for the scheme has been technically cleared by IWT Directorate, LT. For the 3 Nos floating jetties to be constructed by IWT Deptt, Govt of Assam on ghats along Brahmaputra river, an outlay of Rs.120 lakhs has been made in the Annual Plan of 1987-88.

ABSTRACT: ● O U T L Y F O R V I I P L A N A N D A N N U A L P L A N 87-88 (R I C S E C T O R)

(Rs. in Lakhs)

Annexure 5.1

Sl. No.	Description	V Plan	VI Plan	Approved	Unabsorbed	1986-87		Proposed
		Expir. upto 2/80	Expir. 80-85	outlay for 85-90	outlay for 85-86	approved outlay	Revised outlay	
1	2	3	4	5	6	7	8	9
A.	<u>CONTINUING SCHEMES:</u>	3578.59	18527.44	28352.68	1169.35	5750.00	6709.00	6745.00
1.	Railways Surveys	44.51	82.82	16.00	2.68	-	-	-
2.	Ropeways	8.58	-	0.00	-	100.00	10.00	100.00
3.	<u>INLAND WATER TRANSPORT:</u>							
a)	Night Navigation Aids	-	39.89	10.00	10.00	-	51.00	-
b)	Const. of Floating Jetties	-	-	-	-	-	-	-
c)	Mechanical Cargo Handling	-	65.00	253.00	50.00	100.00	40.00	200.00
4.	Setting up of R&D Extn. Unit of CRR	-	8.00	4.00	4.00	-	-	-
5.	Regional Transport Survey	-	8.00	-	-	-	-	-

-(5.7)-

contd....2/-

	1	2	3	4	5	6	7	8	9
6. <u>ROADS AND BRIDGES:</u>			<u>3525.50</u>	<u>18273.73</u>	<u>28058.68</u>	<u>4102.67</u>	<u>5550.00</u>	<u>6568.00</u>	<u>6445.00</u>
a) Interstate roads			3418.00	6484.32	11995.00	2107.67	3050.00	2953.00	3413.00
b)(i) Roads of economic importance to be done by PWD.	-		160.27		11799.00	185.00	300.00	303.80	382.00
(ii) -do- by BRDB	-		3461.14		11113.68	1600.00	2200.00	1986.00 +	2650.00
(iii) Advance to BRDB for procurement of Equipments	-	-						900.00	
c) Kala-Bhomrajgiri bridge over river Brahmaputra		107.50	8135.00		1600.00	2100.00			161.00
d) Survey bridge near Dibrugarh			32.50						
B. <u>NEW PROPOSALS:</u>					<u>1400.00</u>		<u>390.00</u>	<u>95.00</u>	<u>355.00</u>
a. Roads	-	-			1000.00		220.00	60.00	235.00
b). Inland Water Transport	-	-			400.00		170.00	35.00	120.00
Grand Total: (A+B)			<u>3878.59</u>	<u>18527.41</u>	<u>2952.68</u>	<u>4168.35</u>	<u>5140.00</u>	<u>5804.00</u>	<u>7100.00</u>

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-(5.8)-

## STATE WISE FINANCIAL PROGRESS : CONTINUING SCHEMES OF ROAD

ANNEXURE 5.2

Sl. No.	Name of State/U.T	Explr. upto March, 80	Total expenditure During 1980-85	Total expenditure During 1985-86	Total expenditure upto 3/86	Outlay for 1986-87	Revised Outlay for 1986-87	Outlay for 1987-88
1	2	3	4	5	6	7	8	9
<b>1. Arunachal Pradesh</b>								
	5th Plan	351.84	101.53	126.99	960.36	180	180	200
	6th Plan	-	317.30	370.37	687.67	320	342	367
	7th Plan	-	-	-	-	25	-	25
	Economic importance by B.R.D.B.	-	1801.00	780.00	2581.00	1000	1000	1210
	<b>TOTAL :</b>	<b>351.84</b>	<b>2599.83</b>	<b>1277.36</b>	<b>4229.03</b>	<b>1225</b>	<b>1522</b>	<b>1802</b>
<b>2. Assam</b>								
	5th Plan	806.57	298.05	36.91	1141.63	59	69	88
	6th Plan	-	915.18	329.39	1244.57	181	473	480
	7th Plan	-	-	-	-	-	-	-
	Economic importance by P.W.D.	-	160.27	92.64	252.91	210	208	272
	<b>TOTAL :</b>	<b>806.67</b>	<b>1373.49</b>	<b>458.94</b>	<b>2639.11</b>	<b>750</b>	<b>750</b>	<b>840</b>
<b>3. Manipur</b>								
	5th Plan	489.56	116.89	72.59	679.04	90	40	20
	6th Plan	-	467.63	165.25	632.88	210	300	280
	7th Plan	-	-	-	-	55	-	50
	Economic importance by B.R.D.B.	-	317.51	225.00	542.51	200	165	250
	<b>TOTAL :</b>	<b>489.56</b>	<b>902.03</b>	<b>462.84</b>	<b>1854.43</b>	<b>555</b>	<b>505</b>	<b>600</b>

	2	3	4	5	6	7	8	9
<u>4. Meghalaya</u>								
5th Plan	431.55	208.52	20.03	743.91	310	105	230	
6th Plan	-	186.78	221.76	108.51	290	337	342	
7th Plan	-	-	-	-	40	30	60	
Economic importance by BRDB	-	-	-	-	100	100	200	
	430.36	485.30	241.79	1157.45	640	622	332	
<u>5. Mizoram</u>								
5th Plan	319.81	611.81	50.53	985.15	174	83	90	
6th Plan	-	170.13	171.15	344.58	156	131	166	
7th Plan	-	-	-	-	20	-	30	
Economic importance by PWD	-	-	29.99	29.99	90	100	110	
" " " BRDB	-	377.02	230.00	607.02	105	329	365	
	319.81	1162.26	481.67	1966.74	325	616	761	
<u>6. Nagaland</u>								
5th Plan	642.16	-	-	642.16	-	-	-	
6th Plan	-	911.02	206.42	1117.44	330	380	575	
7th Plan	-	-	-	-	30	30	70	
Economic importance by PWD	-	-	-	-	20	-	-	
" " " BRDB	-	747.47	290.00	1024.47	370	335	520	
	642.16	138.19	496.42	2784.07	800	745	1145	
<u>7. Tripura</u>								
5th Plan	350.33	304.78	47.76	702.87	105	80	100	
6th Plan	-	356.93	219.83	576.81	115	330	445	
7th Plan	-	-	-	-	-	-	-	
Economic importance by BRDB	-	137.89	75.00	212.89	125	57	105	
	350.33	799.60	342.61	1492.57	675	517	650	



PRIMARY STATEMENT OF ROAD SCHEMES

ANNEXURE 5.2

Sl. No.	Name of State/U.Ts	Expt.	Expt.	Total	Approved	Expt.	1986-87		Proposed	
		upto March 1986	during 1980-85		Spill over	outlay for 7th Plan	during 1985-86	Approved outlay	Revised outlay	
1	2	3	4	5	6	7	8	9	10	11

A. Inter State Road

Total for 5th Plan	3390.73	2114.58	3526.00	3229.00	354.81	818	557	778
Total for 6th Plan	-	3325.27	17405.00	11767.00	1687.22	2232	2396	2635
Total for 7th Plan	-	-	-	1000.00	-	220	60	235

B. Economic Importance by

i) P.V.D.	-	160.27	2859.00	1799.00	122.63	320	308	382
ii) B.R.D.B.	-	3380.89	14108.00	11113.68	1600.00	2200	2386*	2650

\* Includes Rs. 900 for advance payment to BDO for procurement of machinery

<b>GRAND TOTAL ::</b>	<b>3390.73</b>	<b>8981.71</b>	<b>37901.00</b>	<b>28908.68</b>	<b>3764.66</b>	<b>5790</b>	<b>6207</b>	<b>6680</b>
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TRANSPORT & COMMUNICATION: STATE: ARUNACHAL PRADESH

Sl. NO.	Name of schemes	Outlay for 1986-87	Revised Estimate 1986-87	Outlay for 1987-88
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FIFTH PLAN

1.	Margherita-Deomali	-	-	-
2.	Orang-Mazbat-Rupa	180	170	200
3.	Banderde a-Itanagar Road	-	-	-
		<u>180</u>	<u>170</u>	<u>200</u>

SIXTH PLAN

4.	Pakke-Seijosa-Itakhola	100	100	120
5.	Gohpur-Itanagar Road	60	90	70
6.	Deprijo(Paka)-N.T. Road	75	75	100
7.	Longding-Bimalpur	80	80	75
8.	Tezu-Sadiya Road	3	5	-
9.	Survey & Investigation	2	2	2
	TOTAL 6TH PLAN :	<u>320</u>	<u>352</u>	<u>367</u>

GRAND TOTAL (5TH & 6TH)                      500                      522                      567

New Schemes

10.	Jagun-Miacn Road	<u>25</u>	-	<u>25</u>
	GRAND TOTAL (5TH, 6TH & NEW SCHEMES)	<u>525</u>	<u>522</u>	<u>592</u>

## TRANSPORT &amp; COMMUNICATION : STATE : ASSAM

Sl. No.	Name of scheme	Outlay for 1986-87	Revised estimate 86-87	Outlay 1987-88
<u>Continuing Schemes/Spill over from Fifth Plan</u>				
1.	Jowai-Khanduli-Baithalangu	4	4	3
2.	Damra NH 37	-	-	-
3.	Paikan-Bajendoba	-	-	-
4.	Agia-Medhipara (25)	-	-	-
5.	Mankachar-Garobadha	-	-	-
6.	Orang-Mazabat-Rupa	25	35	20
7.	Saikhowagaht-Sadiya-Chepakhowa	-	-	-
8.	Margherita-Deomali	10	3	20
9.	Road between Lekhapani-Tirap	-	-	-
10.	Sonari-Namtola-Mon	-	-	-
11.	Simulguri-Naginimora	-	10	5
12.	Anguri-Mokokchung	-	-	-
13.	Golaghat-Merapani-Wokha	-	-	-
14.	Kanpui-Bhairabi-Gharmura	20	17	40
		59	69	88

1	2	3	4	5
<u>SIXTH PLAN</u>				
15.	Pavement of Road Khanduli-Bhaithalansu	45	56	-
16.	Pavement of Orang-Mazbat-Rupa	36	28	15
17.	Dhupdhara-Adokgiri	-	-	-
18.	Mairang-Ranigodown-Azra Road	10	45	40
19.	Mawshyarut-Hahim-Singra	12	10	30
20.	Darrangiri-Kharkutta	-	-	-
21.	Krishnai-Mendipathar	-	7	-
22.	Gohpur-Itanagar	2	2	-
23.	Daporijo-N.T. Road	14	22	25
24.	Lekhapani-Jairampur	15	4	10
25.	Anguri-Jhanji Road	-	3	-
26.	Kohima-Laike	15	8	20
27.	Baithalansu-Kanpur-Raha	20	20	40
28.	Longding-Bimalpur	30	24	28
29.	Nidanpur-Fakirganj	15	20	7
30.	Link road from Damra Menipathar from Dainadubi	1	3	-
31.	Link Rd. to Feeder Road to Tipong	25	5	30
32.	Mahur-Laisang Road	25	25	30
33.	Dkhia-Mawlsi-Haflong	15	-	15
34.	Rongsai-Borohira-Bajendoba	15	25	5
35.	Haillakandi-Gharmura	20	40	30

	1	2	3	4	5
36. Lowarpo-Kanhum	43		15		50
37. Tezu-Sadiya Road	66		10		60
38. Pakke-Seijosa-Itakhola	32		31		30
39. Survey investigation of Road & Bridges	20		10		10
40. Tamenglong-Laike Road	5		-		5
	181		473		480
<u>ROADS OF ECONOMIC IMPORTANCE</u>					
41. Laisang-Rajabazar	20		20		20
42. Improvement of Japrajan-Upper Deopani	9		2		15
43. Naharkatiya-Tinali-Rajgarh-Moran	10		-		10
44. Longit Bazar-Singason-Birbhung	49		36		45
45. Bokajan-Hidim	15		18		12
46. Dehangi-Thuruk-Harangojao	62		62		65
47. Dalmora-Tarapong	15		25		30
48. Lahuwal-Duliajan-Bordubi-Tinsukia	20		30		45
49. Manakchar-Burkaia	10		15		30
	210		208		272
TOTAL VTH PLAN	59		69		88
TOTAL VITH PLAN	481		473		480
TOTAL : ECONOMIC IMPORTANCE ROADS	210		208		272
	750		750		810

TRANSPORT AND COMMUNICATION : STATE : MANIPUR

585

Rs in lakhs

SE. NO	NAME OF THE SCHEME	CUTLEY FOR 86-87	RE 85-87	SE 87-88
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1	2	3	4	5	6
<u>5TH PLAN</u>					
1.	Tamenglong Aizawl road	90	40	20	
	Total : for 5th Plan	90			
<u>6th PLAN</u>					
2.	Tamenglong-Khongsong road	50	100	100	
3.	Tamenglong-Taflong (Laisiang)	100	120	120	
4.	Tadobi-Pfutsero Bible Hill	-	-	-	
5.	Thanlong-Sinzawl-Khanzawl	60	80	60	
	Total for 6TH Plan	210	300	280	
	GRAND TOTAL ( 5TH & 6 TH)	300	340	300	
<u>NEW SCHEMES :</u>					
1.	Meram Paren	30	-	-	
2.	Tousem-Laisong	25	-	50	
		355	340	550	

-(5-16)-

TRANSPORT AND COMMUNICATION : STATE : MEGHALAYA

SL. NO.	NAME OF THE SCHEME	OUTLAY FOR 86-87	REVISED OUTLAY 86-87	OUTLAY FOR 87-88
1	2	3	4	5

A ROADS

5TH PLAN

1.	Jowai-Khanduli-Baithalansu road	60	20	50
2.	Agia-Medhipara-Tura	50	45	100
3.	Mankachar-Garobachha	10	10	50
4.	Nongstoin-Bongjeng	50	20	50
5.	Cherra-Shillong Rd.	10	10	30
6.	Paikan-Bajendoba			
		<u>210</u>	<u>105</u>	<u>280</u>

6TH PLAN

7.	Mairang-Ranigodown-Azra	145	200	150
8.	Mawsynrut-Wahim-Singra road	50	50	60
9.	Nidanpur-Pakiranj	-	4	-
10.	Dkhia-Maounei-Haflong	60	70	80
	Rongsei-Sotohara-Bajendoba	30	60	50

(5/77)

1	2	3	4	5
12.	Darangir-Kharakutta	-	-	-
13.	Krishnai-Mendhipathar	-	-	-
14.	Dhopdhara-Adokgiri	-	-	-
15.	Link road from Damra-Mendipathar from Dainadubi	-	-	-
16.	Survey & Investigation.	5	3	2
	TOTAL (SIXTH PLAN).	290	337	342
	TOTAL (5th)	500	492	622
17.	Umsning-Jagi Road	40	30	60
	Total for Roads.	540	522	632
18.	Ropeway	100	10	100
	GRAND TOTAL :	640	532	762



## ROAD SCHEME IN MIZORAM STATE

ANNEXURE 5:7

(Rs. in Lakhs)

Sl. No.	Description of roads	Outlay 86-87	Revised outlay 86-87	Proposed outlay 87-88
1	2	3	4	5
<u>5TH PLAN:</u>				
1.	Kawnpui-Bhairabi-Gharmura	50	28	20
2.	Tameinglong-Aizawl	37	15	20
3.	Aizawl-Vanghmun-Kumarghat	87	30	50
4.	Phuldungsi-Tuipuibari	-	10	-
Total:		174	83	90
<u>6TH PLAN:</u>				
5.	Khazawl-Sinzawl-Thanolon	70	60	75
6.	Damcherra-Khedacherra-Tuilutkawn	80	70	90
7.	Lowerpo-Kauhmun	6	4	1
		156	134	166
8.	Bunghmun-Phairang	70	100	110
9.	Serkawn-Bhagabazar	20	-	30
Total:		420	317	396

MUNICIPALITY OF WOKHA TO IMPROVE : BR : ROAD

SL. NO	NAME OF THE SCHEME	OUTLAY 36-87	RE 36-87	BE 87-88
<u>5TH PLAN :</u>				
1.	Sonari-Namtola-Mon	-	-	-
2.	Anguri-Mokukchung road	-	-	-
3.	Golaghat-Merapani-Wokha road	-	-	-
<u>6TH PLAN :</u>				
4.	Kohima-Laika-Laisong	200	200	350
5.	Tadobi-Pfutsero-Bible Hill rd.	110	140	160
6.	Const. of approach road to Agriculture College	20	20	15
7.	Const. of bridge over river Dipu Pani	20	20	30
	Total : (5th & 6th)	350	380	555
<u>NEW SCHEME :</u>				
8.	Road from Tuli to Tizit	-	-	-
9.	Const. of Wokha-Eokajan road	20	20	50
10.	Anguri-Mongkolonemba	60	10	20
	Total :	80	30	70
<u>GRAND TOTAL :</u>		430	410	625

ROAD SCHEME IN TRIPURA STATE

(in lakhs)

Sl. No.	DESCRIPTION OF ROADS	OUTLAY FOR 1985-87	REVISED OUTLAY (PROPOSED) 1986-87	OUTLAY 1987-88	Total
1	2	3	4	5	6
<b>TH PLAN</b>					
1.	Asar-I-Vanghmun-Kumarghat	55	30	50	
2.	Iltal-Damcherra-Tuipuibari	50	50	50	
		105	80	100	
<b>CI PLAN</b>					
3.	Madacherra-Damcherra-Tuilutkawn	70	50	A	
4.	Wacherthal-Chekri	130	130	150	
		200	180	200	
5.	Manu-Gobindabari-Phuldungsi	150	122	100	
	Sangabari to J. Manu-Govindabari	95	78	75	
		245	200	275	
	<b>GRAND TOTAL :</b>	550	460	575	

POSITION OF SANGRIAN WITH REFERENCE TO ANNUAL PLAN AND REVISED  
1986-87 AND PROPOSED OUTLAY FOR 1987-88

ANNEXURE 5 : 10

(in lakhs)

Sl. No.	Name of the road	A/A Amount	Funds re-leased upto 3/86	Expenditure upto 3/86	1986-87		Proposed outlay 87-88
					Approved outlay	Revised outlay	
1	2	3	4	5	6	7	8
<u>PROJECT VARTAK</u>							
1.	Ditte-Dime-Riga-Miggiar.	1101.76	949.99	859.28	350.00	350.00	350.00
2.	Kaying-Tato	529.01	502.00	491.58	200.00	200.00	220.00
3.	Seppa-Sagali-Yasuli	552.58	557.37	477.38	250.00	300.00	350.00
4.	Taliho-Nacho	622.36	559.00	385.29	120.00	100.00	230.00
5.	Kumchai-Minabum-Deban	75.51	12.64	3.23	30.00	50.00	60.00
Total:		2981.22	2581.00	2216.76	1000.00	1000.00	1210.00
<u>PROJECT SE WAK</u>							
<u>ROADS OF ECONOMIC IMPORTANCE:</u>							
1.	Ukrul-Sansak	217.80	221.40	211.82	-	5.00	-
2.	Sansak-Tengnopal	212.38	197.19	54.32	100.00	110.00	150.00
3.	Singhat(Thinghat)-Sinsawl	271.35	123.92	49.67	100.00	50.00	100.00
4.	Chumukdima-Tuli-Ti-	-	-	-	70.00	40.00	120.00
5.	Akhego-Sashello-zit	481.20	540.00	436.53	150.00	100.00	230.00
6.	Purpokhungri.	310.14	195.00	167.30	50.00	80.00	80.00
7.	Pongro-Moya-Nimai	375.01	188.52	211.85	50.00	100.00	80.00
8.	Merangkong-Tamlu-Zero point	94.75	100.95	111.35	50.00	15.00	10.00
Total:		1962.63	1566.98	1242.84	570.00	500.00	770.00

(Rs. in lakhs)

ANNEXURE 5 : 10

Sl. No.	Name of the road	A/A Amount	Funds released upto 3/86	Expenditure upto 3/86	1986-87		Proposed outlay 87-88
					Approved outlay	Revised outlay	
1	2	3	4	5	6	7	8

PROJECT DANTAK

1. Mankachar-Purakhasia	-	-	-	100.00	100.00	200.00
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Project PishpakRoads of economic importance:

1. Thenzawl-Bunghmun	337.78	319.22	265.12	80.00	77.00	100.00
2. Nalkawn-Chamdur	5.60	5.60	9.32	75.00	92.00	75.00
3. Kawkulh-Mimbung	304.60	195.48	146.00	100.00	96.00	100.00
4. Champai-North Vanlaiphai	140.62	86.72	75.58	150.00	64.00	90.00
5. Manu-Anchanpur	193.47	211.23	167.04	50.00	-	20.00
6. Chatingbari-on N.H. 44 South of Telimura	1.66	1.66	11.96	75.00	57.00	85.00
<b>Total:</b>	<b>998.73</b>	<b>819.91</b>	<b>665.56</b>	<b>530.00</b>	<b>386.00</b>	<b>470.00</b>
<b>Grand total: (Roads of economic importance)</b>	<b>5942.58</b>	<b>4967.89</b>	<b>4125.16</b>	<b>2200.00</b>	<b>1986.00</b>	<b>2650</b>

900.00

for machinery

-(5.23)-

## CHAPTER - 6

### MANPOWER DEVELOPMENT SECTOR

6.01 Manpower is not only the most important and abundantly available resource in our Country as well as in the North Eastern Region for development, but it is the objective of all development programmes. Manpower also is the key economic resource and on its development and motivation rests the utilisation of physical resources of the region. The position of skilled and semi-skilled manpower in the North Eastern Region has been grossly inadequate in many fields due to historical, geographical and socio-economic reasons. The NEC, therefore, made an appraisal of the availability and demand of technical manpower for a period upto 1989 with the assistance of the Institute of Applied Manpower Research, New Delhi in 1978. Based on this assessment and some other proposals of the Expert Committee (constituted by the NEC) the NEC has taken steps, as an additional input to the States' efforts, for manpower development within the region for the speedy development in four different ways viz., (a) Fellowship and academic programmes in various courses in Agriculture and Allied subjects upto Ph.D level, granting of stipend in specialised Engineering, MBA and Hotel Management courses, (b) Human Resources Development through specialised inservice courses, (c) Expansion, Strengthening/Modernisation of Technical Institute already in existence in the Region and (d) Setting up of new Institutions in the Region.

#### A. CONTINUING SCHEMES

##### 1. Fellowship & Academic programme.

6.02 The Fellowship & Academic programmes are designed to sponsor deserving candidates selected by the constituent States/UTs for Post-Graduate and Ph.D programme and Under-Graduate, Agriculture and allied subjects. In addition, inservice personnel of the constituent units are being deputed for attending various short duration specialised courses under the programme of Human Resources Development so that these personnel may be deployed suitably for implementation of

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various specialised programmes of the States. Upto the academic session 1985-86, 1825 candidates have been sponsored for Under-Graduate, Post-Graduate and Ph.D studies and about 1000 Govt officers have taken advantage of the short duration specialised courses. During 1986-87, 187 Under-Graduate seats have been allotted by ICAR. Having due regard to the importance and the need of this programme, the scheme has been continued in the 7th Plan with an approved provision of Rs.230 lakhs. An amount of Rs.44.79 lakhs has been spent on this programme during 1985-86. An amount of Rs. 52.00 lakhs has been provided for 1986-87 and the anticipated expenditure for 1986-87 is Rs. 49.00 lakhs. An amount of Rs. 52.00 lakhs is proposed for 1987-88.

### 2. Linemen Training Programme:

6.03 Considering the need of the Region, an amount of Rs. 16.00 lakhs was provided during the 6th Plan for financing two Linemen Training Centres one each at Barapani and Jorhat for the purpose of training the untrained inservice Linemen of the States/UTs including NEEPCO and Sikkim. So far, 1471 inservice personnel have been trained. The Scheme has been approved in the 7th Plan with an outlay of Rs.25.00 lakhs. In view of increase in the recurring expenditure due to revision of pay it has been found not feasible to continue the Scheme within the approved outlay. The provision has, therefore, been proposed to be increased to Rs. 42.50 lakhs for the 7th Plan which the Planning Commission has approved subject to the condition that the expenditure be met within the overall outlay for the 7th Plan of NEC. During 1985-86 Rs.7.56 lakhs were spent on the scheme. An amount of Rs.8.50 lakhs has been approved for 1986-87 and will be fully utilised. An amount of Rs.9.00 lakhs is proposed for 1987-88 (Assam Rs.4.00 lakhs and Meghalaya 5.00 lakhs).

### 3. Miscellaneous Training Programme:

6.04 Under this Scheme a large number of short training courses like Executive and Management Development Programmes are arranged to upgrade the professional competence of the officers of the middle and higher levels with modern tools of management

in the various fields of development with the involvement of specialised agencies<sup>like</sup> NISIET, NIRD, NEITCO, NEIBM etc.

6.05 The students belonging to the North Eastern Region are also granted stipend and book grants for pursuing studies in specialised Engineering, Hotel Management, MBA courses and Entrepreneurial Development programme. An amount of Rs.132.00 lakhs has been provided in the 7th Plan. During 1985-86 the expenditure on these programmes was Rs.14.50 lakhs. An outlay of Rs.35.00 lakhs was provided for 1986-87 and an anticipated expenditure for 1986-87 is Rs.30.00 lakhs. An amount of Rs.35.00 lakhs is proposed for 1987-88.

Strengthening of Technical Education:

4. North Eastern Regional Institute of Science & Technology, Itanagar :

6.06 The Govt of India, Ministry of Education vide letter No. F.25-1/81-D5 dated 12.9.85 have approved the establishment of North Eastern Regional Institute of Science & Technology at a total cost of Rs.30.35 Crores ( non-recurring ) plus an amount of Rs. 2.00 crores per annum as recurring expenditure for meeting the cost of teaching staff and other recurring items of expenditure including maintenance, travelling and other allowances. An amount of Rs. 1023.98 lakhs has been released upto 1985-86. An amount of Rs. 800 lakhs has been provided during 1986-87 and an anticipated expenditure for 1986-87 is Rs. 440.00 lakhs. The first certificate course<sup>(Base module)</sup> has started during 1986-87. An outlay of Rs.800.00 lakhs has been proposed for 1987-88.

5. Extension of Assam Survey School :

6.07 The Scheme with an estimated cost of Rs.15.50 lakhs has been approved by the Planning Commission. But the administrative approval to the Scheme has been held up due to non receipt of technical clearance from the Administrative Ministry, i.e. the Ministry of Rural Development. The Scheme is expected to be cleared soon and therefore the approved out lay of Rs. 8.50 lakhs for the year 1986-87 is likely to be utilised fully. An amount of Rs. 8.00 lakhs is proposed for 1987-88.



6. Improvement of Science & Mathematics Education in Hill/Tribal Areas :

6.08 The Scheme approved during the 6th Plan has been allowed to be continued in the 7th Plan with Rs.25.00 lakhs. Rs.10.20 lakhs were spent during 1985-86. An amount of Rs. 10.00 lakhs has been provided in the Annual Plan 1986-87 and an anticipated expenditure for 1986-87 is Rs.10.52 lakhs. An amount of Rs.12.55 lakhs is proposed for 1987-88.

7. Financial assistance to the Assam Rifles Public School for improvement in the Standard of Science & Mathematics Education :

6.09 Under the Sixth Plan a scheme for admission of 14 students drawn from the Hill areas of the region has been included. Accordingly, 14 students were admitted in the Assam Rifles Public School as a measure for improving the standard of Science and Mathematics. Although the Scheme as such was discontinued from 1984-85. NEC will have to bear the liability of providing fund for the students already admitted till all of them pass out class XII. The total committed expenditure of Rs. 25.77 lakhs during the 7th Plan has already been approved. An amount of Rs.5.42 lakhs was spent on the scheme during 1985-86. An amount of Rs.10.00 lakhs was provided in 1986-87 and an anticipated expenditure for 1986-87 is Rs.7.00 lakhs. An amount of Rs.10.00 lakhs is proposed for 1987-88.

8. Fisheries Training Institute at Amranga, Assam:

6.10 The Scheme was proposed to train inservice candidates from departments of Fisheries of constituent units of the region as opportunities for training at Central Institute of Fisheries Education(CIFE) and other centres of Fisheries education for this region are felt insufficient to meet full requirements. The proposed financial outlay during the 7th Plan for the Scheme is Rs.54.41 lakhs. An approved outlay for the year 1986-87 is Rs. 5.00 lakhs and will be utilised fully as the Scheme has been sanctioned for implementation by the Govt of Assam. An outlay of Rs.11.11 lakhs is proposed for 1987-88.

9. Regional Mining School, Nagaland:

6.11. The Scheme has not yet been sanctioned. The All India Council for Technical Education recommended Dimapur for the location of the school. The Govt of Nagaland, however, requested for the location of this school at Mokokchung. The Expert Committee of the AICTE visited Nagaland on 4th and 5th November, 1985 for final decision. The report of the Expert Committee had already been submitted to the Ministry of Human Resource Development on 26th February, 1986. Approval of Govt of India is awaited. An amount of Rs. 10.00 lakhs has been approved for the scheme during 1986-87 and an anticipated expenditure for 1986-87 is Rs. 10.00 lakhs. An outlay of Rs. 10.00 lakhs is proposed for 1987-88.

10. Regional Students Hostel (Hostel for Researchers):

6.12. An amount of Rs. 55.00 lakhs was provided in the 7th Plan for construction of Regional Students' Hostel (Hostel for Researchers). Under the original scheme there was a provision of Rs.120.00 lakhs for construction of four hostels, 2 at Shillong and one each at Kohima and Aizawl. The progress of the scheme has been found to be very unsatisfactory. Pending review of the scheme, a provision of Rs. 1.00 lakh is proposed for 1987-88. No release of funds was however, made during 1985-86 and 1986-87.

11. North Eastern Judicial officers Training Institute Gauhati :

6.13. A regular Institute for training of judicial officers was established at Gauhati in 1981-82 with active collaboration and assistance from the Guwahati High Court. The Institute runs two courses viz: Foundation Course for training Grade-III officers of State/UT judicial services and a similar Refresher course for Grade-II judicial officers. Till the end of Sixth Five Year Plan, the Institute has trained 110 officers in the Foundation Course and 39 officers in Refresher Course. A quick assessment at the

end of Sixth Plan revealed that still 436 officers were to be trained under Foundation Course and 157 officers under Refresher Course. With a view to cover the backlog, the Institute was allowed to operate during the Seventh Five Year Plan. The Seventh Plan approved outlay for the Scheme is Rs.20.00 lakhs. During the year 1985-86 Rs. 2.28 lakhs were utilised. Rs. 5.00 lakhs has been approved for 1986-87 and the provision is expected to be utilised fully. An amount of Rs. 5.00 lakhs is proposed for 1987-88.

12. Regional Medical College, Imphal :

6.14 The College was established in the year 1972 as a joint venture of Central Government and 4 North Eastern States and 2 Union Territories. At the establishment of North Eastern Council, the College has been one of the projects of the NEC. Initially the College was managed by the Government of Manipur. But with the formation of the North Eastern Regional Medical College Society the management of the College and the Hospital attached to it was taken over by the Society with effect from 1.8.1976.

6.15. A total amount of Rs. 1369.42 lakhs was released by the North Eastern Council up to the end of 1986 towards Non-recurring expenditure of the Hospital i.e. Rs. 1174.56 lakhs and Rs.194.86 lakhs as NEC's share for the Recurring expenditure.

6.16. A revised project for Rs.1902.00 lakhs for the RMC, Imphal has been approved by the Cabinet. An approved outlay for 1986-87 for the Scheme is Rs.190.00 lakhs which will be utilised fully. An outlay of Rs.214.00 lakhs has been proposed for the year 1987-88.

13. 13. North Eastern Police Academy :

6.17. The Academy was set up to impart training to Police Officers of State Police Department of the N.E.Region. The Academy started functioning since July,1978 for imparting

training to various categories of Police Officers. The approved outlay for the Academy for the Sixth Five Year Plan was Rs.630.00 lakhs which was supposed to cover the cost of construction of main building, mess, hostels, residential accommodation, play ground etc. and recurring expenditure. The total expenditure upto the end of Sixth Five Year Plan is Rs.241.12 lakhs. Seventh Plan approved outlay for the scheme is Rs. 347.39 lakhs. A sum of Rs.123.75 lakhs was spent during the year 1985-86. A provision of Rs. 150.00 lakhs was made during 1986-87 against which an anticipated expenditure is Rs.170.00 lakhs. Rs.170.00 lakhs are proposed for 1987-88 Plan.

B. NEW SCHEMES :

14. Regional Dental College, Gauhati :

6.18. A 4 year BDS Course was introduced in the Dental Wing of the Gauhati Medical College in 1982 with financial assistance from the North-East Council. The objective of the programme was to train young men and women of the North Eastern Region in Dental Surgery leading to BDS Degree qualification. A two storeyed College building for a 100 seat accommodation was constructed and equipment, furniture and books were purchased during the 6th Plan. Subsequently, it was noted that a number of girl students have also joined the Institution under make shift arrangements for accommodation. 42 girl students have already been admitted. To accommodate the girls, proper hostel building is necessary for about 50 students. It is also proposed to have a College building, construction of compound wall and purchase of equipments. The Scheme submitted by the Govt of Assam has been forwarded to the Ministry of Health and Family Welfare, Govt of India for technical clearance and is expected to be cleared soon.

6.19. The 7th Plan allocation for the scheme is Rs.40.00 lakhs and the approved outlay for the year 1986-87 is Rs.5.00 lakhs and will be utilised fully. Rs.15.00 lakhs is proposed for 1987-88.

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15. Regional Graduate Nursing College, Gauhati:

6.20. The Regional Graduate Nursing College, Gauhati was sanctioned by NEC in May 1977 with an intake capacity of 50 students, but the admission had to be limited to 30 students only per year due to non-availability of accommodation as specified by the Indian Nursing Council. During the 6th Plan period, the Regional College of Nursing remained incomplete in many respects and therefore, it was decided that a new programme be taken-up for completion of the College. Keeping this in view, a proposal for expansion of the Nursing College was submitted by the Govt of Assam to the NEC based on the recommendation of the Indian Nursing Council. The Scheme was included in the 7th Plan with an approved outlay of Rs. 60.00 lakhs. Due to escalation of cost, the Govt of Assam submitted a proposal for the Scheme amounting to Rs.84.80 lakhs. The Scheme has been forwarded to the Govt of India, Ministry of Health and Family Welfare for their technical clearance. The additional expenditure against the 7th Plan allocation will be met from within the approved 7th Plan allocation for NEC Schemes. The approved allocation for the Scheme for the year 1986-87 is Rs. 5.00 lakhs and is expected to be utilised fully as the clearance of the Scheme is expected soon. An amount of Rs. 20.00 lakhs is proposed for the year 1987-88.

16. Expansion of Regional Pharmacy Institute, Agartala:

6.21. The original scheme was sanctioned at an estimated cost of Rs.20.92 lakhs in December, 1977 with an annual intake of 50 students from Manipur, Mizoram and Tripura. This Scheme has been completed by 1983-84. Considering the increasing need to expand the existing intake capacity from 50 to 100 the scheme at an estimated cost of Rs. 30.00 lakhs has been approved in the 7th Plan. The Scheme is under scrutiny in consultation with the

Ctd...6.9/-

Govt of Tripura and is likely to be finalised soon. The approved outlay for 1986-87 is Rs.4.00 lakhs, and the anticipated expenditure for 1986-87 is Rs. 3.00 lakhs. An amount of Rs.7.00 lakhs is proposed for 1987-88.

17. Improvement of ITI, Aizawl :

6.22. The Scheme for strengthening and modernisation of ITI, Aizawl at an estimated cost of Rs. 8.22 lakhs was approved during the 6th Plan. As the Scheme did not cater for the needs of the Institutional buildings etc, the scheme for construction of Institutional building, hostel, auditorium at an approved outlay of Rs. 15.00 lakhs has been approved in the 7th Plan. The Scheme submitted by the Govt of Mizoram for Rs.26.69 lakhs is under review. Pending approval anticipated expenditure for 1986-87 is Rs.5.00 lakhs as against approved outlay of Rs.10.00 lakhs. An amount of Rs.15.00 lakhs is proposed for 1987-88.

18. Linemen Training Centre, Mizoram :

6.23. At present, there are two Linemen Training Centres at Barapani and Jorhat which are being financed by the NEC. From the utilisation pattern of this facility, it is seen that the inservice personnel from Tripura, Manipur and Mizoram could not use these facilities to the fullest extent and, as such, there is an urgent need to establish a third Linemen Training Centre to cater for the needs of Manipur, Mizoram, Tripura and Barak Valley of Assam. The proposed intake is 20. It has been tentatively decided to locate the Centre at Vairangte so that it can easily draw on guest faculty and be easily accessible to trainees from other States. The State-wise allocation of seats is being worked out.

6.24. The Planning Commission has provided an token provision of Rs.1.00 lakh during the 7th Plan. The approved outlay for 1986-87 is however Rs.8.00 lakhs. Meanwhile, the Govt of Mizoram has submitted the Scheme for Rs.9.00 lakhs for building component. The Scheme is likely to be approved during 1986-87. Hence a provision of Rs.1.00 lakh for 1987-88 is proposed.

19. Regional ITI for Women, Tinsukia :

6.25. In the entire North Eastern Region there is no ITI for women. Hence, there is an urgent need to provide this training facilities to the women of this region. Accordingly, it has been decided to establish a Regional ITI for Women at Tinsukia to cater to the needs of the constituent States/UTs of the NEC. The Govt of Assam submitted a Scheme at an estimated cost of Rs.85.37 lakhs which was included in the NEC's Draft 7th Plan. The Scheme envisaged the intake capacity of 128 seats in Dress Making/Cutting & Tailoring, Hair Dressing and Skin Care, Secretarial Practice, Knitting with Machine and Hand Embroidery and needle work and Draftsmen(Civil). The Planning Commission, however, allotted Rs.10.00 lakhs for the Scheme.

6.26. The allocation is considered too inadequate. Since the Institute will be of Regional character there should be proper facilities for Institutional building, Hostels, Workshop, Tools/Equipment.

6.27. Considering the above aspect, the allocation for 7th Plan may be revised to Rs.29.32 lakhs. An approved outlay of Rs.8.00 lakhs provided for 1986-87 is likely to be utilised fully. A sum of Rs. 36.89 lakhs is proposed for 1987-88.

20. Modernisation of ITI, Imphal:

6.28. The modernisation of ITI, Imphal at an estimated cost of Rs.20.00 lakhs has been approved in the 7th Plan. The Scheme has been sent to the Planning Commission for approval. An approved outlay of Rs.10.00 lakhs provided for 1986-87 is likely to be utilised fully. An amount of Rs.10.00 lakhs has been provided for 1987-88.

21. Regional Centre for Training of Trainers in Farm Management, Rani(Assam):

6.29. The Govt of Assam had submitted a Scheme for establishment of a Regional Centre for trainers Training in Farm Management at

Rani near Guwahati at an estimated cost of Rs. 80.00 lakhs. In the 6th Plan the State Govt had set up an Institute for Farm Management in order to impart professional training to the educated rural youth of the State in taking up composite farming as a viable occupation. Under this, training is imparted apart from mixed farming, in Horticulture, Fisheries, Livestock and poultry management etc. so that the educated rural youth is provided with an opportunity to make productive use of his own land. After receiving training at the Institute, the trainee prepares a project which with loan assistance from the banks, if necessary, will provide self-employment. The training course is suitably organised and the staff drawn from the relevant disciplines to provide practical training at the Institute. The Institute is already having some physical facilities such as farm lands, buildings fishery tanks, dairy etc. The scheme aims at up-grading these facilities for providing training to trainers in similar activities in other parts of NE Region so that the flow of institutional finance in agriculture sector is increased. To make a beginning in the commercial agriculture the Planning Commission has provided Rs.1.00 lakh for 1986-87. The Institute is being developed as a centre for Entrepreneurship Development programme in agriculture.

6.30. The Govt of Assam has submitted a Scheme for establishment of a Regional Centre for Trainers Training in Farm Management at Rani near Gauhati at an estimated cost of Rs. ~~77.41 lakhs~~ <sup>in</sup> lakhs. The Scheme has been prepared and is <sup>in</sup> the process of approval. An amount of Rs.20.00 laks is proposed to be spent during 1986-87 as against the token provision of Rs.1.00 lakh. An outlay of Rs.22.00 lakhs is proposed for 1987-88.

6.31. The annexed statement gives details of Plan allocation for the above mentioned Schemes.



ANNUAL PLAN 1987-88  
Manpower Development Sector

( Rs.in lakhs )

Name of the Scheme	7th Plan approved outlay	1985-86 Actual Expenditure	1986-87 Approved outlay	Anticipated expenditure	1987-88 proposed outlay
1	2	3	4	5	6

A. CONTINUING SCHEME

1. Fellowship & Academic Programme	230.00	44.79	52.00	49.00	52.00
2. Linemen Training	25.00	7.56	8.50	8.50	9.00
3. Miscellaneous Training programme.	132.00	14.50	35.00	30.00	35.00
(42.50 accepted)					
4. Regional Institute of Science & Tech.	1500.00	700.00	800.00	440.00	800.00
5. Extension of Assam Survey school.	7.00	-	8.50	8.50	8.00
6. Improvement of Science & Mathematics Education.	25.00	10.20	10.00	10.52	12.55
7. Financial Assistance to Assam Rifles Public School for improvement in the Standard of Science and mathematics education.	25.77	5.42	10.00	7.00	10.00
8. Establishment of Regional Fishery Institute, Assam.	54.41	-	5.00	5.00	11.11
9. Regional Mining School, Nagaland	10.00	-	10.00	10.00	10.00
10. Regional students Hostel (Hostel for Researchers)	55.00	-	1.00	1.00	1.00
11. North Eastern Judicial Officers Training Institute, Gauhati.	20.00	2.28	5.00	5.00	5.00

Contd...6.13/-

(1)	(2)	(3)	(4)	(5)	(6)
12. Regional Medical College, Imphal.	700.00	135.00	190.00	190.00	214.00
13. North Eastern Police Academy.	347.39	123.75	150.00	170.00	170.00
<b>NEW SCHEMES:</b>					
14. Expansion of Dental Wing, Gauhati.	40.00	-	5.00	5.00	15.00
15. Expansion of Regional Nursing College, Gauhati.	60.00	-	5.00	5.00	20.00
16. Expansion of Regional Pharmacy Institute, Agartala. (43.88 proposed)	30.00	-	4.00	3.00	7.00
17. Improvement of ITI, Aizawl. (26.69 proposed)	15.00	-	10.00	5.00	15.00
18. Linemen Training Centre, Mizoram. (Rs.9.00 proposed)	1.00	-	8.00	8.00	1.00
19. Regional ITI for Women, Tinsukia. (Rs.79.32 proposed)	10.00	-	8.00	8.00	36.89
20. Modernisation of ITI, Imphal.	20.00	-	10.00	10.00	10.00
21. Regional Centre for Training of Trainers in Farm Management, (Rani) Assam. (Rs.77.47 proposed)	80.00	-	1.00	20.00	22.00
22. Introduction of Electronics at Agartala Polytechnic.	10.00	-	1.00	<u>dropped</u>	
<b>TOTAL :-</b>		1043.50	1337.00	998.52	1464.55

## CHAPTER - 7

### SOCIAL AND COMMUNITY SERVICES

#### Continuing Schemes.

##### 1. Artificial Limb Fitting-cum-Rehabilitation Centres.

7.01 The recommended 7th Plan outlay for the two centres one each at Shillong, Meghalaya and Imphal, Manipur under this scheme is Rs.20.42 lakhs.

7.02 Meghalaya - The Centre was approved in August, 1983 at an estimated cost of Rs.10.60 lakhs of which NEC's share was Rs.9.63 lakhs, the rest of the contribution came from the Talent Club Raj Bhavan, Shillong - A Voluntary Organisation. The total cost of the scheme is expected to <sup>go</sup> upto Rs.12.00 lakhs due to escalation of construction cost. The expenditure for 1985-86 was Rs.1.00 lakh. A token provision of Rs.1.00 lakhs has been provided for 1986-87 against which an anticipated expenditure is Rs.10.00 lakhs. The requirement for 1987-88 is Rs.1.00 lakhs.

7.03 Manipur - A Pilot Project for comprehensive rehabilitation centre was approved in 1982-83 at an estimated cost of Rs.43.00 lakhs. The expenditure during 1985-86 was Rs.7.42 lakhs. The approved outlay for 1986-87 is Rs.5.00 lakhs. The anticipated expenditure for 1986-87 is Rs.5.00 lakhs. Rs.10.00 lakhs have been proposed for 1987-88.

##### 2. Revised Project Report for the Pasteur Institute, Shillong.

7.04 The objective of the scheme for expanding various facilities under Pasteur Institute is to cater to the requirement of the States and Union Territories in the North Eastern Region for supply of bio-logical products such as Cholera Vaccine, Typhoid Vaccine and Rabies Vaccine and to render expert advice on such diseases and to impart training for medical and para-medical personnel in diagnostic and treatment of Rabies, laboratory techniques and investigations etc. The NEC has provided financial assistance to modernise the whole

structure of the buildings and to introduce latest equipment for augmentation of production of vaccine. The original scheme was for Rs.54.00 lakhs during the 6th Plan and later revised to Rs.104.48 lakhs due to escalation cost in renovation and construction of buildings and increase in cost of equipment. The scheme was allowed to be continued in the 7th Plan for which the approved outlay is Rs.50.00 lakhs. An amount of Rs.22.00 lakhs was provided for the year 1985-86 for purchase of equipment and for construction of buildings. During the year 1986-87 an allocation of Rs.28.00 lakhs has been approved which will be utilised only for construction buildings. Rs.7.00 lakhs has already been released by the North Eastern Council during the first quarter of the current financial year and the balance of Rs.21.00 lakhs will be spent for completion of the building programme. The scheme will be completed at the end of the financial year 1986-87 and funds will not be required for the year 1987-88.

New Schemes.

3. Food and Drug Laboratory, Shillong.

7.05 Prior to the creation of the State of Meghalaya which was under Assam a State Public Health Laboratory was sanctioned at Shillong. After the separation of Meghalaya from Assam the Laboratory along with all staff and equipment was shifted to Gauhati and till date all work related to examination and investigation of food and drug specimen are being sent to Gauhati. This has resulted in delay and in deterioration of specimen due to distance from Shillong and inadequate facilities available at Gauhati. The population in the State of Meghalaya is to be protected from the hazards of food adulteration and therefore, a scheme has been prepared by the Meghalaya Govt for establishment of a Food and Drug Laboratory at Shillong. Details of scheme have been forwarded to the Planning Commission and Ministry of Health and Family Welfare at an estimated cost of Rs.21.00 lakhs for technical clearance. The 7th Plan allocation for the scheme is Rs.15.00 lakhs and approved outlay for the year 1986-87 is Rs.2.00 lakhs and is expected to be

utilised fully. An outlay of Rs.8.00 lakhs is proposed for 1987-88.

4. Food and Drug Laboratory, Gauhati.

7.06 The object of the scheme is to ensure distribution of wholesome and nutritious food, safe drinking water and clean air for the healthy growth of the population both in the urban and rural areas. A Laboratory was set up at Gauhati after separation of the States of Meghalaya and Assam and this laboratory is rendering services to Mizoram, Manipur, Nagaland, Arunachal Pradesh and Meghalaya. All samples of water from the States Army and para-Military Formations are referred to Gauhati Laboratory for examination. In view of the heavy commitments of work as stated above, it has been decided to expand the activities of the laboratory by providing analytical laboratory facilities, imparting of training and refresher course of Analysts, Technicians, Food Inspectors and other functionaries, and offer technical guidance to the constituent units.

7.07 Keeping the above objective in view, the Govt of Assam submitted a scheme for strengthening the laboratory services to control food adulteration at Gauhati at an estimated cost of Rs.18.00 lakhs during the 7th Plan period. The allocation for the year 1986-87 is Rs. 2.00 lakhs and will be utilised fully. The scheme has been forwarded to the Planning Commission and to the Ministry of Health and Family Welfare for technical clearance. Rs.14.00 lakhs have been proposed for 1987-88.

5. Food and Drug Laboratory, Tripura.

7.08 The Govt of Tripura has given much importance in ensuring good quality of food and drugs to the people of the State. A Drug Control and Food Control Unit has been established in Tripura and to achieve maximum results a Drug Testing Laboratory is necessary. Accommodation is available for setting up the proposed laboratory. The Govt. of Tripura has submitted the scheme for the purpose. The

approved outlay for the scheme in the 7th Plan is Rs.20.00 lakhs. The scheme is awaiting approval of Govt. of India. Rs.2.00 lakhs is the approved outlay for the year 1986-87 and will be utilised fully. Rs.6.75 lakhs is proposed for 1987-88.

6. Artificial Limb Fitting-cum-Rehabilitation Centre, Nagaland.

7.09 In the absence of proper medical aid facilities for treatment and rehabilitation of the disabled population in the State it has been decided that suitable centres should be established in all the constituent units of the North Eastern Region for artificial limb fitting, Orthotic care and Rehabilitation of physically handicapped. No centre has been established in Nagaland and the State Govt has formulated a scheme at an estimated cost of Rs.11.69 lakhs during the 7th Plan period. The 7th Plan approved outlay is Rs.11.50 lakhs. The additional requirements of funds will be met from the overall allocation of NEC Plan. The outlay for the year 1986-87 is Rs.2.00 lakhs and an anticipated expenditure for the year 1986-87 is Rs 2.00 lakhs. The scheme has been finalised and is pending with Govt. of India for formal clearance. An outlay of Rs. 3.61 lakhs is proposed for 1987-88.

7. Orthopaedic and Traumatology Centre, Shillong.

7.10 Road transport accidents have been increasing in highways in Meghalaya State causing a large number of casualties. The National Highway from Gauhati connecting Assam, Meghalaya, Mizoram, Manipur and Tripura passes through the State of Meghalaya and with the increase of vehicular traffic majority of the accidents occur on the National Highway. Prompt treatment is necessary to avoid fatal accidents or resulting in the disability of victims. Life saving first-aid on the spot and transporting the victims to the nearest Hospital or specially structured accident care unit is of vital importance. The Govt. of Meghalaya

has therefore, proposed a scheme for Orthopaedic and Traumatology Centre at Shillong. The scheme is pending with Govt. of India for clearance. The approved outlay for the scheme during 7th Plan is Rs.10.00 lakhs. Approved outlay for 1986-87 is Rs.2.00 lakhs which is expected to be utilised fully. An outlay of Rs. 10.50 lakhs is proposed for 1987-88.

7.11 The plan allocation for the schemes mentioned above is indicated in the annexed statement.

Annual Plan 1986-87

Statement

(Ref. Para No. 7.11)

Social & Community Services.

(Rs. in lakhs)

Sl. No.	Name of Scheme	Approved 7th Plan outlay	Expenditure 1985-86	1986-87		Proposed outlay 1987-88
				Appvd. outlay	Anticipated Expdr.	
1	2	3	4	5	6	7

Continuing Schemes.

1.	Artificial Limb Fitting Centre-cum-Rehabilitation Centre, Shillong, Imphal.	20.42	1.00	1.00 (Shillong)	10.00 (Meg.)	1.00
			7.42	5.00 (Imphal)	5.00 (Imphal)	10.00
2.	Pasteur Institute, Shillong.	50.00	22.00	28.00	28.00	-

New Schemes

3.	Food and Drug Laboratory, Shillong.	15.00	-	2.00	2.00	8.00
4.	Food and Drug Laboratory, Gauhati.	18.00	-	2.00	2.00	14.00
5.	Food and Drug Laboratory, Tripura.	20.00	-	2.00	2.00	6.75
6.	Artificial Limb Fitting-cum-Rehabilitation Centre, Nagaland.	11.50	-	2.00	2.00	3.61
7.	Orthopaedic and Traumatology Centre, Shillong.	10.00	-	2.00	2.00	10.50

<b>TOTAL</b>			30.42	44.00	53.00	53.86
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CHAPTER - 8  
GENERAL SERVICES

Continuing Schemes.

1. Regional Information & Documentation Centre.

8.01 The Regional Information and Documentation Centre was set up in 1974-75 with a view to disseminating information pertaining to different aspects of the socio-economic life of the five States and two Union Territories constituting the North Eastern Region. The major objective of this centre were to build up a repository of essential information regarding economic resources, trend of development and potentialities and problems of the entire region and to maintain systematic record about the developmental activities sponsored by different agencies like the Government of India, States and Union Territories Government and the North Eastern Council. During the last few years the Centre has developed a collection of more than 13,000 books covering all disciplines besides a respectable stock of journals, reports and studies having relevance to this region.

8.02 The original Sixth Plan allocation was Rs.17.15 lakhs while the actual expenditure was Rs.25.00 lakhs. More than 20 printed publications have been brought out under this scheme during the last few years. A Journal of the North Eastern Council and the 'Basic Statistics of the NE Region' are also being brought out regularly.

8.03 It is proposed to continue the present activities like purchase of new books and journals, printing of publications and expansion of press and audio-visual activities. The activities of this centre in Seventh Plan would be :

- (a) The activities which have been under way under the Regional Information and Documentation Centre would be continued as before.

- (b) The Information Wing should be strengthened with acquisition of essential audio-visual equipments and also providing new technical hands to look after certain specialised works like Press Research and general liaison.
- (c) A new drive for collecting technical information and their systematic dissemination among Government Departments, Research Institutions and scholars will be launched to make plan formulation and implementation more fruitful.

8.04 It is proposed to open a number of Press Clipping files covering all the sectors under the Secretariat individually and few other clipping files in respect of general information. Besides newspaper cuttings these files will contain summaries of important documents concerning the individual sectors and extracts from special publications, reports and technical journals.

8.05 The Seventh Plan outlay is Rs.50.00 lakhs for the Centre.  
Rs.8.07 lakhs were spent during 1985-86. The approved outlay for 1986-87 is Rs.13.00 lakhs and will be utilised fully. Proposed outlay for 1987-88 is Rs.10.00 lakhs

## 2. Natural Hazards Reduction Programme:

- i) Setting up of Earthquake Risk Evaluation Centre in NEC Secretariat.

8.06 On the recommendation of ERE Council, an ERE Centre was established in 1980, to coordinate the earthquake prediction related research in NE region. A nucleus has already been created in the EREC with six Senior Technical Assistants - trained in Seismology and in Computer programming, an Extension Officer and a Statistician headed by Director (S&T). This small working team of ERE Centre so far, have completed analysis of seismic records obtained during the period of 1963 to 1980, and being generated by the World Wide Standardised Seismic

Network Stations (WWSSN) located in the Central Seismological Observatory at Upper Shillong. Moreover, staffs of ERE Centre are also analysing seismic records of all the IMD stations located in NE India from time to time. Under this centre, a mini computer has been installed for earthquake and other geophysical data processing. A programme called Hypo-71 originally developed by USGS of USA in a big computer has been truncated and designed so as to accommodate it in this mini computer. The clipped & revised version of the programme has been done very successfully in this mini computer. Moreover, data obtained from WWSSN of CSO, Shillong has also been computerised. Steps have also been taken to computerise all the data obtained from Radon Emission Studies. In the 9th EREC meeting it was proposed that whatever spare time will be left after ERE Centre routine utilisation, the computer can be used for NEC's in-house utilisation.

8.07 The approved outlay for the Sixth Plan was Rs.40.00 lakhs out of which Rs.24.00 lakhs were spent. Rs.40.00 lakhs have been provided in the 7th Plan and Rs.6.64 lakhs were spent during 1985-86. Approved outlay for 1986-87 is Rs.8.00 lakhs and will be utilized fully. Proposed outlay for 1987-88 is Rs.8.00 lakhs. So far, ERE Council met nine times. In the 8th EREC meeting a committee was constituted to recommend the best form of organisational set up for the centre. The committee met in Trivandrum in 7th & 8th March, 1986 and submitted a vivid report on the organisational set up. In the 9th EREC meeting held in 22nd May, 1986, this report was placed before the members. It was appreciated by the members who attended the 9th EREC meeting. Thus, a committee was constituted in the 9th EREC meeting with seven members to furnish a detailed project report. This committee will meet in the month of September, 1986 in New Delhi.

ii) Setting up of ten Seismological Stations:

8.08 Under this scheme, in the 6th Plan, an approved allocation of Rs.34.90 lakhs had been made for the establishment of ten Seismological stations. But only Rs.10.60 lakhs

have been spent for purchasing 5 sets of instruments during the Sixth Plan. The scheme was allowed to continue in the 7th Plan with an approved outlay of Rs.15.00 lakhs. Approved outlay for 1986-87 is Rs.4.00 lakhs and will be utilised fully. No outlay is proposed for 1987-88.

iii) Telemetered Seismic Network in NE Region.

8.09 Under this scheme a telemetered Seismic Network has been proposed to be set up in NE Region in collaboration with BARC, Bombay. As the project will be set up by judging the merit of performance of the same network that is functioning in the Himalayan Region, U.P. by the UOR, Roorkee. No outlay was provided 1985-86 and 1986-87. An amount of Rs.25.00 lakhs is proposed for 1987-88.

3. Research & Development Projects:

i) Repetitive Geodetic Survey for Monitoring Land Deformation as a precursor of Earthquake.

8.10 The Geodetic and Research Branch of SOI is carrying out a study on land deformation in NE India as a precursor of Earthquake. It is a NEC sponsored scheme. Out of approved outlay of Rs.14.94 lakhs of 6th Plan an expenditure of Rs.9.70 lakhs has been made for purchasing instruments. An outlay of Rs.4.00 lakhs has been approved for 7th Plan, but it was later on revised to Rs.8.00 lakhs for custom duty payment for the equipment to be imported from USA. Also a token provision of Rs.1.00 lakh was made for the year 1986-87 to meet the balance contingency. It is anticipated that an expenditure of Rs.10.50 lakhs is involved in the year 1986-87. An amount of Rs.1.00 lakh is proposed.

8.11 Under the scheme, so far, three jeeps, three precision level instruments have been procured. Also order have been placed with USA based firm to supply a set of gravimeter (Model-D). The equipment has not arrived in the country as yet.

8.12 Reports submitted so far by Geodetic and Research Branch of Survey of India, Dehradun on Seismotectonic investigation are very short. High precision levelling and gravity survey along different lines covering different areas of Assam and Meghalaya have been presented in the report year-wise.

8.13 Data obtained during the field investigation is never enclosed in the report. If Survey of India, Dehradun supplies with field data, these can be processed in our computer for making necessary scientific interpretation. It will also be useful when EREC will be established as an independent set up.

ii) Radon Emission Studies as an Earthquake Precursor:

8.14 The scheme is being implemented by the Earthquake Risk Evaluation Centre with the assistance of the Atomic Minerals Division of the Department of Atomic Energy. Work has commenced in 1982 and would continue in the 7th Plan. No fund from the Plan outlay have been spent so far, because the scheme is continuing with the fund of AMD. An outlay of Rs.10.00 lakhs has been approved for 7th Plan. Approved outlay for 1986-87 was Rs.0.50 lakh and will be utilised fully and Rs.2.00 lakhs are proposed for 1987-88.

8.15 The task is being carried out by two of STAs of ERE Centre. They attend regularly the field duty in different sites like Upper Shillong, Lalchand Basti, Pologround and Dawki by NEC vehicles. Variation of radon content in water samples are being carried out in Pologround & Lalchand Basti area in every working days, where as variation of radon content in soil samples is done in Upper Shillong and Dawki at an interval of 20 days. Samples collected in the field are processed and analysed in the AMD laboratory by the NEC staff. Also a bulletin and graphs etc. are prepared by NEC staff in the AMD office itself. The work is proceeding progressively and the up-to-date field data has been analysed

by the NEC staff and handed over to the local AMD authorities for printing and publication.

4. Science and Technology.

1) Regional S&T Council.

8.16 NEC had established<sup>ON</sup> NE Regional Committee of Science & Technology (NERCST) in March'81 to coordinate the work of the State Science Councils and to assist the NEC in formulating S&T programme for the NE Region. The NERCST held its three meeting at Shillong. The NERCST is represented by the eminent scientists and academicians engaged in the S&T activities in the NE Region. For the Seventh Plan an outlay of Rs.5.00 lakhs was approved. A n amount of Rs.1.00 lakh was an approved outlay for 1986-87 and will be utilised fully. Same amount is proposed for 1987-88.

ii) R&D Programme.

8.17 In addition to the existing projects, the NERCST is expected to consider and recommend a large number of small R&D projects in various fields relevant to the development needs of the region. These projects would require financial support from NEC. An outlay of Rs.5.00 lakhs was approved for the Seventh Plan. An approved outlay for 1986-87 is Rs.0.25 lakh and an anticipated expenditure against this is Rs.3.00 lakhs. An amount of Rs.3.00 is proposed for 1987-88.

5. Regional Centre for Resource Evaluation Documentation & Information System.

8.18 Recognising the critical role of information in plan formulation and other developmental activities, the scheme for Regional Centre for Resource Evaluation Documentation and Information was included in the Sixth Plan with an outlay of Rs.50.00 lakhs. The scheme with estimated cost of Rs.165.52 lakhs has been approved. The centre is expected to collect detailed

information in regard to natural, organisational and human resources and realistic determination of the extent of utilisation of the same. The task of the Centre broadly are : (i) Documentation, (ii) Data Processing, (iii) Reference and Planning and (iv) Information dissemination.

8.19 The Seventh Plan approved outlay for the scheme is Rs.45.00 lakhs and for 1986-87 is Rs.20.00 lakhs. As per the provision of the scheme NEC has taken up the matter with Min. of Home Affairs for recruitment of Joint Adviser who intern when appointed would work out modus operandi of the scheme. An anticipated expenditure for 1986-87 is Rs.5.00 lakhs. An amount of Rs.110.00 lakhs is proposed for 1987-88.

#### 6. Chairman's Survey & Consultancy.

8.20 A number of studies in regard to problems peculiar to this region are required to be taken up and feasibility reports/techno-economic reports are required to be prepared for optimal utilisation of regions resources. Occasionally experts are required to be engaged for undertaking such and other activities. An outlay of Rs.250.00 lakhs has been approved for the Seventh Plan. During 1985-86 Rs.18.16 lakhs were spent. Approved outlay for the year 1986-87 is Rs.50.00 lakhs and will be utilised fully. An amount of Rs.50.00 lakhs is proposed for 1987-88.

#### 7. Youth Activities.

8.21 Youth Adventure Activities scheme, under which five Centres have been sanctioned so far, has become quite popular. It is proposed to sanction two more centres and provide assistance for organising 15 adventure camps during the Seventh Plan. An outlay of Rs.5.00 lakhs has been approved for Seventh Plan. Approved outlay for 1986-87 is Rs.3.00 lakhs and anticipated expenditure is Rs.2.00 lakhs. An outlay of Rs.3.00 lakhs is proposed for 1987-88.

### 8. Housing for NEC Staff.

8.22 A scheme for providing housing for NEC Advisers and staff with an estimated cost of Rs.25.00 lakhs was sanctioned during 1984-85.

The Seventh Five Year Plan outlay is Rs.72.00 lakhs of which Rs.18.00 lakhs were spent during 1985-86. A sum of Rs.20.00 lakhs is approved for 1986-87 and will be utilised fully. A sum of Rs.20.00 lakhs is proposed for 1987-88.

### 9. In-situ Stress Measurements.

8.23 The main objectives of the scheme are (i) to measure in-situ stress in NE Region (Shillong Plateau, Mikir Hills, Mishimi Hills and some of the inselbergs north of Brahmaputra) (ii) to know whether the seismic-gap are highly in stressed condition or not. This study form a valuable complement to the Earthquake prediction research programme in the NE Region. The scheme will be implemented by National Geophysical Research Institute, Hyderabad. The outlay approved for the Seventh Plan is Rs.5.00 lakhs. No outlay has been proposed for 1987-88.

### NEW SCHEMES

#### 10. Documentation of Tribal Culture.

8.24 A scheme at an estimated cost of Rs.376.75 lakhs was proposed for the Seventh Five Year Plan to document various facts of 55 major tribes of the NE Region. An outlay of Rs.15.00 lakhs have been approved by Planning Commission for 7th Plan. Scheme has been finalised and is pending with the Planning Commission for their clearance. A token provision of Rs.1.00 lakh was made for the year 1986-87 and is expected to be utilised. An outlay of Rs.5.00 lakhs is proposed for 1987-88.



11. Science Museum/Science Centre.

8.25 To develop basic culture among the masses about the modern developments in Science and Technology a comprehensive scheme has been drawn up for having a Regional Science Museum and six State Science Museums in the NE Region with the support of the National Council of Science and Technology. In the Seventh Plan it would be possible to take up one Regional Science Museum costing Rs.135.00 lakhs and three State Museums costing Rs.45.00 lakhs each. The total estimated expenditure will be of the order of Rs.270.00 lakhs of which NEC's share will be 50%. Accordingly an outlay of Rs.131.00 lakhs has been approved for the Seventh Plan. The scheme has been sanctioned and the approved outlay of Rs.50.00 lakhs provided for 1986-87 will be utilised. An outlay of Rs.50.00 lakhs is proposed for 1987-88.

12. Environmental Studies.

8.26 The proposal has been discussed with the Deptt. of Environment, Govt. of India and accordingly a Regional Committee on Environment has been set up. The Committee has recommended for constituting 20-25 teams of various institutions and voluntary organisation to take up specific study to find out the actual needs of the people and how the needs could be met from local resources. After receiving the reports from the teams NEC will take up pilot demonstration projects.

8.27 Approved outlay for such studies during 7th Plan is Rs.15.00 lakhs. A token provision of Rs.1.00 lakh was approved for 1986-87 and will be utilised. An amount of Rs.5.00 lakhs is proposed for 1987-88.

8.28 The Plan outlay on the schemes included in this chapter are indicated in the Annexed Statement.

ANNUAL PLAN 1987-88

General Services		(Rs. in lakhs)				
Sl. No.	Name of Schemes	Appvd. 7th Plan Outlay	Actual Expdr. 85-86	1986-87 Appvd. Outlay	Anticipated Expdr.	Proposed Outlay for 1987-88
1	2	3	4	5	6	7
<u>Continuing Schemes.</u>						
1.	Regional Information & Documentation Centre.	50.00	8.07	13.00	13.00	10.00
2.	<u>Natural Hazards Reduction Programme.</u>	80.00	6.64	12.00	12.00	33.00
	i) Earthquake Risk Evaluation Centre.	40.00	6.64	8.00	8.00	8.00
	ii) Setting up of Seismological Stations.	15.00	-	4.00	4.00	-
	iii) Telemetered Seismic Network in NE Region.	25.00	-	-	-	25.00
3.	<u>R&amp;D Projects</u>	14.00	-	1.50	11.00	3.00
	i) Repetitive Geodatic surveys for monitoring land deformation Precursor of earthquake.	4.00	-	1.00	10.50	1.00
	ii) Radon Emission Studies for Identifying Earth quake, Precursors.	10.00	-	0.50	0.50	2.00
4.	<u>Science &amp; Technology.</u>					
	i) Regional S&T Council	5.00	-	1.00	1.00	1.00
	ii) R&D Programme	5.00	0.37	0.25	3.00	3.00
5.	Regional Centre for Resources Evaluation Documentation & Information System.	45.00	-	20.00	5.00	110.00
6.	Chairman's Survey and Consultancy.	250.00	18.16	50.00	50.00	50.00
7.	Youth Activities.	5.00	0.02	3.00	2.00	3.00
8.	Housing for NEC Staff.	72.00	18.00	20.00	20.00	20.00
9.	Insitu Stress Measurements.	5.00	-	-	-	-
<u>New Schemes.</u>						
10.	Documentation of Traditional culture.	15.00	-	1.00	1.00	5.00
11.	Science Museum/Science Centre	131.00	-	50.00	50.00	50.00
12.	Environmental studies.	15.00	-	1.00	1.00	5.00
TOTAL			51.26	172.75	169.00	293.00

## CHAPTER - 9

### SUPPLEMENTARY PROPOSALS FOR INCLUSIONS IN 1987-88 N.E.C. PLAN

#### I. AGRICULTURE & ALLIED PROGRAMMES

##### SOCIAL CONSERVATION

##### 1. Watershed Management Programmes

9.01 In the Agriculture sector a major emphasis in the NEC Plan has been on developing water sheds and settlement of the Jhumias on permanent cultivation within the watershed. Accordingly, various watersheds are identified by the State/UT Govt. and an integrated development programme was taken up for optimisation of yields and incomes farmers. Following the implementation of the 7 continuing schemes, a lot of interest has been generated in the watershed management schemes, Government of Assam, Mizoram and Tripura has submitted three watershed management schemes to be taken up in the Seventh Plan for which the additional requirement would be Rs.50.00 lakhs<sup>Rs.50.00 lakhs</sup> and Rs.70.00 lakhs respectively for Assam, Mizoram and Tripura. The requirement of funds for the Annual Plan 1987-88 is Rs.41.00 lakhs for these three projects.

##### AGRICULTURE

##### 1. Tobacco Development scheme, Manipur.

9.02 Manipur is endowed with suitable agro-climatic conditions for production of Tobacco and which has a high demand in the State. Though the area under Tobacco is virtually non-existent, there is scope to grow Tobacco as a commercial crop, Govt. of Manipur had submitted an experimental scheme for setting up of a Regional Tobacco development farm in Manipur with the objective of demonstrating the feasibility of cultivation of Tobacco. Under this, two Tobacco Seed Farms will be set up in the State for supply of quality tobacco seeds to the farmers. The total 7th Plan outlay proposed to be Rs.14.23 lakhs while Rs.8.00 lakhs are proposed for 1987-88.

## 2. Pilot Project on Parasite Rearing Laboratory Manipur.

9.03 Pest/disease surveillance/monitoring together with need-based and judicious use of pesticides and deployment of bio-control agents from the key for the success of Integrated Pest Management. Rearing of effective local parasites and predators against selected major pests of crops and releasing them in the field at such a time as would manage pest populations to a maximum extent will prove effective tools for integrated pest management in the State as so far no such programme has been taken up in the North Eastern States. Hence establishment of one Parasite Rearing Laboratory is proposed by the Govt. of Manipur with an estimated cost of Rs. 26.19 lakhs. A sum of Rs.2.50 lakhs is proposed for 1987-88.

## 3. Establishment of Regional Seed Certification Agency.

9.04 A Seed Certification Programme guarantees the supply of genetically pure planting materials and also acts as an effective source to transfer the results of the research to the farmer. It gives a pedigree record of crop variety and make available source of genetically pure seeds and propagate materials of general distribution. The Seed Act 1965(54 of 66) passed by the parliament emphasis establishment of independent Certification Agency in the State and UTs. Section 8 of the Seeds Act provides establishment of certification Agency. The main crop of the region is paddy, generally intensified in the valleys, Maize, Pulses, Oilseeds etc. are also grown both in the Hills and Plains.

9.05 Due to lack of Seed Certification Agency productions of the region cannot be marketed for Seed propose. Till now, the State Departments is looking after the work of certification. Thereby

potential already available in the States cannot be utilised effectively.

9.06 The Manipur Government has expressed the need of establishing a common Seed Certification Agency for the NE Region. The details of the scheme are being worked out by the State Govt. A sum of Rs.5.00 lakhs is proposed for 1987-88.

4. Regional Centre for Training-cum-Production of Mushroom in Manipur.

9.07 The scheme aims at survey of edible mushroom in Manipur and to explore possibilities of improving method of their cultivation. A number of edible mushrooms are found locally growing in the forest area but due to deforestation they become scarce. It is, therefore, become imperative that attempts are made to take up their cultivation along with the cultivation of Oyster mushroom, White button mushroom and Paddy straw mushroom in view of the fact that mushrooms constitute an important source of protein.

9.08 This scheme will also provide for regular training programmes for rural and urban people interested in the programme and training facility will be available for all the States/UTs in the region.

9.09 The estimated cost of the scheme is Rs.25.47 lakhs. A sum of Rs.5.00 lakhs is proposed for 1987-88.

PLANTATION

1. Estt. of Rubber Demonstration-cum-Training Centre.

9.10 Commercial cultivation of rubber though started in all the North Eastern States coming under the North Eastern Council (NEC) during the Vth and VIth Five Year Plan periods, has not made the desired progress in view of the fact that the farmers are not familiar with the crop and there are at present no effective set up for popularising rubber cultivation and for transferring the technology of rubber cultivation among the farmers. For this purpose, small demonstration cum training centres in 15 selected districts covering all the North Eastern States, are proposed to be established under the present scheme. These district centres will also serve as demonstration and practical training centres for the local planting community and the extension services required by the farmers will also be provided from this base. The land required for the establishment of the centres would be provided by the respective State Governments and the North Eastern Council will consider providing all the required assistances in this regard.

9.11 The details of the scheme is being worked out by the State Government in consultation with the Rubber Board. A sum of Rs. 10.00 lakhs is proposed for 1987-88.

2. Estt. of Rubber Nursery in Assam and Nagaland.

9.12 Rubber plantation development was taken up in N.E. Region under NEC programme. Encouraged by the satisfactory progress of rubber plantation, it is proposed to take up another three rubber nursery scheme during remaining period of 7th Plan.

9.13 The requirements for establishing the above mentioned three nurseries are worked out at Rs. 34.00 lakhs. A sum of Rs. 15.00 lakhs is proposed for 1987-88.

FORESTRY.

1. Expansion scheme on afforestation in the catchment area of Kopili Hydro-Electric Project in the State of Meghalaya.

9.14 During the last 26th Council Meeting the Govt. of Meghalaya proposed for an expansion scheme on Afforestation in the Catchment area of Kopili Hydro-Electric Project at an estimated cost of Rs.30.00 lakhs. During the 6th Plan Rs.49.52 lakhs was sanctioned for the afforestation in the catchment area of Kopili Hydro-electric project in Meghalaya to protect the hydro electric catchment areas for heavy erosion and siltation. The work has completed for this specified project, but larger areas have to be covered under afforestation. With this end in view , the Govt. of Meghalaya has proposed an expansion scheme during the 7th Plan for Rs.30.00 lakhs. It is proposed to take up plantation in 1104 hectares. An amount of Rs.10.00 lakhs is proposed for 1987-88.

POWER DEVELOPMENT

1. New Generation Projects.

9.15 A shelf of hydel projects is already available and it is desirable to go in for more generation for meeting not only the power requirement of the North Eastern Region but for the adjacent regions due to lower cost of hydel generation. An amount of Rs.200 lakhs is proposed for 1987-88. The requirement for the remaining period of the plan is Rs.10.00 crores. The project can be taken up soon is Phase-II of Kopili Hydel Project.

2. Establishment of a Regional Load Despatch Centre and State Load Despatch Centres in the North Eastern Region.

9.16 In the 29th meeting of the North Eastern Regional Electricity Board (NEREB) held at Gauhati on 12.9.86 the question of establishment of a Regional Load Despatch Centre at Shillong and State Load Despatch Centres of Assam, Meghalaya and Tripura (estimated cost RLDC-2909 lakhs and SLDC in Assam, Meghalaya and Tripura Rs.26,27, and 60 lakhs respectively) was discussed. The scheme has been techno-economically cleared by CEA at a cost of Rs.5536.00 lakhs. In course of clearance of the scheme, the Planning Commission suggested that North Eastern Council might be approached to fund the entire scheme. The 29th meeting of NEREB of 12.9.86 endorsed the view that funding be made from NEC Plan. A provision of Rs.1.00 crore is proposed for the works covered by this scheme for 1987-88. If the scheme is funded under NEC Plan, the requirement for the scheme in 7th Five Year Plan is Rs.22.00 crores, which will be an additionality.



POWER DEVELOPMENT

1. New Generation Projects.

9.15 The enormous hydel potential in the North Eastern Region deserves to be harnessed as an industry due to lower cost of generation not only to meet the power demand of the region but also of other parts of Eastern Region. The investigation of Tipaimukh High Dam Project and Kameng Hydel project was taken up under the aegis of North Eastern Council and the project reports are available. The estimated cost of Tipaimukh High Dam Project is Rs.1078 crores. This project envisages installed capacity of 1500 MW besides providing benefits of flood moderation, irrigation, navigation, etc. The question of clearance of the Tipaimukh High Dam project has been taken up by the Brahmaputra Board with the Govt. of India. In the project report for Kameng Hydel project, an installed capacity of 600 MW at an estimated cost of Rs.546 crores has been proposed. In September, 1984, NEEPCO submitted a project report for extension of Kopili hydel project (Generation). The project report envisages installation of 185 MW at an estimated cost of Rs.74.76 crores. Which has been updated to about Rs.102 crores. As the first stage of Kopili project is nearing completion and certain infrastructure are already available, it is felt that preliminary works for this extension project could be taken up if approved by the Government of India. An amount of Rs.200 lakhs is proposed for the New Generation Projects for 1987-88. (Kopili extension) The requirement for the remaining period of the Plan is estimated at Rs.100 crores. This will substantially improve the availability of power apart from reducing the cost of generation of power in Kopili Project.

9.16

2. Establishment of a Regional Load Despatch Centre and State Load Despatch Centres in the North Eastern Region.

9.16 In the 29th meeting of the North Eastern Regional

( 9.6 -A)

Electricity Board (NEREB) held at Gauhati on 12.9.86 the scheme for Establishment of a Regional Load Despatch Centre at Shillong and State Load Despatch Centres in Assam, Meghalaya and Tripura (Estimated Cost : RLDC - Rs.2909 lakhs and SLDCs in Assam, Meghalaya and Tripura Rs.2627 lakhs) was discussed. The scheme has been formulated for integrated operation of all the power stations of the North Eastern Region and has been technoeconomically cleared by the CEA in its 63rd meeting held on 27.2.86 at an estimated cost of Rs.5536 lakhs. While clearing the scheme, Adviser (Energy), Planning Commission has reportedly expressed the view that while the RLDC could be funded from the Central Sector, the SLDCs should be funded from the State Sector. As an alternative, Planning Commission suggested that the North Eastern Council might be approached to fund the entire scheme. In the meeting of the NEREB mentioned above, the consensus was in favour of the scheme funded entirely under the North Eastern Council Plan, due to resource constraints of the N.E. States/UTs. A provision of Rs.1 crore is therefore proposed for the works to be covered by the scheme in 1987-88. If the scheme is to be funded under NEC Plan. This will be an additionality for which Rs.22 crores will be required during Seventh Plan.

TRANSPORT AND COMMUNICATION SERVICES

1. Inter-State Bus terminals, Guwahati, Silchar, Dimapur and Imphal.

9.17 With the expansion of road network connecting different parts of the region particularly the district and Sub-Divisional headquarters and introduction of inter-State transport services, there has been a tremendous increase of both passengers and goods road traffic within this region. As Rly. network is extremely limited, bulk of this increase had taken place in the road sector. It is well known that the towns of North-East are ill developed and had grown in a haphazard manner. Historically, the bus terminus at all important towns of North-East are located in the central of the business districts where the roads are narrow and hence unable to cope with the increased traffic.

9.18 The position have become further difficult with the large scale growth of private Bus operators. The scope for expansion of existing bus terminus in major towns is very limited. It is therefore necessary that as in other important towns of the country inter-state bus terminus are established on the out-skirts of the major terminating towns of the region. Accordingly under the NEC Plan Rs. 150.00 lakhs are proposed for establishment of TSBTs at Guwahati, Silchar and Dimapur in the first phase and Rs. 100.00 lakhs are proposed for 1987-88. The schemes will be implemented by the concerned State Government agencies and the assistance of NEC will be only confined to the physical facilities, such as approach road, amenities waitinghall, rest rooms. The recurring expenditure would be met by the concerned State Government.

2. Inter-State Truck Terminus at Guwahati, Shillong, Silchar.

9.19 Due to inadequate Rly net-work a major part of the goods traffic of the NE Region is borne by the road transport system. Since towns of NE developed historically as the centres of administration except very few towns like Dibrugarh/Tinsukia organised facilities for receiving trucks on a large scale. The problem has become particularly acute in a place like Guwahati, where because of the local lying terrain, both sides of National Highway By pass have become parking places for trucks which had caused serious obstruction to the smooth flow of traffic, it is necessary that inter-State truck-terminus are established under the NEC Plan at important terminus points in the region. In the first phase it is proposed to establish ISTT at Guwahati, Silchar and Dimapur at an estimated cost of Rs. 180.00 lakhs in the 7th Plan with a proposed outlay of Rs. 75.00 lakhs in 1987-88. Guwahati is a gateway of North-East and the first major entry point in the North-East while Silchar serves Tripura and Mizoram apart from Assam and Dimapur is the entry point for Nagaland and Manipur, under the scheme, physical facilities for parking trucks will be built up while recurring expenditure will be borne by concerned State Government. The responsibility for administrating the ISTT would be left to the State Government.

NEW ROADS

- a. Improvement of Dhodar Ali - Assam
- b. Phungyar - Maklang Road Manipur

MANPOWER DEVELOPMENT

1. Dental Wing at RMC, Imphal.

9.20 There is only 1(one) Regional Dental College in the NE Region with an intake capacity of 30 students. In view of limited intake capacity the Regional Dental College has not been able to meet the growing requirement of trained manpower in this particular field of specialisation. There is, therefore, an urgent need to establish a second Dental College in the region. The team of Indian Council of Medical Research when visited RMC has recommended that a Dental Wing at RMC, Imphal may be started. The Government of Manipur has submitted a scheme at an estimated cost of Rs.172 lakhs for the Seventh Plan and a provision of Rs.33.00 lakhs are proposed for 1987-88.

2. Upgradation of Fire Fighting Training School, Gauhati, Assam.

9.21 The Elementary Fire Fighting Training School of the State Fire Service Organisation, Assam was established in the year 1969 in Guwahati with only one Training Officer. However, additional Instructors were made available by deputing Officers from the Fire Stations and Training courses were conducted regularly since 1969. So far, 1272 persons were trained in the Elementary fire Fighting courses in the School. This figure includes personnel deputed from different Fire Services outside the State and agencies like Assam State Electricity Board as follows :-

<u>Name of the Fire Service</u>	<u>Year</u>	<u>Number of Personnel deputed for Training</u>
1. Arunachal Pradesh.	1978	3
2. Mizoram	1981	4
	1983	2
	1985	5

3. Assam State Electricity Board.	1982	2
	1984	6
	1985	12
	1986	6

9.22 It will appear from the above, that the training school has already assumed regional character but as the Training School is all along functioning from rented house from inception, the intake was only about 30 per course and often request for more seats from outside States could not be conceded to. However, it may be mentioned here that the School could conduct only Elementary Fire Fighting courses with a limited capacity of seats for want of required accommodation. For advanced courses Fire personnel are required to be sent to National Fire Service College, Nagpur. Due to heavy pressure and demand for seats from all over the country, the Govt. of India has taken a new policy for decentralising the courses (Sub-Officer course) to the regional training centres. In view of this, it is desirable that a Regional Training College may be established at Guwahati to cater to the need of fire fighting training in Elementary Fire Fighting Training and advanced Fire Fighting Training courses by upgrading the existing Elementary Fire Fighting Training School at Guwahati to look after the training requirement of NERC. A plot of land measuring 36 B. 4K. 17 L. has already been allotted for construction of permanent Training Complex of the Fire Fighting Training College. To provide regional facilities the Govt. of Assam has sought financial assistance for construction of a permanent building complex and procuring necessary modern training equipments.

9.23 The details of the scheme and financial implementation are being worked out by the State Govt. Pending finalisation of detailed scheme a lump sum provision of Rs.20.00 lakhs is proposed to 1987-88.

3. Regional Sport Complex at Nowgaon, Assam and Dimapur, Nagaland.

9.24 The people of N.E. Region have many traditional sports, games, and martial art which are to be encouraged. Modern sports and games have become very popular. Though facilities for organised sports are limited, the region has produced a number of sports men and women who had represented the country in international meets. To encourage growth of regional capability in playgrounds expansion of existing Stadium etc is proposed under the NEC Plan at Nowgaon in Assam and Dimapur in Nagaland at an estimated cost of Rs.100.00 lakhs in the 7th Plan and Rs.40.00 lakhs in 1987-88. The proposal will include expansion of the existing stadium of Nowagong and Dimapur. The NEC assistance will be confined to the physical facilities only while other recurring expenditure will be borne by the concerned State Government.

SOCIAL AND COMMUNITY SERVICES

1. Tezpur Mental Hospital, Assam.

9.25 The Tezpur Mental Hospital was established in 1876. The existing buildings were constructed in 1929 with an intake capacity of 750 patients (male-600 and female-150). The bed strength was increased in 1966 to 864 (male-689 and female-175) and in 1976 increased to 1,000 (male-800 and female-200). No extra building was constructed to accommodate more patients. Besides catering to the need of the State of Assam, this hospital has, all along, done yemen service to the people of the whole NE Region, para-military staff working in this region, NF Railway etc. People from Nepal, Bhutan, North Bengal, Northern Bihar also come for psychiatric treatment to this hospital. There are seats reserved for the states of Arunachal Pradesh, Manipur, Nagaland and Mizoram. The outdoor attendance in 1980 was 1781 patients and in 1981 number has increased to 1846.

9.26 A proposal for expansion of the Mental Hospital was included in 1979-80 Plan of NEC. The Ministry of Health, however, did not agree to the proposal on the ground that it goes against the policy of the Govt. of India. NEC has, however, been pressed by the State Planning Commission appointed a Group under the Chairmanship of Dr. Wig. The final report of the Wig Committee already circulated by Planning Commission to all concerned has recommended strongly the need for an out-patient Department and a Clinical Laboratory for the Tezpur Mental Hospital. The Wig Committee in this regard has stated that "There is hardly a room of 8' x 8' size which acts as OPD. An active OPD will reduce not only admission rate but also help in the proper follow up of the cases". The Govt. of Assam has also submitted plan and estimates for the OPD Building. Since the improvement of Water Supply scheme for this hospital has already been taken up and Rs.9.70 lakhs



was provided by NEC during the last part of Sixth Plan and Rs.15.29 lakhs during 1985-86. The Govt. of Assam has sought assistance from NEC for further expansion of the facilities at Tezpur Mental Hospital. A provision of 30.00 lakhs is proposed for 1987-88 and the requirements for the remaining plan period is Rs. 80.00 lakhs.

2. Assistance to Dr.B.Baruah Cancer Institute, Gauhati, Assam.

9.27 High incidence of certain types of cancer in the region has been causing anxiety to the Health Authorities of the different States/UTs in the region. It is the general consensus that absence of adequate facilities for cancer treatment in the region has been telling heavily on the financial capabilities of the patients as they have been and are required to go outside the region for treatment. A large number of poor people have even to go without any treatment with fatal consequences. Dr.B.Baruah Cancer Institute is the only Cancer treatment Institute in this region which was established in 1974 by a voluntary organisation and recently taken over by the Govt. of Assam. At present there are 50 beds in the hospital. On an average 2500 patients attend hospital annually from different parts of NE Region. During 1984-85 NEC has sanctioned an amount of Rs.35.00 lakhs for some physical facilities. The Govt. of Assam has sought further financial assistance from NEC for upgradation of the Institute. A provision of Rs.30.00 lakhs for 1987-88 is proposed. The projected requirement for 1989-90 is Rs.75 lakhs.

3. Regional Blood Bank Meghalaya.

9.28 A scheme for improvement and extension of Blood Bank situated in Pasteur Institute, Shillong has been prepared by the Government of Meghalaya

at an estimated cost of Rs.21,13,340 during the Seventh Plan period. During the last four decades a blood bank has been accommodated and attached to the Pasteur Institute, Shillong and forms a wing of the Institute. It was established during the British Government and catered for transfusion of blood for wounded soldiers only who were brought to the Shillong Hospital from places of action. This was a stop gap arrangement and has been continued after the war to supply the local needs of blood in the Shillong Hospital. It is functioning in a cramped place and lacks facilities in equipment, accommodation and fully qualified and trained staff and cannot operate effectively like a full-fledged Blood Bank. In the North Eastern Region there are two other Blood Banks located at Dibrugarh and Gauhati Medical Colleges which cater to their own needs. It is, therefore, a fact that the entire North Eastern Region of 5 States and 2 Union Territories do not have a single full-fledged Blood Bank.

9.29 The Blood Bank at Shillong functions as a blood grouping, cross matching and laboratory tapping. There are no facilities for storage. The replacement system of blood is far from satisfactory. The patients themselves arrange supply of blood through donors or professionals. This may lead to transmitting of various diseases to the patients.

9.30 The requirement of funds during the Seventh Plan is Rs.23.00 lakhs. A sum of Rs.10.00 is proposed for 1987-88.

4(a) Establishment of Regional Mental Health-cum-Rehabilitation Centre at Shillong.

9.31 The Government of Meghalaya is proposing to establish a Regional Mental Health-cum-Rehabilitation Centre at Shillong at an estimated cost of Rs.21.00 lakhs for construction of building, appointment of staff and purchase of equipment. Attempts have been made in this direction to provide medical care for mental patients by sending out mobile psychiatric to each District Headquarter. There has been an upward trend of patient from 156 in 1976 to 5277 in 1983 which is even more than those treated in the Tezpur Mental Hospital.

9.32 The proposed scheme will function as a referral centre for other states also with out patient facilities to screen patient for admission. Patients would require active treatment and hence an indoor facilities is an essential components.

9.33 The financial estimates for this mental health-cum-rehabilitation centre is based on the following components :-

(a) Building for O.P.D., Ward Ancilliary facilities.	- Rs.15 lakhs.
(b) Staff salaries & all- owances.	- Rs. 2.05 lakhs.
(c) Equipment	- Rs. 3.05 lakhs.
Total	- Rs.21.00 lakhs

9.34 The Seventh Plan requirement is Rs.21.00 lakhs. A sum of Rs.10.00 lakhs is proposed for 1987-88.

4. (b) Mental Health Programme for Tripura.

9.35 The magnitude of mental health problem is quite high which is evident from the facts that seriously incapacitating mental disorders are likely to affect at least 1% of any population at any given time and 10% at sometime in their life. This data excluded the other psychiatric disorder like mental retardation, psychosocial problems etc. In Tripura about 20 thousand population are suffering from serious psychiatric conditions.

9.36 The main burden of psychiatric morbidity in the adult population consists of :

- a) Acute mental disorders.
- b) Chronic or frequently recurring mental illness.
- c) Emotional illness.
- d) Alcoholism and drug dependence.

9.37 About 20-30% of the patients attending the 33 PHC's of the State are suffering from some forms of mental disorders and remain undiagnosed/dealt in appropriately because of lack of psychiatric knowledge of the PHS doctors leading to further deterioration. Psychiatric illness among economic backward population tells upon their earning vis-a-vis production of agriculture produce and loss of earning mandays. Moreover when a person becomes mentally ill for a long time (untreated) he is taken to the hospital from a distant place accompanied with 2 or more relative which also taxes economy.

9.38 The presently available mental health facilities in Tripura consists of only one psychiatry Department attached to G.B. Hospital, Agartala situated in West District of Tripura. There are two qualified psychiatric attached to this department. It caters the service to whole population of Tripura.

The services of the department include :

- a) O.P.D. facilities.
- b) Indoor treatment facilities.
- c) Attending on-criminal lunatics lodged in Central Jail, Agartala.
- d) Teaching student nurses.
- e) Training intern doctors.
- f) Attending emergency cases ' on call, Total number of Patients attending in psychiatric O.P.D. is about 15,000 ( both new and follow-up cases) in a year. Thus remaining 45-65 thousands of patient are either un-diagnosed, unattended or not properly attended.

9.39 In view of the gross disparities between needs and available services, there are two essential complementary approaches applicable to the state for immediate action.

a) District general Hospitals of North and South Tripura should have one psychiatrist each with out door and inpatient facilities, having 10-20 psychiatry bed in general medical care set-up.

b) Strengthening of psychiatry Department G.B. Hospital, Agartala by another 40-50 beds. And to train an increasing number of health personnel in basic psychiatric skills.

9.40 For implementation of this scheme Rs.72.00 lakhs is required during the plan period and a sum of Rs.20.00 lakhs proposed for 1987-88.

##### 5. Setting up of a Radiation Medicine Unit at Cancer Hospital, Agartala.

9.41 Nuclear medicine is hopeful to identify diseases of cardio-vascular organs, of thyroid glands, of kidneys brain and liver which was hether<sup>to</sup> not possible. It is possible now with fair amount of accuracy. In the field of treatment also radio-isotopa can be used for treatment of disease like thyrotoxic goitre and same other of the malignant diseases. Goitre is very common here in the North Eastern Region, and only operative treatment was so far possible.

9.42 Advantages of nuclear medicine unit will be the treatment and diagnostic tests are possible in O.P. D.s, and this avoids concentration of radio-isotope in the indoor wards as the person when goes out of the hospital gets diluted in the population so that this high radio active concentration is avoided.

9.43 In consideration of above point, proposal is initiated to start a regional nuclear medicine Department at the Cancer Hospital attached to the G.B. Hospital, Agartala.

9.44 150 Sq. mts. will be necessary to house the office and out patient department. Actual treatment area will be housed in the existing coblt unit so extra expenditure will not be necessary.

9.45 A sum of Rs.12.00 lakhs is required during the 7th Plan period. Construction of out patient department and purchasing of equipments is required. A sum of Rs.5.00 lakhs is proposed for 1987-88.

6. Speech Therapy Unit at G.B. Hospital, Agartala.

9.46 G.B. Hospital is a State Hospital for Tripura, has different branches of speciality including ENT. Though the number of deaf mutes are quite large in Tripura but no facilities for their treatment and their economic rehabilitation are available in G.B. Hospital. Therefore, it is considered necessary to establish a Speech Therapy Unit at G.B. Hospital, Agartala.

9.47 To start with, one Speech Therapist trained in Speech and Audiology Diploma and Class IV staff would be required. The Unit would be under the control of the ENT department, G.B. Hospital. Expansion would be made from 2nd year depending on the increased number of patients.

9.48 Till the new building is constructed for the Unit, the Unit may be accommodated in G.B. Hospital Premises.

9.49 The requirement for the scheme in 7th Plan is Rs.8.00 lakhs. An amount of Rs.3.00 lakhs is proposed for 1987-88.

7. Upgradation/Expansion of the Rehabilitation Centre at G.B. Hospital, Agartala.

9.50 The rehabilitation is the restoration of the handicapped to the fullest physical, mental, social, vocational and economical usefulness of which they are capable. In other words, it is the process of returning a man, woman, children to a normal healthy position in the social structure after they have been dislodged from it for one reason or other.

9.51 Handicaps resulting from congenital malformation and acquired conditions like polio, cerebral palsy, amputation, paraplegia, hemiplegia muscular dystrophies, leprosy, accidental injury and various neuro-muscular and arthritic conditions.

9.52 The philosophy of rehabilitation medicine is very well accepted in India. The problem of disabled in India is a gigantic one and the problem is very acute in North Eastern Region where estimated disabled population is 16 lakhs against 2.66 crores of population. Tripura has a population of 20.47, 351 of which estimated disabled 10%. But of the total disabled 70% are orthopaedically handicapped and polio comprises a lion share of more than 60%. The incidence of amputated patients had been increased due to the 1971 Bangladesh liberation war and June, 80 riot in Tripura.

9.53 A Rehabilitation Centre at G.B. Hospital was established with the assistance from the NEC.

9.54 The broad outline of the existing scheme is to provide necessary aid and treatment including re-constructive surgery and accordingly, different wings like Physiotherapy. Occupational the Sports medicine, Artificial limb fittings have been set up.

9.55 Rehabilitation Research & Regional Limb Fitting centre S.M.S. Medical Hospital, Jaipur is ready to lend their support to implement this scheme in Tripura. They have also agreed to train 2-4 of our local artisans at Jaipur free of cost for a period of 2-3 months. Even they have agreed to send a team in Tripura to conduct a camp for practical demonstration. The financial implication for the team is to bear their T.A., D.A. etc.

9.56 It is therefore, proposed to implement the above programme as an annexed programme of the existing centre.

9.57 A sum of Rs.24.00 lakhs is required for implementation of this scheme during the remaining period of 7th Plan. Rs.7.00 lakhs are proposed for 1987-88.

8. Forensic Science Laboratory at Guwahati, Assam.

9.58 Under the NEC 6th Plan, NEC's support was provided to the Forensic Science Laboratory for improvement of the facilities. The need for further expansion of these facilities is now felt by other constituent units as the existing Laboratory has not been able to cope with the increased work-load which was reviewed in the recent conference of Police official of the region. The Govt. of Assam has proposed Rs.35.00 lakhs for additional facilities to be completed in the remaining 3 years of the 7th Plan. Rs.7.00 lakhs are proposed for 1987-88.

9. Scheme for Integrated Multi-channel Police Tele-Communications for NE Region.

9.59 This scheme is proposed to provide micro-wave communication links to all the States/UTs of the region. The Govt. of Assam has submitted a proposal for developing an integrated multi-channel tele-Communication system in the region covering all constituent units. If the Planning Commission agree in principle for inclusion of this scheme the details will be worked out. A provision of Rs.20.00 lakhs is proposed for 1987-88. Pending finalisation of the scheme.



10. By Pass road from Khanapara at G.S.  
Road to Narangi Tini ali, Gauhati,  
Assam.

9.60 The Gauhati Rly point is the main gate-way for the N.E. Region. At present the B.G. line extended up to Gauhati only with a goods-shed at Narangi from which the neighbouring States are required to take delivery of their goods. At present the vehicle are required to pass through the main Gauhati City which is already over crowded and as such the heavy traffics are not able to <sup>freely</sup> move during the busy hours. To avoid such inconveniences the Govt. of Assam proposed to divert the traffic through a by pass connecting the entry point of Gauhati city i.e. at Khanapara to Narangi.

To regulate the traffic conveniently. The length of proposed double lane by pass road is 6 K.M. for which a sum of Rs.20.00 lakhs is proposed for 1987-88.

GENERAL SERVICES

1. Development Jyoti Chitran, Gauhati, Assam.

9.61 The Jyoti Chitran set up in 1967 by the Government of Assam has developed into a full-fledged institution with facilities of Studies, movie camera, studio floor, dubbing and scoring theatres, and is now in a position to produce documentary and other films in black and white. Colour films can also be produced with processing facilities which are presently wanting. The average annual production of films within this region is limited to only a dozen, most of which are produced in Assamese, whereas there is much greater scope for production of many films in view of the rich cultural diversity in the seven States/UTs in the region. One of the biggest constraints in the field of development of film industries in the North East is, however, the lack of proper studio facilities and shortage of trained technicians including sound Recordists, Cameraman and other technical assistants.

9.62 In the above context, it is necessary that the manpower gap in the field of production of films in the NE Region is filled up as early as possible. If the facilities at the Jyoti Chitran are further developed, it is expected that the film producers in the entire region would find it expedient and considerably less expensive to produce films at Gauhati. For they need not have to go to Calcutta/Bombay. It will also greatly facilitate production of more artistic and educative films in the region. Considering the shortage of Sound Recordists, Studio Cameramen, Lightmen, Script Writers and Film Directors in the NE Region, it is proposed to introduce training courses for the youths of this region, who intend to make a career in the film line, at the Jyoti Chitran. About twenty trainees can be taken annually. For each course Instructors for different Institutions in the country will have to be drawn. The training course

will be finalised in consultation with the Film & Television Institute, Pune. Some of the old equipments will also need replacement. Two Film Directors and other technical experts will be appointed under this scheme to guide the Film Producers of the region in production of various films and to train youths in various aspects of TV and films. It would be the duty of the Film Directors to attract intending Film Producers of this region to produce films in the Jyoti Chitraban. With efficiency and production of quality films the Jyoti Chitraban would be able to attract some of the Film Producers of other areas of the country as well. Jyoti Chitraban will have to be provided with additional facilities and equipments to make production of atleast 30 films per year possible. The expansion of TV network also calls for a sustained training programme. To accommodate the trainees and also the Instructors it would be necessary to have a hostel for 20 trainees and quarters to accommodate 5 to 6 Faculty Members. The various wings of the Studio would also have to be expanded and strengthened.

9.63 An amount of Rs.3.00 crores is proposed for this scheme which will spill over to the Eighth Plan. This will include Rs. 2.25 crores for non-recurring items like buildings and equipments and Rs.75.00 lakhs recurring on pay and allowances etc. The outlay required for the Seventh Plan will be Rs.2.25 crores while the Annual Plan 1987-88 requirement will be Rs.75.00 lakhs.

ANIMAL HUSBANDRY

1. Regional Piggery Seed Production  
Centre, Tamenglong, Manipur.

9.64 The main objectives of the project are  
i) opening of a farm variety of breeds of pig for  
production of pure line breeds so as to facilitate  
to meet the requirement of the different breeds in  
the north eastern region, (ii) production of cross-  
bred to cater to the demand of the farmers in the  
region and (iii) as a demonstration farm to train  
up the farmers and unemployed youths in the practice  
to piglet production.

9.65 Land for an area of 200 acres at Duigailong  
in Tamenglong District has been acquired.

9.66 The exotic breeds namely (i) large white  
york shire (ii) Hampshire will be kept in the  
project/farm for production of pure line breeds to  
start with, there will be a foundation stock of 200  
sows (100 sows of each breed) along with 30 boars  
(15 each of the respective breeds). The foundation  
stock will be procured from reputed state farms of  
the country. Production of pure breeds will be the  
first attempt following a cross breeding programme  
with the least percentage of indigenous blood. The  
produce of the farm will be made available to the  
sister states of the north eastern region. Replace-  
ment of the foundation stock will be made from the  
produce of the farm.

9.67 A sum of Rs. 19.80 lakhs is required for the  
Plan fund and a sum of Rs. 10.00 lakhs is proposed  
for 1987-88.

2. Establishment of Frozen Semen Centre, Mizoram.

9.68 Mizoram Government have pressed for a frozen semen bank in Mizoram as they feel that transportation of semen from outside the UT to various corners of the U.T. is so time consuming that it is necessary to replenish the liquid nitrogen again at a central storage depot at Aizawl in Mizoram. It is therefore proposed to set up a liquid nitrogen plant of 6 litres per day capacity at Aizawl so that Mizoram can be benefitted from the proposed regional frozen semen bank at Silchar. The estimated cost of the plants cum store is Rs. 40.00 lakhs which includes Rs. 12.10 lakhs for the L.N. Plant, Rs. 5.00 lakhs for L.N. Containers, Rs. 2.00 lakhs for generator, Rs. 1.60 lakhs for vehicle and rest for some quarters required staff etc. An amount of Rs. 40.00 lakhs is therefore, proposed in Seventh Plan and Rs. 10.00 lakhs in Annual Plan 1987-88.

3. Regional Rabbit Production Centre, Nagaland.

9.69 Meat consumption in N.E. Region is comparatively higher than other regions of the country. Within NE Region the meat consumption is highest in the State like Nagaland, Mizoram, Meghalaya, Manipur etc. In spite of all out efforts made by the component States of NE Region to develop Animal Husbandry the gap between demand and production of meat could not be bridged so far. To fulfil the requirement of meat for human consumption heavy livestock/birds are imported from other parts of the country which adversely affect the economic stability of the NE Region. It is, therefore, essential to boost up meat production in NE Region.

9.70 In view of agroclimatic conditions, economic status of the people and prolificacy of rabbits it is proposed to set up a Regional Rabbit Production

Centre with its location in Nagaland during 7th Five Year Plan Period. The Rabbits being prolific breeders will not only help in boosting up the meat production but will also help in meeting the demand of Rabbits for Research purpose at various Biological Centres in the NE Region, which are facing acute shortage of Rabbits.

9.71 The Regional Rabbit Production Centre is proposed to be established with the following objectives :

1. To set up a Regional Rabbit Production Centre in Nagaland with a base breeding population of 400 breedable female Rabbits.
2. To produce 2000 Rabbits annually from 1989-90 onward for supply to the constituent States in NE Region for onward supply to the private farmers for multiplying purpose and for Research purpose at Biological product centres in NE Region.
3. To induce farmers in NE Region in general and in Nagaland in particular to set up their private Rabbit farms.

9.72 The Scheme will be implemented during the remaining three years of the 7th Plan Period (1987-88 to 1989-90) with a financial outlay of Rs.30.00 lakhs. An outlay of Rs. 17.65 lakhs is proposed for the year 1987-88.

9.73 As per the programme, initial actions for acquisition of land including construction of minimum functional and non-functional buildings and procurement of necessary equipment will be taken during 1987-88 within the outlay. Livestock will be procured during

1988-89 for implementing the breeding programme.

4. Regional Pork Processing Centre, Nagaland.

9.74 Pig is one of the most important domestic species of livestock in the North Eastern Region. Pork consumption is very popular in the NE Region, the pork being one of the main items of food for most of the people, who have little or no religious or other taboos. Pig rearing is a means of some livelihood for the people involved in this enterprise.

9.75 Although pig rearing and pork production is the traditional occupation of the tribals and other weaker section of the community in the North Eastern Region, there is no organised system which would help them in getting satisfactory returns from this enterprise. Pigs are mostly disposed of either by selling them as live animals or by selling fresh pig meat after slaughter. In the latter case, the pig keepers are compelled to dispose of the fresh pork within the shortest possible time at the selling price which may be offered to them or on routine market price. An alternative way to dispose of pig meat is to process it for preparing various kinds of pork products, which can be preserved and sold at higher rates. Different kinds of pork products find a very good consumer market among the elite of the society. Such pork products can also find attractive markets in hotels and important cities like Calcutta etc., and if transported to such places, can fetch very attractive returns. This in turn would fetch better income to the pig keepers who may sell their animals to the organisation involved in preparation and marketing of various kinds of pork products. However, for this purpose existence of a suitable pork processing plant would

be necessary. Therefore, a need is strongly felt for establishing a Regional Pork Processing Centre in Nagaland during the 7th Five Year Plan.

9.76 The Regional Pork Processing Centre is proposed to be established with the following objectives :

- i) To purchase pigs of slaughter age from the pig keepers in Nagaland and adjoining areas of other constituent States of the North Eastern Region at reasonable prices and to process the pork obtained from them for preparing various kinds of pork products.
- ii) To preserve various kinds of pork products until the time these are appropriately disposed of.
- iii) To sell/supply the pork products to the interested individuals/agencies in Nagaland and other States of NE Region on reasonable prices in consideration of the cost of production.
- iv) To meet the demands of hotels/markets in Nagaland and other States and also in the big cities outside the NE Region for different kinds of pork products.
- v) To provide incentive to the pig keepers in the State of Nagaland as well as in the adjoining areas by creating attractive market for selling their animals to be purchased for use at the Pork Processing Centre.
- vi) To provide facilities for appropriate disposal of surplus animals of the Regional Pig Breeding Farm, Nagaland.



- vii) To further popularise pork consumption by preparing and supplying various kinds of pork products which are preferred by many people, particularly the elite of the society, over unprocessed fresh pig meat.

9.77 The scheme is proposed to be implemented during the remaining three years of the 7th Five Year Plan ( 1987-88 to 1989-90 ). The outlay for the 7th Five Year Plan is Rs. 56.00 lakhs. An outlay of Rs. 18.10 lakhs is being proposed for the year 1987-88.

5. Setting up of NE Regional Poultry Development Corporation, Tripura.

9.78 One of the most important part to improve the rural economy is to adopt the Animal Husbandry, Hence the State Governments have laid maximum stress for livestock Development through Co-Operative efforts, so that larger proportion of gains of Development is passed on the weaker section of the population. Under Animal Husbandry sector Poultry Development finds the most important place as poultry is the biggest convertir of feed to protein and within a short span of time maximum production can be achieved. A Corporation is proposed to be set up by the Government of Tripura under the aegis of NEC to look after the alround development of Poultry Industry in the region and to provide self employment to the youths. A sum of Rs. 13.00 lakhs is proposed for 1987-88.

Sub. National Systems Unit,  
National Institute of Educational  
Planning and Administration  
17-B, Safdarjung Road, New Delhi-110016  
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