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**DRAFT  
NORTH EASTERN COUNCIL  
ANNUAL PLAN  
1989-90**

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North Eastern Council Secretariat, A.  
Ministry of Home Affairs  
Government of India  
Shillong.

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NORTH EASTERN COUNCIL  
ANNUAL PLAN FOR 1989-90

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## CHAPTER - 1

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

The North Eastern Region comprises the seven States of Assam, Manipur, Meghalaya, Tripura, Nagaland, Mizoram and Arunachal Pradesh. The region accounts for 7.7% of the country's total land area and has a population of 266 lakhs (1981 census) representing 3.88% of the country's total population. 70% of the area is hilly and 84% people live in villages. The average population density is low i.e. 104 against the all-India average of 216; the density is very low in the mountainous terrain though the plains of Assam and Tripura are thickly populated. The literacy rate in the region is above the all-India average of 36.23 (1981) except for Arunachal Pradesh (20.79) and Meghalaya (34.03). This land locked region which is connected through a narrow corridor in the North Bengal is predominantly a tribal area and is economically more backward than other regions in terms of key development indicators.

2. 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 and accordingly the Council has been formulating regional plans in addition to State 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 considerations determine 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 Border Road Development Board. Similarly, autonomous societies were created for establishment of North-Eastern Regional Institute of Science and Technology 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 respectively. These Corporations/Bodies receive funds directly from the NEC Plan and work in close collaboration with the State Governments. Under the NEC Plan, the main thrust has, therefore, been on the schemes of regional importance, whose benefits can be shared by all units. However, as a part of its effort to achieve a balanced development, the Council has also been supporting several schemes of broad economic importance in States, particularly in backward and remote regions and taking up schemes for introduction of new technology, new commercial crops and establishment of training institutions. The regional planning process adopted by the Council is based on periodic discussions and review with the constituent units and the central implementing agencies and field visits by its experts. This has 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 Plans. Due to the efforts made over the last one and a half decade, it has been possible

for the Council to a certain extent, to remove the basic infra-structural deficiency in the region. Nevertheless, there are still many gaps 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 infra-structure, exploitation of the vast natural resources of the region raising thereby the productivity and income of its population and proper development of human resources by spread of education and appropriate technology.

3. The NEC commenced functioning practically from the last year of the Fourth Five Year Plan. An abstract of NEC Plan performance in financial terms since inception is given below :

Period	(Rupees in Crores)	
	Approved outlays	Expenditure
(a) Fourth Five Year Plan (last year of the Plan i.e. 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) Sixth Five Year Plan		
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
(e) Seventh Plan 1985-90		
Approved Outlay	675.00	
1985-86	125.00	96.46
1986-87	145.00	144.13
1987-88	150.00	150.00
1988-89	135.00	135.00
		(Anticipated)

4. The Council had proposed a Seventh Plan outlay of 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 have been expressing the view that the Seventh Plan outlay of Rs. 675.00 crores of the North-Eastern Council is inadequate and needs to be raised substantially. At the time of finalisation of the NEC Annual Plan 1986-87 the Planning Commission took a view that the Seventh Plan size of the NEC had been finalised recently at Rs. 675.00 crores which was 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 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.

5. Learning from the experience of 1985-86 Plan, when Plan funds could not be utilised fully, the Council Secretariat reviewed the position and took effective measures for a better utilisation of Plan funds during 1986-87. As a result of these efforts the Council Secretariat was in a position to utilise 99.5 per cent of the Plan funds during 1986-87.

6. The point of inadequacy of NEC Seventh Plan outlay was further stressed in the meeting of the Council held on the 29th July, 1986 particularly in strategic sectors like road building and hence there is still a critical need for raising the Seventh Plan size by inclusion of additional schemes for reducing the accumulated development lags in the region. The Annual Plan proposals of 1987-88 were thus based on the recommendation of the Council and contained a set of supplementary proposals. In the final round of discussion

between Chairman, NEC and the Deputy Chairman, Planning Commission held on the 21st January, 1987, inclusion of a few important supplementary proposals was agreed to at the instance of the Chairman, NEC. An important supplementary proposal included at this stage was the "Expansion of Bokajan Cement Plant" for meeting the requirement of cement in Mizoram and Tripura States by establishment of one Clinker grinding plants in each area based on supply of clinker from Bokajan Plant of Cement Corporation of India. The final outlay for NEC Annual Plan 1987-88 was agreed at Rs. 165.00 crores. This included Rs. 25.00 crores to be raised as LIC loan for power projects.

7. With the continued efforts during 1987-88, for effective utilisation of funds it is expected that the allocation would be fully utilised. The Planning Commission, however, had reduced NEC Annual Plan 1987-88 by Rs. 10.00 crores for diverting resources for drought relief measures. Besides, following the decision of the Government of India Rs. 5.00 crores were made available for Rail-cum-Road bridge at Jogighopa to ensure that a firm beginning of the project is made. The NEC Annual Plan 1987-88 size is, therefore, of the order of Rs. 150.00 crores. In pursuance of the economy instructions issued by the Ministry of Finance, a scheme to scheme review of NEC 1987-88 Plan was made and the implementation of even some schemes sanctioned but not taken up for implementation by September, 1987 was deferred to 1988-89. The Council Secretariat achieved the full utilisation of the Plan funds in 1987-88.

8. Annual Plan proposals 1988-89 were finalised keeping in view the suggestions made by the Hon'ble Members of the Council from time to time and in consultation with the State Governments and other implementing agencies. The 1988-89 NEC Annual Plan proposals were of the order of Rs. 237.55 crores, of which Rs. 16.34 crores in Agriculture and Allied Sector, Rs. 70.26 crores in Water and Power

Development, Rs. 17.63 crores in Industries and Minerals, Rs. 117.15 crores in Transport and Communication, Rs. 12.41 crores in Manpower Development, Rs. 1.32 crores in Social and Community Services and Rs. 2.44 crores in General Services.

9. While submitting the Annual Plan proposals 1988-89, the Planning Commission was requested to consider the development lags that exist in the region and which call for substantial step up in the plan outlay and also the suggestions made by the NEC at the time of the Mid-Term Appraisal of the Seventh Five Year Plan wherein request was made to raise the NEC Seventh Plan outlay from Rs. 675.00 crores to Rs. 927.00 crores.

10. Annual Plan 1988-89 proposals were discussed in the Planning Commission during 16th - 17th November, 1987 by the various Working Groups of the Planning Commission. The Working Groups discussions were also attended by the representatives of NE States. Against the proposed outlay of Rs. 237.55 crores for the annual plan 1988-89, the Working Group recommendations worked out to Rs. 168.23 crores. Against this recommendation, Adviser (State Plan), Planning Commission recommended an outlay of Rs. 155.00 crores. In the final round of discussions between Chairman, NEC and Deputy Chairman, Planning Commission held on the 9th February, 1988 the Annual Plan 1988-89 was finalised at Rs. 185.00 crores - comprising Rs. 155.00 crores as Central assistance and Rs. 30.00 crores as LIC loan.

11. At the time of finalisation of 1988-89 Annual Plan various important proposals suggested by the Hon'ble Members of the Council were considered. Some of them included at this stage in the NEC Plan are - (i) Gas Turbine Project at Rokhia, Tripura (ii) Regional Forest Rangers College, (iii) Support for Construction of a Hostel at (a) Banasthali Vidyapith, Jaipur and (b) Delhi for N.E. Students, (iv) Preliminary works for - (a) Upgradation of B. Borooah Cancer Institute and (b) Setting up of film Studio-cum-Production

Centre at Jyoti Chitrabari, Guwahati, (v) Studies for taking up - (a) Pagladiya Dam and (b) Drainage Project in Barak Valley. At the instance of the Deputy Chairman, Planning Commission an amount of Rs. 15.00 crores was also provided by the Planning Commission in the NEC Annual Plan 1988-89 so as to speed up implementation of rail-cum-road bridge over Brahmaputra at Jogighopa. In the approved Plan 1988-89, the share of Transport and Communication sector is 53.88% and of Power & Water Development 28.64%, for Manpower Development 5.58%, for Agriculture and Allied sectors 6.50%, for Industries and Minerals sector 4.17%, for General Services 0.94% and for Social and Community Services 0.39%.

12. A mid year review of 1988-89 Plan, made in October, 1988 indicates that again for the third successive year, the target of full utilisation of plan funds would be achieved. However, for meeting the pressing requirements of funds in respect of the schemes in Transport and Communication sector and also to provide financial support to the State Governments under the new scheme 'Operation Black Board' launched by the Government of India at the national level, it has become necessary to augment the provision under Transport & Communication sector and the Manpower Development sector by Rs. 12.65 crores and Rs. 1.94 crores respectively. The additional requirements of funds in these two sectors have been covered by diverting savings under Water and Power Development Sector due to non-finalisation/non-sanction of 75MW Gas Turbine Project at Rokhia in Tripura (Provision :Rs.9.00 crores) and from Industries & Mineral sector due mainly to non-finalisation/non-sanction of the scheme on Expansion of Bokajan Cement Plant in Assam and the Clinker Grinding Units in Mizoram and Tripura (Provision : Rs. 6.00 crores).

13. The annual Plan proposals for 1989-90 have been finalised after a thorough review of the schemes with the State Governments and the other agencies, implementing the

NEC schemes and keeping in view the following parameters :-

- (a) Suggestions/recommendations of the Hon'ble Members of the Council, the Committee of the Ministers for the Economic Development of the NE Region, the Planning Commission and the other Central Ministries in regard to speedy economic development of the region.
- (b) Completion of most of the schemes in 1989-90, the last year of the Seventh Five Year Plan, so as to reduce the spill over load in the Eighth Five Year Plan and shade away small schemes from the NEC Plan to the extent possible.
- (c) Suggestions of the Council for the Mid-Term Appraisal of the Seventh Five Year Plan.

14. The 1989-90 Annual Plan proposals are of the order of Rs. 264.33 crores, of which Rs. 16.70 crores in Agriculture and Allied sector, Rs. 100.39 crores in Water & Power Development, Rs. 11.52 crores in Industries & Minerals, Rs. 121.92 crores in Transport & Communication sector, Rs. 9.74 crores in Manpower Development, Rs. 1.90 crores in Social and Community Services and Rs. 2.16 crores for General Services.

15. The Planning Commission may therefore consider the NEC 1989-90 Plan proposals in view of the parameters outlined for preparation of this plan, relative economic backwardness of the region and also the hope from and faith in the North-Eastern Council, from the people of this region.

16. The Sector-wise details of NEC Annual Plan 1989-90 are given in Statement I and Scheme-wise details in Statement II.

STATEMENT ON REVISED ESTIMATES FOR 1988-89 AND PLAN PROPOSALS FOR  
1989-90 ANNUAL PLAN

(Rs. in crores)

Sector	Seventh Plan approved outlay	Actual expenditure 1985-88	1988-89 approved outlay	1988-89 Anticipated expenditure	Proposed outlay for 1989-90
(1)	(2)	(3)	(4)	(5)	(6)
1. AGRICULTURE & ALLIED PROGRAMME	46.47	22.66	12.02	12.02	16.70
2. POWER & WATER DEVELOPMENT	273.08	131.18	52.93	44.62	100.39
3. INDUSTRIES & MINERALS	10.60	5.17	7.52	1.46	11.52
4. TRANSPORT & COMMUNICATION	297.53	199.90	99.68	112.33	121.92
5. MANPOWER DEVELOPMENT	33.80	27.12	10.33	12.27	9.74
6. SOCIAL & COMMUNITY SERVICES	1.61	1.73	0.73	0.65	1.90
7. GENERAL SERVICES	6.92	2.25	1.74	1.65	2.16
<b>TOTAL</b>	<b>675.00</b>	<b>390.06</b>	<b>185.00</b>	<b>185.00</b>	<b>264.33</b>



(Rs. in lakhs)

Sl. No.	Name of the scheme	Seventh Plan	Actual	1988-89		Proposed
		Approved outlay	expenditure 1985-88	Approved outlay	Anticipated expenditure	outlay for 1989-90
1	2	3	4	5	6	7

A. SOIL CONSERVATION AND AGRICULTURE

1. Pilot Project on Watershed Management	456.58	227.13	113.25	116.65	151.15
(a) Popum Poma, Arunachal Pradesh		5.75	1.25	1.25	1.40
(b) Hirihiri, Assam		25.70	26.00	29.40	22.75
(c) Luwangleima, Manipur		10.00	19.00	19.00	36.00
(d) Umtonghar, Meghalaya		25.00	25.00	25.00	30.00
(e) Teirei Mizoram		45.00	45.00	25.00	40.00
(f) Dikhu, Nagaland		48.68	10.00	10.00	14.00
(g) Rangacherra & Manarani, Tripura		66.00	7.00	7.00	5.00
2. Survey & Investigation Cells	50.00	20.82	12.55 (Rangacherra)	13.25	14.25
(a) Arunachal Pradesh			2.15	2.15	1.00
(b) Assam			2.20	2.20	2.80
(c) Manipur			1.80	1.80	1.30
(d) Meghalaya			1.25	1.85	2.00
(e) Mizoram			2.00	2.00	1.50
(f) Nagaland			1.50	1.50	2.75
(g) Tripura			1.75	1.75	2.90

1.11

1	2	3	4	5	6	7
3.	PPM Cell in N.E.C. Secretariat	20.00	16.16	4.00	4.00	5.00
4.	Regional Soil Conservation Training Centre, Meghalaya.	50.00	29.18	15.00	15.00	15.00
5.	Survey of Catchment Area, Ranganadi, Arunachal Pradesh.	25.00	4.95	5.00	5.00	7.00
6.	Foundation Seed Farm for Major Crops, Manipur.	46.15	10.00	15.00	15.00	25.00
7.	Regional Centre for production of Biofertilizers in A.A.U.	5.00	5.00	0.30	0.30	0.30
8.	Joint Input Testing Laboratory, Tripura	29.35	8.01	12.00	9.00	15.00
9.	Regional Sub-Centre for Training-cum-Production of Mushroom in Mizoram.	15.00	22.77	1.50	1.50	5.00
10.	Regional Farm for Production of Pulses & Oil Seeds, Manipur.	54.40	16.48	18.00	21.12	28.00
11.	Mushroom Development Centre, Arunachal Pradesh.	14.50	6.66	6.00	7.91	2.10
12.	Regional Bio-Fertilizer Production Centre, Tripura.	24.90	6.00	6.00	3.00	12.00
13.	Regional Breeder Seed Farm, Tripura.	29.00	10.00	9.00	5.00	15.00
14.	Regional Mushroom Spawn Production Centre, Tripura.	15.10	5.00	5.00	6.00	10.00
15.	Pilot Project on Dry Land Agriculture, Water Harvesting, Nagaland.	43.60	20.00	6.75	10.00	15.00
16.	Regional Cotton Seed Multiplication & Development Centre, Tripura.	54.28	15.80	5.00	5.00	12.00
17.	Establishment of Regional Seed Certification Agency.	-	-	10.00	1.00	300.00
18.	North Eastern Seed Corporation	-	-	-	-	-
SOIL CONSERVATION & AGRICULTURE				244.45	238.73	631.80

	1	2	3	4	5	6	7
<b>B. HORTICULTURE</b>							
1. Regional Vegetable Seed Farm, Maicherra in Tripura.	23.05		8.62	5.00	5.00	5.00	10.00
2. Regional Orchard-cum-Nursery for Citrus, Mynkre, Meghalaya.	5.21		9.21	3.50	3.50	3.50	3.50
3. Regional Coconut Seed Garden, Tripura	42.37		28.00	8.00	8.00	8.00	10.00
4. Regional Seed Garden for Spices and Bettle leaf, Tripura.	51.46		16.20	15.00	15.00	15.00	18.00
5. Development of Temperate Nut and Almond Crops, Arunachal Pradesh.	32.45		7.55	10.00	5.00	5.00	12.00
6. Temperate Fruit and Nut Nursery, Arunachal Pradesh.	26.50		7.50	10.00	10.00	10.59	8.50
7. Scheme for Survey of Area & Production	10.00		17.90	8.00	4.00	4.00	5.00
(a) Assam	-		-	4.00	4.00	4.00	5.00
(b) Meghalaya	-		-	4.00	-	-	-
8. NER, MAC, Gaunati	325.00		300.00	25.00	-	-	25.00
9. Foundation Seed Farm for Potato in Manipur.	28.15		15.00	10.00	10.00	13.50	15.00
10. Foundation Seed Farm for Potato in Meghalaya.	50.00		-	10.00	-	-	1.00
11. Foundation Seed Farm for Potato in Mizoram.	40.10		1.08	1.00	1.00	1.00	15.00
12. Establishment of Seed Farm for Production of Certified Seeds of Potato, Tripura.	65.00		15.00	12.00	12.00	12.00	20.00
13. Regional Tuber Crops Farm, Tripura	38.00		17.60	15.00	15.00	15.00	15.00
14. Regional Vegetable Seed Farm, Arunachal Pradesh.	26.00		7.09	10.00	10.00	10.00	8.00

	1	2	3	4	5	6	7
15. Regional Vegetable Seed Farm, Manipur	27.12		21.00	8.00	8.00	15.00	
16. Scheme for establishment of Clonal Seed Garden for Banana, Tripura.	60.00		25.00	15.00	5.00	16.00	
17. Scheme for Rejuvenation of Old Orange Orchards, Tripura.	20.00		6.00	5.00	5.00	8.00	
18. Establishment of Citrus Demonstration and Development Centre, Mizoram.	20.35		8.00	3.00	3.00	6.00	
19. Establishment of large Cardamon Nursery, Mizoram.	28.18		15.64	7.00	11.00	5.50	
20. Promotion of Floriculture, Tripura	22.00		6.66	3.00	3.00	5.00	
21. Introduction of Saffron, Arunachal Pradesh	11.00		3.20	3.00	3.00	3.50	
22. Establishment of Model Spices Farm and Popularisation of Spices cultivation in NE R	-		-	-	-	23.00	
<b>Total : HORTICULTURE</b>					<b>186.50</b>	<b>140.59</b>	<b>248.10</b>
<b>C. PLANTATION</b>							
1. Detailed Insitu Survey of land suitable for Coffee in the NE Region.	10.00		11.91	3.55	3.55	2.00	
2. Factory for Small Farmer's Tea Estate, Tripura.	204.00		105.00	70.00	70.00	12.50	
3. Rubber Processing Factory, Tripura	137.00		85.00	70.00	50.00	2.00	
4. Raising of Dioscorea Floribunda Plantation & Processing for manufacture of Diosgenin/16-DR, Tripura.	151.00		50.00	50.00	30.00	45.00	
5. Establishment of Rubber Demonstration -cum-Training Centre in (Assam, Meghalaya, Mizoram, & Nagaland).			-	-	-	50.00	
<b>TOTAL : PLANTATION</b>					<b>193.55</b>	<b>153.55</b>	<b>111.50</b>

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

D. FOREST & PLANT RESOURCES

1. Afforestation of :

(a) Catchment area of Umiam Hydro Electric Project, Meghalaya.	75.00	45.82	25.00	32.89	35.60
(b) Catchment area of Loktak Hydro Electric Project, Manipur.	75.00	47.17	36.00	30.00	20.00
(c) Catchment area of Doyang Hydro Electric Project, Nagaland.	75.00	17.21	20.00	20.00	30.00
(d) Catchment area of Kopili Hydro Electric Project	-	-	12.00	12.00	28.00
(e) Tawang Wasteland, Arunachal Pradesh	-	-	-	-	20.00
(f) Teak Plantation, Mizoram	-	-	-	-	20.00

2. Propagation of Tissue Culture Technique for Multiplication of Various species.

a) North Eastern Hill University					2.04
b) Gauhati University					1.19

3. Subtropical Botanical Garden of Plant Resources, Nagaland.

175.00	9.50	35.00	15.00	20.00
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4. Development of Minor Forest Products including Medicinal Plants :

a) Arunachal Pradesh			5.00	5.00	6.00
b) Assam			5.00	5.00	5.00
c) Manipur			5.00	5.00	5.00
d) Meghalaya			1.00	1.00	1.00
e) Mizoram			3.00	3.00	5.05
f) Nagaland			1.00	1.21	-
g) Tripura			5.00	5.00	5.70

5. Tree Improvement Schemes

80.00	<u>24.95</u>	<u>18.00</u>	<u>16.48</u>	<u>14.70</u>
a) Arunachal Pradesh		1.00	0.25	0.50
b) Assam		3.00	2.23	3.90
c) Manipur		3.00	3.00	2.50

1.14

1	2	3	4	5	6	7
d) Meghalaya				1.00	6.00	3.00
e) Mizoram				3.00	3.00	3.50
f) Nagaland				4.00	2.00	1.30
6. Regional Forest Rangers College				10.00	1.00	50.00
<b>TOTAL</b>				<b>185.00</b>	<b>155.96</b>	<b>269.28</b>

**E. ANIMAL HUSBANDRY**

1.15

1. Regional Temperate Fodder Seed Production-cum-Demonstration Farm, Arunachal Pradesh.	15.00	29.69	7.00	7.13	10.00
2. Regional Broiler Chick Production-cum-Demonstration Farm, Gauhati.	46.68	42.87	10.00	6.00	15.00
3. Regional Feed Testing Laboratory, Khanapara, Gauhati	42.57	36.78	4.60	2.50	4.00
4. Regional Integrated Farming System Project under AAU	4.00	3.08	0.40	0.40	0.40
5. Regional Cross-Breed Cattle Farm, Thenzawl, Mizoram	40.00	27.50	6.00	7.80	8.00
6. Regional Goat Breeding Farm, Tripura	29.33	19.76	10.00	10.00	9.70
7. Regional Pig Breeding Farm, Nalkata, Tripura	34.11	24.53	10.00	10.00	7.20
8. Regional Mithun Breeding Farm, Arunachal Pradesh.	25.00	20.70	9.00	13.00	10.00
9. Regional Fodder Seed Farm, Assam	45.00	28.20	12.00	27.00	18.00
10. Regional Frozen Semen Project, Assam	35.00	46.64	2.70	19.50	12.00
11. Regional Buffalo Breeding Farm, Assam	-	32.96	20.00	27.00	17.00
12. Mechanisation of Institute of Veterinary Biologicals, Khanapara, Assam.	-	13.18	11.00	26.00	20.00
13. Regional AI Training-cum-Cryogenic Laboratory in Assam Agricultural University.	20.00	7.35	4.15	7.00	4.50
14. Regional Buffalo Breeding Farm, Manipur	49.20	30.90	20.25	30.00	12.00
15. Regional Pony Development Project, Manipur	60.00	25.85	15.00	30.00	20.00

1	2	3	4	5	6	7
16.	Regional Composite Livestock Farm, Tamenglong, Manipur.	35.00	22.85	16.40	16.40	3.40
17.	Regional Piggery Farm, Meghalaya	40.00	45.24	7.00	15.00	6.50
18.	Regional Fodder Seed Farm, Thenzawl, Mizoram	25.00	15.59	5.00	5.00	7.00
19.	Regional Broiler Chicks Farm, Mizoram	50.00	26.78	14.50	15.34	10.00
20.	Regional Cross-Breed Cattle Farm, Nagaland	75.00	39.40	22.00	25.00	35.00
21.	Regional Exotic Pig Breeding Centre, Nagaland	65.00	41.70	18.00	18.00	5.00
22.	Regional Broiler Chicks Production-cum -Demonstration Sub-Centre, Kohima.	40.00	21.85	13.00	13.00	5.00
23.	Regional Veterinary Biological Centre, Tripura.	85.80	19.00	22.00	20.00	25.00
24.	Regional Centre for Investigation of Common Diseases of Ducks, Tripura.	25.00	9.00	6.00	15.00	1.00
25.	Regional Pig Breeding Centre, Manipur	-	11.70	15.00	25.00	3.00
26.	Regional Pork Processing Centre, Nagaland	-	-	40.00	40.00	35.00
27.	Regional Rabbit Production Centre, Nagaland	-	19.00	20.00	25.00	5.00
<u>TOTAL : ANIMAL HUSBANDRY</u>				<u>341.00</u>	<u>451.87</u>	<u>308.70</u>
<b>F. FISHERIES</b>						
1.	Reclamation of Beel Fishery, Arunachal Pradesh and Meghalaya	66.00	A.P.- Megh 6.99	7.00 3.50	42.00 3.50	20.00 5.50
2.	Regional Fish Seed Farm, Meghalaya	18.00	3.00	10.00	10.00	9.00
3.	Regional Fish Seed Farm, Mizoram	20.00	10.91	4.00	8.00	3.00
4.	Regional Carp Fish Breeding & Culture Farm, Nagaland	50.00	25.66	9.00	15.00	2.00
5.	Regional Air Breathing Fish Seed Farm, Tripura	48.97	12.00	8.00	1.60	24.00
6.	Fresh Water Carp Seed Farm in Loktak Lake, Manipur	25.00	7.88	5.00	5.00	11.00
7.	Regional Pengba Fish Seed Farm, Manipur	25.00	10.43	5.00	5.00	12.00
8.	Reclamation of Beel Fishery-Module-II, Meghalaya	-	-	-	2.00	14.00
<u>TOTAL FISHERIES</u>				<u>51.50</u>	<u>62.10</u>	<u>100.50</u>
<u>TOTAL : AGRICULTURE &amp; ALLIED PROGRAMME</u>				<u>1202.00</u>	<u>1202.00</u>	<u>1669.78</u>

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II. POWER, WATER DEVELOPMENT AND RRE

A. POWER DEVELOPMENT

a. GENERATION

			<u>3851.00</u>	<u>2966.00</u>	<u>5735.00</u>
1. Kopili Hydel Project	3100.00	7100.00	700.00	700.00	10.00
2. Garo Hills Thermal Project	3000.00	-	1.00	1.00	10.00
3. Doyang Hydel Project in Nagaland	10000.00	1325.00	500.00	500.00	2500.00
4. Ranganadi Hydro Electric Project	5000.00	1400.00	1500.00	<b>1500.00</b>	2400.00
5. Gas Turbine, Tripura	-	150.00	250.00	<b>250.00</b>	165.00
6. Gas Turbine Project, ROKnia, Tripura.	-	-	900.00	10.00	500.00
7. Serlai-B HEP, Mizoram and other new generation project.	-	-	-	5.00	150.00
			<u>1112.00</u>	<u>1207.00</u>	<u>2500.00</u>

b. TRANSMISSION

8. Additional Transmission Line including construction of 132 KV-Lungmual-Zembankline.	882.00	1200.00	175.00	400.00	100.00
9. Transmission System associated with Doyang by NEEPCO.	4000.00	810.00	682.00	682.00	2000.00
10. 132 KV Transmission Gohpur-Itanagar line	-	146.00	100.00	100.00	170.00
11. Ranganadi Transmission Project	500.00	25.00	25.00	25.00	50.00
12. Transmission System in NER	1.00	-	100.00	-	150.00
13. Establishment of RLDC & SLDC in NER	-	-	30.00	-	30.00

C. SURVEY & INVESTIGATION

14. Loktak down stream & Tuivai Hydel Project, Manipur	15.17	38.82	1.00	-	1.00
15. Tuivai in Mizoram	211.12	178.54	17.00	19.00	5.00

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1	2	3	4	5	6	7
16.	(a) Ranganadi Stage-II (b) Damwe (c) Papu	63.85	81.86	1.00	1.00	1.00
17.	(a) Barak (b) Irang	198.86	186.00	27.00	10.00	5.00
18.	Kynshi Basin in Meghalaya	86.18	26.00	15.00	-	1.00
19.	Dikrong in Arunachal Pradesh	39.54	44.54	1.00	1.00	1.00
20.	Residual Investigation, Kameng	4.00	-	1.00	1.00	1.00
21.	High Dam Tipaimukh	6.00	-	1.00	1.00	1.00
22.	Investigation of Hydel Project including Mini-Micro Hydel Project.	-	-	-	-	-
	(a) Popumpuna Investigation	-	15.00	1.00	-	1.00
	(b) 8 sites in Nagaland	-	3.00	9.00	9.00	1.00
	(c) Continuation of Collection of Hydrological data in Kameng H.E. Project.	-	10.00	1.00	1.00	10.00
	(d) Meghalaya	-	-	15.00	15.00	16.00
	(e) Arunachal Pradesh	-	-	15.00	-	-
	(f) Manipur	-	-	15.00	-	-
	Total of Power Development			583.00	4231.00	8279.00

B: WATER DEVELOPMENT

1.	Investigation of Micro Hydel-cum-Irrigation Project Mizoram - CWC.			25.00	20.00	25.00
2.	Longai Investigation, Tripura-CWC	40.00	9.08	15.00	25.00	7.00
3.	North Eastern Regional Institute of Water & Land Management, Assam.	131.28	-	30.00	80.00	100.00
4.	Flood Protection Works near Kaliabhomra Bridge	-	80.00	18.00	18.00	-

1	2	3	4	5	6	7
5. Sedimentation Survey of Umiam Reservoir, Meghalaya	11.50	7.40	5.00	1.96	7.00	
6. Exploration of Ground Water in Mizoram	-	27.46	(11.00)	11.00	6.00	
7. Jiri Medium Irrigation Project in Manipur	218.39	23.00	10.00	10.00	200.00	
					(Inv.)	
8. Construction of Pagladia Dam	-	-	20.00	-	500.00	
9. Construction of Tipaimukh Dam Project	-	-	-	-	500.00	
10. Drainage Project in Barak Valley-Harang Sub-Basin	-	-	20.00	-	100.00	
11. Development of Loktak Lake	-	-	-	10.00	100.00	
12. Investigation of Sissiri & Kamlang Project, Arunachal Pradesh.	-	-	-	5.00	50.00	
13. Investigation of Dauza-Tsurang Project, Nagaland	-	-	-	-	15.00	
14. Investigation of Dikhu-Tamlu Project, Nagaland	-	-	-	-	15.00	
15. Investigation of Atengbak Project, Manipur	-	-	-	5.00	25.00	
16. Drainage Schemes in Brahmaputra Valley	-	-	-	-	20.00	
17. River Morphology Study- Brahmaputra.	-	-	-	-	20.00	
<b>WATER DEVELOPMENT</b>			<b>156.00</b>	<b>174.96</b>	<b>1690.00</b>	
<b>C.R.R.E.</b>	<b>200.00</b>	<b>101.70</b>	<b>70.00</b>	<b>56.00</b>	<b>70.00</b>	
<b>TOTAL OF POWER, WATER DEVELOPMENT AND R.R.E.</b>			<b>5298.00</b>	<b>4461.96</b>	<b>10039.00</b>	
<b>III. INDUSTRIES AND MINERALS :</b>						
<b>A. Detailed Minerals Investigation &amp; Proving</b>						
1. For clearing pending liabilities of				<b>713.50</b>	<b>112.94</b>	<b>1109.50</b>
(a) Siju Borjan, Delhi-Joypore, Bokajan, Namchik, Nampuk, Lumshnang, Makum Exploration.	-	-	20.00	20.00	10.00	
(b) Langrin Coal Exploration, Meghalaya	50.00	42.75	5.00	5.00	5.00	
(c) Exploration of Western extension Block of Namchik Nampuk Coalfield, Arunachal Pradesh.	35.00	34.25	7.00	7.00	5.00	

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2. Coal Exploration Dilli Sector of Dilli-Joyपुर Coalfield, Assam.		35.00	12.61	12.00	12.00	11.00
<u>Limestone (New Schemes)</u>						
3. New Umrangshu, Assam		25.00	7.00	7.00	7.00	11.00
4. Nimmi, Nagaland		24.00	10.00	10.00	10.00	10.00
5. Detailed Investigation of high grade limestone in Lumshong North Block, Jaintia Hills, Meghalaya.		16.00	7.50	3.00	3.54	3.50
6. Exploration of Ground Water, Mizoram		-	27.46	11.00	11.00	included under Water Development.
<u>B. LARGE AND MEDIUM INDUSTRIES</u>						
7. Mini-Cement Plant at Hundung, Manipur (50 tpd)		44.80	72.93	5.00	5.00	1.00
8. Mini Cement Plant, Wazeho, Nagaland (50 tpd).		21.50	108.10	5.00	5.00	1.00
9. Paper grade Lime Plant at Lumshong, Meghalaya		10.00	-	-	-	10.00
10. Paper-grade Lime Plant (200 tpd), Umrangshu, Assam		1.00	-	-	-	1.00
<u>11. DETAILED RAW MATERIAL INVESTIGATION FOR SPECIFIC PROJECTS (FEASIBILITY STUDIES).</u>						
a) Beneficiation utilisation studies of Glass and Sand, Meghalaya and Tripura.		15.00	-	3.00	6.20	1.00
b) Beneficiation test, Sillimanite & Kyanite, Meghalaya and Assam.		8.00	-	4.00	-	
c) Beneficiation test on Garnet & other minor abrasive minerals.		24.00	-	1.00	-	
d) Feasibility and detailed studies for one million tonne cement plant.		30.00	-	-	-	10.00
e) Feasibility studies for Chemical/High Grade limestone.		5.00	-	1.00	0.70	

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<u>C. R&amp;D PROJECT FOR INDUSTRIAL UTILISATION OF REGIONAL RAW MATERIALS :</u>							
12. Low Temperature Carbonisation of N.E. Coal	15.00	8.00	1.00	1.00	1.00	1.00	1.00
13. Development of Fluidised bed Technology of NE Coal	15.00	9.65	1.00	1.00	1.00	1.00	1.00
14. Desulphurisation of flue Gas generated in the Beehive coke oven.	5.00	3.25	1.00	1.00	1.00	1.00	1.00
15. Determination of Physical, Chemical characteristics of the N.E. Tertiary Coal, NE Region.	30.00	9.87	10.00	10.00	10.00	10.00	17.00
16. Setting up of Chemical & Petrological Laboratory at Dimapur, Nagaland.	33.00	5.00	7.50	7.50	-	-	-
<u>Industrial Project</u>							
17. a) Clinker grinding units in Mizoram & Tripura	-	-	200.00	-	400.00	-	400.00
b) Expansion of Bokajan Cement Plant	-	-	400.00	-	600.00	-	600.00
18. Breeze Coke Plant (for 30,000 tonnes) to meet requirement of VSK Cement & Lime Plant.	166.00	-	10.00	-	10.00	-	10.00
<u>D. SERICULTURE</u>			<u>28.00</u>		<u>32.80</u>		<u>32.50</u>
19. Establishment of Muga Plant & Oak Plant Nursery, Arunachal Pradesh.	10.50	2.17	2.00	0.50	3.00	0.50	3.00
20. Establishment of Reeling Unit, Assam	8.00	9.60	5.00	5.00	5.00	5.00	6.00
21. Scheme for Modernisation of Mulberry Silk Reeling Unit, Meghalaya.	8.00	9.00	4.00	4.00	4.00	4.00	5.00
22. Establishment of Silk Reeling Spinning Weaving Training-cum-production centre at Kolasib, Mizoram.	15.00	6.07	5.00	3.80	3.50	3.50	3.50
23. Establishment of Integrated Reeling and Twisting Unit, Nagaland.	8.00	14.00	5.00	15.00	5.00	15.00	5.00
24. Silk Reeling Unit, Tripura	8.00	3.55	5.00	2.50	6.50	2.50	6.50
25. Establishment of Tassar Silk Weaving Unit, Manipur	8.00	7.00	2.00	2.00	3.50	2.00	3.50
26. North Eastern Handlooms & Handicrafts Development Corporation.	-	-	-	-	-	-	1.00
<u>TOTAL : INDUSTRIES &amp; MINERALS</u>			<u>752.50</u>	<u>145.74</u>	<u>1152.00</u>		

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IV. TRANSPORT & COMMUNICATION :

1. Pipeways	1.00	-	5.00	-	20.00
2. Improvement of Inland Water Transport Construction of Floating Jetties, and River terminal facilities	410.00	186.00	94.00	74.00	100.00
3. Mechanical Cargo Handling Plant at Badarpur.	253.00	215.00	200.00	150.00	200.00
4. <u>Roads</u> :-					
i) <u>Inter-State Roads</u>	15996.00	10253.67	4730.00	4925.21	6269.11
a) Arunachal Pradesh		1644.00	750.00	933.58	860.00
b) Assam		1976.67	830.00	1009.00	1410.00
c) Manipur		1075.00	400.00	339.31	500.00
d) Meghalaya		1534.00	700.00	626.23	1010.00
e) Mizoram		1201.00	650.00	636.39	310.00
f) Nagaland		1530.00	800.00	786.42	873.00
g) Tripura		1363.00	600.00	594.27	706.00
ii) <u>Roads of Economic Importance executed through ARDB</u>		3658.00	3425.00	4421.00	5092.00
5. Bridge across Brahmaputra, Tezpur, Assam	160.00	671.00	10.00	159.00	-
6. Survey of Bridge over Brahmaputra near Dibrugarh	-	-	4.00	3.86	1.00
7. Support for rail-cum-road Bridge over Brahmaputra at Jogighopa.	-	-	1500.00	1500.00	-
8. Support for Helicopter Services in NER (New Scheme)			-	-	500.00
9. Setting up of Inland Water Transport Corp (New Scheme)			-	-	10.00
<b>TOTAL : TRANSPORT &amp; COMMUNICATIONS</b>			<b>9968.00</b>	<b>11233.06</b>	<b>12192.00</b>

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<b>V. MANPOWER DEVELOPMENT</b>							
1. Fellowship & Academic Programme			230.00	124.56	45.00	41.50	45.00
a) Arunachal Pradesh					6.00	4.50	6.00
b) Assam					7.00	7.00	7.00
c) Manipur					8.00	6.00	8.00
d) Meghalaya					5.00	5.00	5.00
e) Mizoram					5.00	5.00	5.00
f) Nagaland					7.00	7.00	7.00
g) Tripura					7.00	7.00	7.00
2. Linemen's Training Programme			25.00	25.56	4.50	4.50	4.50 Assam
3. Miscellaneous Training Programme			132.00	62.80	4.50 30.00	4.50 30.00	5.00 Meghalaya 40.00
4. N.E. Regional Institute of Science & Technology			1500.00	1400.00	500.00	500.00	200.00
5. Extension of Assam Survey School			7.00	9.50	6.00	6.00	5.00
6. Financial Assistance to Assam Rifles Public School for improvement in the Standard of Science & Mathematics Education.			25.77	18.73	5.00	5.00	5.00
7. Establishment of Regional Fishery Institute, Assam			54.41	22.00	13.60	12.90	10.30
8. Regional Mining School in Nagaland			10.00	-	10.00	2.00	5.00
9. Regional Medical College, Imphal			700.00	475.00	190.00	110.00	200.00
10. N.E. Judicial Officers Training Institute, Gauhati			20.00	9.04	4.00	4.00	4.00
11. North East Police Academy, Umsaw, Shillong			347.39	332.67	100.00	100.00	200.00
12. Regional Dental Wing, GMC.			40.00	35.88	-	5.00	10.00
13. Regional Nursing College, Gauhati			60.00	25.00	60.00	60.00	1.00
14. Expansion of Regional Pharmacy Institute, Agartala			30.00	10.00	7.00	7.00	10.00
15. Improvement of IITL, Aizawl			15.00	20.00	5.00	5.00	2.00

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16. Regional ITI for Women, Tinsukia		18.00	18.00	25.00	38.00	20.00
17. Modernisation of ITI, Imphal		20.00	18.65	1.00	1.00	-
18. Regional Centre for Training of Trainers, Rani, Assam.		-	55.00	15.00	19.00	20.00
19. Construction of Hostel Accommodation/ <sup>in</sup> the Banasthali Vidyapith, Rajasthan for the students of NER.		-	-	5.00	20.28	-
20. Construction of Hostel at Delhi for the Students of NER.		-	-	2.00	1.00	2.00
21. Institute of Urban Development, Assam		-	-	-	-	10.00
22. Operation Black Board		-	-	-	700.00	160.00
23. Establishment of Survey & Training School, Tripura		-	-	-	-	10.00
24. Project Hand shake in N.E.H.U		-	-	-	-	5.00
<b>TOTAL: MANPOWER DEVELOPMENT</b>				1032.60	1226.68	973.80

**VI. SOCIAL AND COMMUNITY SERVICES :**

1. Artificial Limb Centres						
a) Shillong				4.00	4.00	6.00
b) Imphal		20.42	30.38	11.00	11.00	25.00
2. Artificial Limb Fitting-cum-Rahabilitation Centre, Nagaland.		11.50	7.00	5.00	6.00	3.00
3. Food & Drug Laboratory, Shillong		15.00	5.00	10.00	10.00	9.00
4. Food & Drug Laboratory, Gauhati.		18.00	19.65	6.00	6.00	4.70
5. Food & Drug Laboratory, Tripura		20.00	7.00	7.00	7.00	6.00
6. Orthopaedic & Traumatology Centre, Shillong		10.00	-	6.00	5.00	8.00

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	1	2	3	4	5	6	7
7. Regional Blood Bank, Meghalaya	-	-	13.00	-	4.00	3.00	3.00
8. Forensic Science Laboratory, Gauhati	-	-	-	-	10.00	10.00	20.00
9. Upgradation of Dr. B. Baruah Cancer Institute, Gauhati	-	-	-	-	10.00	1.00	100.00
10. Establishment of Virology Centre for Diagnosis and control of Japanese Encephalitis.	-	-	-	-	-	2.00	5.00
<b>TOTAL : SOCIAL &amp; COMMUNITY SERVICES</b>					73.00	65.00	189.70
<b>VII. GENERAL SERVICES</b>							
1. Regional Information & Documentation Centre			50.00	25.20	10.00	13.00	18.00
2. <u>Natural Hazards Risks Evaluation &amp; Reduction Programme.</u>							
i) Earthquake Risk Evaluation Cell.			40.00	19.38	7.00	7.00	8.00
ii) Earthquake Risk Evaluation in NER- Establishment and Operation of Network of short period Seismic Station in NER.			40.00	10.00	20.00	35.00	12.00
3. <u>R&amp;D Projects :</u>							
i) Repetitive Geodatic Surveys for monitoring land deformation precursor of earthquake.			4.00	-	5.00	-	1.00
ii) Radon Emission Studies for Identifying Earthquake precursors.			10.00	-	4.00	2.00	6.00
iii) Insitu Stress Measurement			5.00	-	2.00	2.00	5.00
4. <u>SCIENCE &amp; TECHNOLOGY</u>							
i) Regional S&T Council			5.00	-	1.00	0.50	1.00
ii) Other Programmes			5.00	0.89	3.00	0.50	1.00
iii) Science Museum, Gauhati			131.00	41.25	25.00	-	1.00



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5. Regional Centre for Resources Evaluation Documentation & Information System.			45.00	2.84	10.00	3.00	10.00
5. Documentation of Traditional Culture of the Tribal People			15.00	-	5.00	9.00	20.00
7. Chairman's Survey and Consultancy			250.00	87.32	50.00	70.00	75.00
8. Youth Activities			5.00	0.42	1.00	2.00	3.00
9. Housing of NEC Staff			72.00	38.00	20.00	21.00	35.00
10. Environmental Studies			15.00	0.07	1.00	-	1.00
11. Establishment of Regional Film Studio-cum-Production Centre, Jyoti Chitran, Gauhati			-	-	10.00	1.00	20.00
12. Integrated Multichannel Police-Tele-Communications for NER.			-	-	-	-	1.00
<b>TOTAL : GENERAL SERVICES</b>					174.00	165.00	216.00
<b>GRAND TOTAL :</b>					<b>18560.10</b>	<b>18499.44</b>	<b>26432.28</b>

2.1  
CHAPTER - 2

AGRICULTURE AND ALLIED SECTORS

A. AGRICULTURE AND SOIL CONSERVATION :

2.01 1989-90 being the final year of the 7th Five Year Plan, due consideration has been given in respect of the schemes under Agriculture and Soil Conservation Sector for completion of the on-going schemes particularly those which are continuing from the 6th Five Year Plan. The Programmes/Schemes include creation of the infrastructural facilities for production of quality seeds, establishment of regional institution and pilot project in critical areas like Soil Conservation, control of shifting cultivation. Although farming is the most important occupation of the people in the North Eastern States, the region is deficit in respect of most items of the food which is mainly due to low level of productivity per unit of cropped areas. Use of high yielding varieties of seeds, application of fertilisers plant protection chemicals and improved implements are yet to pick up in a significant way. In most of the States of the region, except Manipur and Tripura, the application of green revolution technology has yet to reach. Availability of the critical inputs on time and in adequate quantities is rather uncertain due to weakness in delivery system. The system of agriculture in the hills differs considerably from the system followed in plains/valleys. Another major reason for backwardness of the agriculture system in the N.E. region is low crop intensity.

2.02 In respect of the land use pattern, the NE region is quite different from the rest of the country. Shifting cultivation otherwise also known as Jhum Cultivation is extensively practised in the hills of the NE region. Even in the area where permanent type of cultivation is practised, the individual operational holding is very small which ranges from 0.5 ha to 2.00 ha. Plant nutrient consumption per unit cropped area is also very small ranging between 3 kg per ha

## 2.2

in Assam to about 20 kg per ha in Manipur. Pace of infra-structural development facilities for agriculture is rather slow. Self-sufficiency in food production being the main objective and strategy for agricultural development in the region, a number of seed production farms are being established in the NE region. Apart from that, to ensure availability of quality seeds of the high yielding and improved varieties, a programme is also being launched for establishment of a Regional Seed Corporation and Seed Certification Agency for NE region.

2.03 Agriculture is a State subject. As such NEC schemes are designed to supplement the programmes and efforts that the respective States are trying to meet the needs for higher production in critical areas like seed production, bio-fertilisers, introduction of new crops, etc. Schemes/projects are either to benefit more than one State of the region or of problems of common nature.

..... Details of various schemes/projects taken up are ..  
furnished below :

### 1. Pilot Project on Watershed Management

2.04 With a view to weaning away of the Jhumias (Shifting Cultivators) from Jhum Cultivation and encourage them to take up permanent type of cultivation nine watershed Management Projects were taken up. Out of these ~~two~~ watershed Management Projects, viz. Tsinga-Tsusang in Nagaland and another Maharani Cherra in Tripura have been completed and normalised. Projectwise Details of the remaining seven projects are given below :

#### ARUNACHAL PRADESH :

##### (i) Popum Poma (Phase-II)

2.05 The Popum Poma (Phase II) was sanctioned at an estimated cost of Rs. 15.43 lakhs during the last part of 1987-88. NEC's share for the project is Rs. 7.99 lakhs.

Construction of irrigation channels, development of lands for crop raising and plantation of horticultural crops are in progress. Raising of orange and pineapple plantation among the Jhum Farmers are being encouraged. An outlay of Rs. 1.25 lakhs for the year 1988-89 is being fully utilised and for the year 1989-90 a sum of Rs 3.40 lakhs is proposed.

ASSAM :

(ii) Hiri Hiri - Barpanjam

2.06 This scheme was sanctioned during the year 1986-87 at an estimated cost of Rs. 100.19 lakhs of which NEC's share is Rs. 40.08 lakhs. The project covers an area of 2300 ha comprising 324 households with 2020 population. Major portion of the irrigation works for the project has already been completed. Minor construction works and the function/<sup>al-</sup>cum-residential building Phase-I have already been completed. Cultivation of both Kharif and Rabi <sup>crops</sup> have already been started in the developed land. Works for development of the land, plantation of the Horticultural Crops, development of water body for fishery programme, construction of internal roads would be taken up during the year 1989-90. As against the provision of Rs. 26.00 lakhs for the year 1988-89 a sum of <sup>29.40</sup> ~~Rs.~~ lakhs would be utilised during the year. Proposal for the next year is Rs. 22.75 lakhs.

MANIPUR :

(iii) Luwangleima

2.07 This project was sanctioned during the year 1986-87 at an estimated cost of Rs. 151.80 lakhs of which the share of the NEC is Rs. 75.90 lakhs. The project covers 2030 ha and will benefit 1035 families. Construction of the terraces, land development, irrigation channels are in progress. Fishery ponds have been developed and fish finger links released, distribution of poultry birds has already been undertaken. The total amount of Rs. 19.00 lakhs for the year 1988-89 would be utilised and an amount of Rs. 36.00 lakhs is proposed for the year 1989-90

MEGHALAYA :(iv) Umtongpher

2.08 This project was sanctioned during the year 1986-87 at an estimated cost of Rs. 134.91 lakhs out of which Rs 67.46 lakhs is the share of the NEC. Construction of terraces and development of land have been undertaken and crops particularly paddy and maize have been raised on those land. The anticipated expenditure for the year 1988-89 is Rs. 25.00 lakhs which is the approved provision for the project. A sum of Rs. 30.00 lakhs is proposed for the year 1989-90.

MIZORAM :(v) Tairei

2.09 This project was sanctioned during the year 1985-86 at an estimated cost of Rs. 169.365 lakhs out of which share of the NEC is Rs. 84.68 lakhs. The project extends an area of 5676 ha and will extend benefit to 374 families. Land development works are in progress. Raising of the nursery plant for horticultural plantation have been undertaken. Development of fishery pond has also been taken up. The anticipated expenditure for the year 1988-89 is Rs. 25.00 lakhs whereas proposed outlay for the year 1989-90 is Rs. 40.00 lakhs.

NAGALAND :(vi) Dikhu

2.10 This project was sanctioned during the year 1986-87 at an estimated cost of Rs. 107.58 lakhs out of which share of the NEC is Rs. 53.79 lakhs. The project covers 3500 ha to benefit 310 families residing in the villages of the watershed area. Terrace making, land development, construction of irrigation, channel are in progress. Raising of the crops particularly maize and paddy on the developed land are undertaken. Raising of horticultural crops like orange, pineapple, lime/lemons etc. are in progress. The approved outlay for the year 1988-89 is Rs. 10.00 lakhs which would be utilised fully and proposed outlay for the next year is Rs. 14.00 lakhs.

TRIPURA :(vii) Kanga Cherra

2.11 This project was sanctioned during the year 1983-84 at an estimated cost of Rs. 121.52 lakhs of which Rs. 47.265 lakhs is NEC's share. The programme for construction of terraces, land development, minor irrigation facilities are in progress. Raising of agricultural crops, horticultural plantation and other animal husbandry and fishery programmes are also being taken up. The outlay of Rs. 7.00 lakhs for the year 1988-89 would be utilised fully and the proposed outlay for the year 1989-90 is Rs. 5.00 lakhs.

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

was

2.12 This scheme/ taken up for strengthening the survey, investigation and planning cells, <sup>already</sup> established and normalise in respective States of the NE region by addition of two more qualified and trained staff having knowledge about remote sensing. Provision for purchase of essential equipments<sup>s</sup> meant for remote sensing is also included. The scheme is sanctioned at an estimated cost of Rs. 6.25 lakhs for each of the NE region States and basically meant for purchase of equipments<sup>s</sup> and getting the staff trained in recognised institution. As against outlay of Rs. 12.65 lakhs for the year 1988-89 anticipated expenditure is Rs. 13.25 lakhs and proposed outlay for the year 1989-90 is Rs. 14.25 lakhs.

3. Project Preparation and Monitoring Cell, NEC

2.13 This is a continuing scheme. The cell assists the constituent States/Units in taking up surveys and preparation of the project reports for Watershed Management Projects. This is a staff scheme in the NEC. The outlay of Rs. 4.00 lakhs for the year 1988-89 would be fully utilised and a sum of Rs. 5.00 lakhs is proposed for the year 1989-90.

#### 4. Regional Soil Conservation Training Centre, Meghalaya

2.14 The scheme was revised in the year 1986-87 at an estimated cost of Rs. 79.05 lakhs. Construction of class rooms, hostels for trainees, residential quarters, land development, playground etc are in progress. The training programme has already been started. The outlay of Rs. 15.00 lakhs for the year 1988-89 would be fully utilised and the proposal for the year 1989-90 is also Rs. 15.00 lakhs.

#### 5. Survey of catchment area of Hydel Projects Ranganadi etc. in Arunachal Pradesh

2.15 The survey and investigation of catchment area of Ranganadi in Arunachal Pradesh is carried out by the Survey and Investigation Cell of the Govt of Arunachal Pradesh under Rural Works Deptt. The scheme was sanctioned during the year 1986-87 at an estimated cost of Rs. 10.178 lakhs. Purchase of survey equipment and appliances and also actual survey works are in progress. The provision of Rs. 5.00 lakhs for 1988-89 would be fully utilised and for the year 1989-90 a sum of Rs. 7.00 lakhs is proposed.

#### 6. Foundation Seed Farm for major Field Crops, Manipur

2.16 The scheme was sanctioned during the year 1987-88. Farm area of 100 ha at Kharungpat in Thoubal district of Manipur had been acquired and taken over for the farm. Construction of the functional and residential buildings, development of land have also started. Raising of the crops particularly paddy for seed production programme have been started since Kharif of 1988-89. An amount of Rs. 15.00 lakhs for the year 1988-89 would be fully utilised and a sum of Rs. 25.00 lakhs is proposed for the year 1989-90 for taking up construction of ring bunds, development of land, internal roads, buildings, crop raising etc.

#### 7. Regional Centre for Bio-fertiliser Production in Assam Agricultural University

2.17 The scheme was sanctioned during the year 1982-83 at an estimated cost of Rs. 14.93 lakhs. Production of the bio-fertiliser (Rhizobium Culture) are already undertaken and meeting requirement of such cultures for the NE region States and institutions. Provision of Rs. 0.30 lakhs for the year

1988-89 would be utilised fully and another sum of Rs. 0.30 lakhs is proposed for the year 1989-90.

#### 8. Joint Input Testing Laboratory, Tripura

2.18 The scheme which is designed to ensure supply of quality agricultural inputs like seed etc. and to stop adulteration of fertilizers and plant protection chemicals was sanctioned during the year 1986-87 at an estimated cost of Rs. 29.35 lakhs. The capacity of the laboratory when fully developed will have to test and analyse 6000 seed samples, 1200 fertilizer samples and 1200 plant protection chemicals samples per year. Purchase of laboratory equipment, improved chemicals etc. are in progress and construction of the buildings are also been taken up by the State PWD. Against the provision of Rs. 12.00 lakhs for the year 1988-89 would be utilised and a sum of Rs. 15.00 lakhs is proposed for the year 1989-90.

#### 9. Regional Sub-Centre for Training/Production of Mushroom, Mizoram

2.19 The scheme which was sanctioned during the year 1985-86 at an estimated cost of Rs. 15.00 lakhs is in full swing of implementation. Training of the interested Mushroom growers, production of mushroom spawn as well as mushroom have been started. Construction of mushroom house is being taken up by the State PWD. A sum of Rs. 1.50 lakhs provided for the year 1988-89 would be fully utilised and Rs. 5.00 lakhs is proposed for the year 1989-90.

#### 10. Regional Farm for production of Pulses and Oil Seeds, Manipur

2.20 This is the only scheme sponsored by the NEC under agriculture having some linkage with 20-Point Economic Programmes of the country. 40 ha of land has already been acquired for the seed farm. Land development and raising of the crops like mustard, groundnut, soyabean, sunflower etc for the seed production programme have already started. Construction of the functional and residential buildings and internal roads, fencing etc are in progress. As against provision of Rs. 18.00 lakhs



for the year 1988-89 anticipated expenditure is Rs. 21.12 lakhs. Provision for the year 1989-90 a sum of Rs. 28.00 lakhs is proposed for construction of buildings, development of irrigation facilities, internal roads, land development, crop raising, etc.

#### 11. Mushroom Development Centre, Arunachal Pradesh

2.21 The scheme which was sanctioned at an estimated cost of Rs. 13.25 lakhs during the year 1986-87 with the objective of cultivation of the mushroom on scientific lines, its demonstration, giving of training to the interested growers, production and supply of mushroom spawns and prepare compost, etc.

The production of spawn and mushroom have already been started with the procurement of equipments and appliances. Construction of the mushroom house/laboratory is being taken up by the State PWD. against the provision of Rs. 6.00 lakhs for the year 1988-89, Rs. 7.91 lakhs would be utilised whereas a sum of Rs. 2.10 lakhs is proposed for the year 1989-90.

#### 12. Regional Bio-fertiliser Production Centre, Tripura

2.22 The scheme is located in the existing agricultural Research Complex at Arundhuti Nagar near Agartala. Purchase of equipments, appliances and chemicals have already been started. Construction of office and laboratory buildings are being taken up by the State PWD. When fully developed, the centre will produce 40000 bio fertiliser packets of 200 gm each which would increase the production to 1,25,000 packets when fully developed and would supply to the farmers in Tripura, Mizoram, Assam (Cachar Dist etc). Provision of Rs. 6.00 lakhs for the year 1988-89 would be <sup>Rs. 3.00 lakhs</sup> utilised and a sum of Rs. 12.00 lakhs is proposed for the year 1989-90 for the construction works, purchase of laboratory equipments/appliances, chemicals, etc.

#### 13. Regional Breeder Seed Production Farm, Tripura

2.23 The scheme was sanctioned during the year 1987-88 at an estimated cost of Rs. 23.64 lakhs for production of breeder seed like paddy, jute, mesta, kharif and rabi pulses oil seeds, maize and sugarcane. The farm in 10 ha land has

already been started, Development of land and raising of  
the crops are in progress. Against the an amount of Rs. 5.00 lakhs  
outlay of Rs. 9.00 lakhs/would  
be utilised during the year 1988-89 and a sum of Rs. 15.00  
lakhs is proposed in the year 1989-90 for land development,  
crop raising, construction programme, roads, etc.

14. Regional Mushroom Spawn Production  
Centre Tripura

2.24 The scheme was sanctioned during the year 1986-87  
at an estimated cost of Rs. 12.75 lakhs. Procurement of  
laboratory equipments/appliances, chemicals etc. are in progress.  
Construction of mushroom house and laboratory is being taken  
up by the State PWD. As against provision of Rs. 5.00 lakhs  
for the year 1988-89 anticipated expenditure is Rs. 6.00 lakhs  
whereas proposed outlay for the year 1989-90 is Rs. 10.00 lakhs ha  
for construction of the buildings, purchase of equipments/  
appliances, etc.

15. Pilot Project on dryland culture and  
water harvesting in Nagaland

2.25 The scheme at an estimated cost of Rs. 26.75 lakhs  
was sanctioned during the year 1986-87 and is now in full  
swing of implementation. Nearly 150 ha of land has already been  
developed/bunded and crops like paddy, maize, colocasia, etc  
raised in the developed land. Planting of Albezia  
plant to rejuvenate the jhum land has also been taken up.  
As against provision of Rs. 6.75 lakhs anticipated expenditure  
for the year 1988-89 would be Rs. 10 lakhs. This incr-  
ease is mainly due to increase in the wage of the labourers,  
taking up of certain horticultural crops, fencing of vulne-  
rable areas and also for providing drinking water facilities to  
the farmers. Provision for the year 1989-90 Rs. 15.00 lakhs

16. Regional Cotton Seed Multiplication  
and Development centre, Tripura

2.26 The scheme was sanctioned at an estimated cost of  
Rs. 48.58 lakhs during the year 1986-87 with the objective  
of augmenting production of cotton seed in Tripura, supply  
of improved strain of the cotton seed to the farmers of the  
State and other neighbouring States of the region, to select,  
purify and stabilize improved strains, collection, evaluation,  
isolation and final seed bulking. The outlay of Rs. 5.00 lakhs

for the year 1988-89 would be utilised fully and a total outlay of Rs. 12.00 lakhs is proposed for 1989-90.

17. Estt. of Regional Seed Certification Agency

2.27 In order to ensure distribution of genetically pure plant materials and also to have an effective source of transfer of results of research to the farmers, regional seed certification agency is being established for NE region States. The most <sup>important</sup> crops in NE region are paddy, maize, pulses, oil seeds etc. are also grown both in the hills and plains. One of the <sup>production</sup> constraints identified for the stagnancy of the agricultural in the region is lack of quality seeds. Hence it is necessary to streamline seed certification and distribution system in the region. However, this scheme will be combined with the scheme viz. NE Regional Seed Corporation (Scheme No. 18 below) and will be a part of the NE Regional Seeds Corporation Project.

18. NE Regional Seed Corporation

2.28 Subsequent to the discussion on NEC Annual Plan 1988-89 on 29th Jan 88 in Planning Commission, Secretary, Deptt of Agriculture, Govt of India requested the Planning Commission to include the proposal for setting up of NE Regional Seed Corporation in the Annual Plan 1988-89 of NEC. The proposal came up also for discussion in the meeting held on 9th Feb '88 between Jy Chairman, Planning Commission and Chairman, NEC. Need for making timely availability of quality and quantity of seeds in NE region was accepted and it was decided that NEC should work out details on that line. Detail project has been prepared by the National Seed Corpn. for the NE Region Seed Corporation and the project is being cleared by the Ministry of Agriculture, Govt of India.

For the year 1988-89 a sum of Rs.1.00 lakh is retained as the anticipated expenditure against the provision/ and a sum of Rs. 300.00 lakhs is proposed for the year 1989-90. Schemewise details on expenditures and outlay are given in the annexure.

∠ of Rs. 10.00 lakhs

ANNUAL PLAN PROPOSAL FOR 1989-90 : AGRICULTURE AND SOIL CONSERVATION

(Rs. in lakhs)

Sl. No.	Name of Schemes	7th Plan Approved Outlay	Actual Expenditure 1985-88	1988-1989		1989-90 Proposed Outlay
				Approved Outlay	Anticipated Expenditure	
1	2	3	4	5	6	7
1.	Watershed Management Projects	456.50	227.13	113.25	119.15	151.15
2.	Survey of Investigation Cells in Constituent Units.	50.00	20.82	12.65	13.25	14.25
3.	Project Preparation and Monitoring Cell	20.00	16.16	4.00	4.00	5.00
4.	Regional Soil Conservation Training Centre, Meghalaya	50.00	29.18	15.00	15.00	15.00
5.	Survey of Catchment Area, Kameng, Ranganadi, Arunachal Pradesh.	25.00	4.95	5.00	5.00	7.00
6.	Foundation Seed Farm for Major Field Crops, Manipur.	46.15	10.00	15.00	15.00	25.00
7.	Regional Centre for Production of Bio-Fertiliser, AAU.	5.00	5.00	0.30	0.30	0.30
8.	Joint Input Testing Laboratory, Tripura	29.35	8.01	12.00	9.00	15.00
9.	Regional Sub-Centre for Training-cum-Production of Mushroom in Mizoram.	15.00	22.77	1.50	1.50	5.00
10.	Regional Farm for Production of Pulses and Oilseeds, Manipur	54.40	16.48	18.00	21.12	28.00
11.	Mushroom Development Centre, Arunachal Pradesh.	14.50	6.66	6.00	7.91	2.10
12.	Regional Bio-Fertiliser Production Centre, Tripura.	24.90	6.00	6.00	3.80	12.00

1	2	3	4	5	6	7
13. Regional Breeder Seed Farm, Tripura.	29.00	10.00	9.00	5.00	15.00	
14. Regional Mushroom spawn Production Centre, Tripura.	15.10	5.00	5.00	6.00	10.00	
15. Pilot Project on Dryland Agriculture and Water Harvesting, Nagaland.	43.60	20.00	6.75	10.00	15.00	
16. Regional Cotton Seed Multiplication and Development Centre, Tripura.	54.28	15.80	5.00	5.00	12.00	
*17. Establishment of Regional Seed Certification Agency.	-	-	10.00	1.00	300.00	
*18. North-Eastern Regional Seeds Corporation.	-	-	-	-	-	
<b>Total :</b>			<b>244.45</b>	<b>238.73</b>	<b>631.80</b>	

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\* The two schemes are to be combined as one composite scheme

B. HORTICULTURE:

2.29. North Eastern Region has got extensive hilly terrain with climatic conditions varying from temperate and sub-temperate to sub-tropical and tropical having wide spread rainfall. These are ideal environmental conditions conducive for development of Horticulture. A plan<sup>ned</sup> and the well-thought Horticultural Programme in the region could bring about production of various nutritional fruits and vegetables which will help in the economic development of the people of the region. It would also reduce the demand for the traditional cereals like rice, maize, etc. Growing of fruit trees and planting of perennial type of crops would increase profitable use of land and also help in control of shifting (Jhum) cultivation.

2.30. One of the main constraints of horticultural development in North Eastern Region is non-availability of reliable and healthy planting materials which is one of the most important inputs. Similarly, non-availability of quality seeds for vegetables, tuber crops, potato<sup>es</sup>, nuts, spices, etc is also important bottle-neck for production of the above mentioned crops. Fruits are generally highly perishable and have short life. As such proper and planned marketing and preservation of fruits and vegetables are also very important infrastructure for N E Region. Otherwise large quantity of fruits and vegetables would be perished before it could be disposed off profitably.

2.31. With a view to removing these constraints and bottle-necks mentioned above the North Eastern Council helps/assists State Govts. of N E Region in producing quality planting materials and the seeds etc by establishing Regional Progeny Orchards-cum-Nurseries, Seeds Production Farms etc. For helping and streamlining the marketing of horticultural produces, North Eastern Regional Agricultural Marketing Corporation (NERAMAC) has been established with a view to providing processing units and marketing facilities of fruits and vegetables.

2.32. There are also great potentialities for production of various types and kinds of spices like cardamom, saffron, pepper, etc and also nuts like walnut, chestnut, almond etc. in the Region. Spices and nuts being generally high-value,

low-volume and non-perishable commodities, growing of such crops would considerably also improve economic condition of the people of the Region. NEC also therefore supports production of the planting materials of such crops in the States of the Region by way of introduction of new crops like saffron etc and also establishment of Regional Seed Farms which would benefit to almost all States of the Region. Details of various schemes under this sector are furnished as below :-

1. Regional Vegetable Seed Farm, Malcheria, Tripura:

2.33. This scheme which was originally sanctioned during 1980-81 was revised during 1986-87 at an estimated cost of Rs.44.95 lakhs to complete the left over infrastructural facilities such as farm fencing, internal roads, seeds stores, processing units etc. The farm is established in an area of 24 ha. and seeds of vegetables like brinjal, carrot, onions, bottle-gourd, <sup>h</sup>bindi etc. are produced in the farm. Development of infrastructural facilities mentioned above are in progress. Provision of Rs.5.00 lakhs for the year 1988-89 would be fully utilised. A sum of Rs.10.00 lakhs for completion of infrastructural development, crop raising etc. is proposed for the year 1989-90.

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

2.34 The scheme envisages establishment of Orchard-cum-Nursery for Citrus at Mynkre in Jowai District of Meghalaya in an area of 10 ha. Construction of fencing, office building are completed. Construction of other functional building and staff quarter are being taken up by State PWD. Planting of mother plants and subsequent raising of nurseries are also being taken up. The provision of Rs.3.50 lakhs for the year 1988-89 would be fully utilised and another sum of Rs.3.50 lakhs is proposed for the year 1989-90.

3. Regional Coconut Seed Garden, Tripura:

2.35. This garden is established in an area of about 51 ha. of land. Growing of Coconut varieties like West Coast Tall, Chowghat Dwarf Orange and the Malayan Dwarf Yellow have been planted for use <sup>as</sup> mother palm plants. Construction and development of infrastructures like pot-house, garrage-cum-~~implement~~ shed, fencing, electrical installations are in progress. The estimated cost of the scheme revised during the year 1986-87 is Rs.57.97 lakhs. The provision of Rs.8.00 lakhs for the year 1988-89 would be fully utilised. For the year 1989-90 Rs.10.00 lakhs is proposed.

#### 4. Regional Seed Garden for Spices and Bettle Leaf, Tripura:

2.36. This farm is being set up in an area of about 50 ha. of land. Development of land and other infrastructural facilities are being taken up. Spices like pepper, turmeric, ginger, etc. etc. are being grown for subsequent production of planting materials for distribution to the farmers in Tripura and other neighbouring States. Outlay of Rs.15.00 lakhs for the year 1988-89 would be fully utilised and the proposal for the year 1989-90 is Rs.18.00 lakhs.

#### 5. Development of Temperate Nut and Almond Crops, Arunachal Pradesh:

2.37. The scheme is meant for raising of community plantation of walnut, chestnut, pecanut, almond etc in the abandoned Jhum land to rejuvenate such land. The scheme was sanctioned during 1987-88 at an estimated cost of Rs.22.39 lakhs. Compact area plantation of the nut crops in Tawang, Bomdila, Ziro areas etc of Arunachal Pradesh is being taken up. Depending upon availability of land and other resources the area to be covered may vary from 6 ha. to 50 ha. per unit. Against the provision of Rs.10.00 lakhs for the year 1988-89, Rs.5.00 lakhs will be utilised and another sum of Rs.12.00 lakhs is proposed for the year 1989-90.

#### 6. Regional Temperate Fruit and Nut Nursery, Arunachal Pradesh:

2.38. This scheme was sanctioned during the year 1986-87 at an estimated cost of Rs.38.60 lakhs for setting up the nursery in an area of about 50 ha. of land in the existing Horticultural Orchards at Shergagan, West Kameng District. Production of various plants like apple, pear, plum, peaches, walnut, chestnut etc have already been started. During the year 1988-89 a provision of Rs.10.00 lakhs would be utilised. For the year 1989-90 a sum of Rs.8.50 lakhs is proposed.

#### 7. Survey of Area and Production of Horticultural Crops in N.E Region:

2.39. This scheme is taken up in all the States of North Eastern Region with a view to finding out the area under and the production of different horticultural crops in the N.E Region for making use of such data in the future planning of Horticulture development in the Region. Scheme is almost completed in all the States except Assam and Meghalaya. As against provision of Rs.8.00 lakhs for the year 1988-89 the anticipated



expenditure is Rs.4.00 lakhs only and the provision for the year 1989-90 is proposed as Rs.5.00 lakhs only.

8. North Eastern Regional Agricultural Marketing Corporation (NERAMCO);

2.40. 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 in the ratio of 1 : 1. The objective of establishing the Corporation is to provide regular and systematic marketing arrangement for agro-horticultural products of N E Region so that farmer-s/growers may get remunerative price for their produces.

The Corporation has initiated some positive actions for marketing of agro-horticultural produces of the region particularly ginger from Mizoram, Citronella oil from Assam and Nagaland. During last 2/3 years the Corporation has also arranged the export of canned pineapple<sup>s</sup> outside the country. It has set up one Fruit Juice Concentrate Plant mainly of pineapple and orange in Tripura. The Corporation also proposes to set up a number of Zonal Centres and extend its activities to other parts of the region by way of establishing agro-processing units.

Out of the 7th Plan, total outlay of Rs.325.00 lakhs, a sum of Rs.300.00 lakhs was released to the Corporation during 1985-87. The outlay of Rs.25.00 lakhs for the year 1988-89 is <sup>not</sup> being utilised and a sum of Rs.25.00 lakhs is proposed for the year 1989-90 for enabling the Corporation for taking up works concerning agro-processing units on the basis of the feasibility reports prepared by the C.F.T.R.I.

9. Expansion of Regional Foundation Seed Potato Production Farm, Manipur :

2.41 The scheme was sanctioned at an estimated cost of Rs.30.16 lakhs during the year 1986-87. Forty hectares of land contiguous to the existing Potato Farm at Mao, Manipur has been acquired, land development, terrace making, contour bunding, internal road construction, etc. are in progress. Raising of Seed potato crops is being taken up from the next planting season. As against approved outlay of Rs.10.00 lakhs for the year 1988-89, the anticipated expenditure is Rs.13.50 lakhs. Proposed outlay for 1989-90 is Rs.15.00 lakhs.

10. Regional Foundation Seed Farm for Potato in Meghalaya :

2.42 The scheme was sanctioned during the year 1987-88 at an estimated cost of Rs.40.10 lakhs as against approved Seventh Plan Outlay of Rs.50.00 lakh. Implementation of the scheme has been deferred due to non-settlement of land for the farm site which is expected to be finalised <sup>in view of</sup> early. As against the approved Rs.10.00 lakhs for the year 1988-89 the anticipated expenditure is nil whereas proposed outlay for the year 1989-90 is Rs.1.00 lakh only.

11. Foundation Seed Farm for Potato, Mizoram

2.43 For establishment of Regional Foundation Seed Potato Farm in Mizoram, the scheme was sanctioned during the year 1986-87 at an estimated cost of Rs.40.05 lakhs. The site selected originally being found not technically suitable, a new site is being selected for the establishment of the said Farm. The outlay of Rs.1.00 lakh for the year 1988-89 is being utilised. A provision of Rs.15.00 lakh is proposed for the year 1989-90.

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

2.44 The scheme envisages establishment of disease free healthy Seed Potato Production Farm in an area of 110 ha. of land out of which 100 ha. would be under cultivation. Two-year crop rotation would be practised to make the soil free of soil born diseases, as such in a particular year only about 50 ha. of land will be cultivated under potato. The scheme at an estimated cost of Rs.61.00 lakhs was sanctioned during the end part of 1986-87. The outlay of Rs.12.00 lakh for the year 1988-89 would be fully utilised and a sum of Rs.20.00 lakh is proposed for the year 1989-90.

13. Regional Tuber Crop Farm, Tripura

2.45 The scheme was sanctioned during the year 1986-87 at an estimated cost of Rs.37.25 lakhs with a view to establishing 50 ha. land Farm for producing quality planting materials of various tuber crops like sweet potato, tapioca, colocasia, dioscarea etc. The seed materials are originally to be procured from Central Tuber Crop Research Station. The outlay of Rs.15.00 lakhs for the year 1988-89 would be fully utilised and another sum of Rs.15.00 lakhs is proposed for the year 1989-90.

14. Regional Vegetable Seed Farm, Arunachal Pradesh

2.46 This Farm has already been established at Silari in Arunachal Pradesh in an area of about 20 ha. of land. Construction of buildings for functional and residential quarters, irrigation channels and other infrastructures are in progress. Production of vegetable seeds like cauliflower and radish have been started. The provision of Rs.10.00 lakhs for the year 1988-89 would be fully utilised. An outlay of Rs.8.00 lakhs is proposed for the year 1989-90.

15. Regional Vegetable Seed Multiplication Farm, Manipur.

2.47 In order to meet the requirements of the quality and location specific varieties of vegetable seeds for the States of Manipur, Nagaland and Mizoram, the scheme was sanctioned in the year 1986-87 at an estimated cost of Rs.30.12 lakhs. Farm land of 40 ha. has been acquired, land development, terrace making, contour bunding, farm fencing have already been taken up. About 10 ha. of land has been developed/terraced and nearly 1.00 Km. internal farm road (Jeepable) have been completed. The provision of Rs.8.00 lakhs for the year 1988-89, will be utilised fully. An outlay of Rs.15.00 lakhs is proposed for the year 1989-90 for construction/development of irrigation facilities, functional and residential quarters, other infrastructural development works and crop raising, etc.

16. Establishment of Clonal Seed Garden for Banana, Tripura

2.48 The scheme which was sanctioned in the year 1986-87 at an estimated cost of Rs. 40.84 lakhs envisages establishment of one garden of 50 ha. Plantation of mother banana plants of important varieties like Champa, Malbhog, Chertapunjee, Local Garo Hills and Cavandish types, etc would be taken up for subsequent production of planting materials. Construction of functional and residential buildings and development of other infrastructures like irrigation, fencing, internal roads would be taken up. Against the approved outlay of Rs. 15.00 lakhs for the year 1988-89 the anticipated expenditure is Rs. 5.00 lakhs. An amount of Rs. 16.00 lakhs is proposed for the year 1989-90.

17. Scheme for Rejuvenation of Old Orange Orchards, Tripura

2.49 This scheme was also sanctioned during 1986-87 at an estimated cost of Rs. 18.12 lakhs. The programme envisages rejuvenation of old and the declining orange orchards in Sakhang range (200 ha) and the Lungtharai ranges (50 ha). The scheme has been taken up and in the first phase, 117 ha. of old and declining orange orchards have been rejuvenated. The provision of Rs. 5.00 lakhs for the year 1988-89 would be fully utilised whereas a sum of Rs. 8.00 lakhs is proposed for the next year (1989-90).

18. Establishment of Citrus Demonstration Centre, Mizoram

2.50 The scheme at an estimated cost of Rs. 15.68 lakhs was sanctioned during 1986-87. Land comprising about 11 ha. has been acquired, lay out and the plantation of mother plants are in progress. Raising of nurseries for production of planting materials have also been started. Construction of bunds for protection of the orchard areas from the erosion by the river Chite has been completed as per programme. The provision of Rs. 3.00 lakhs for the year 1988-89 would be fully utilised where-as a sum of Rs. 6.00 lakhs is proposed for the year 1989-90.

19. Establishment of Large Cardamom Nursery, Mizoram:

2.51 The scheme sanctioned in the year 1986-87 at an estimated cost of Rs. 26.60 lakhs has taken off. 10 ha. of land has been acquired and the land development, terrace making, irrigation facilities, construction of buildings have been started.

Nurseries have been developed. 5000 clumps of large cardamon have already been planted in these nurseries for production of Large Cardamon planting materials. As against a provision of Rs.7.00 lakhs for the year 1988-89, anticipated expenditure is Rs.11.00 lakhs. A sum of Rs.5.50 lakhs is proposed for the year 1989-90.

20. Promotion of Floriculture;  
Establishment of Floriculture Seed Garden, Tripura:

2.52. This scheme was sanctioned in the year 1986-87 at an estimated cost of Rs.13.38 lakhs. 5 ha. of land has been acquired and the land development work, have been completed. Plantation of mother plants in about 0.50 ha. has also been completed. Construction of functional and residential buildings, glass houses, fencing, purchase of equipments/machineries are in progress. Provision of Rs. 3.00 lakhs for the year 1988-89 would be expended completely. A sum of Rs.5.00 lakhs is proposed for the year 1989-90.

21. Introduction of Saffron, Arunachal Pradesh:

2.53. Saffron being a commodity of high-value, low-volume, non-perishable in nature and also of its having export prospects, this crop has been introduced in Arunachal Pradesh (Tawang Area). The scheme was sanctioned during the year 1986-87 at an estimated cost of Rs.8.24 lakhs and the work programme has already been started. Planting of corms of saffron in about 0.5 acres of land was undertaken during the 1st year itself. More area are being brought under plantation. Construction of dehydration shed building for grading etc are in progress. The provision of Rs.3.00 lakhs for the year 1988-89 would be <sup>spent</sup> in full and a sum of Rs.3.50 lakhs is proposed for the year 1989-90.

22. Establishment of Model Spices Farm and Popularisation of Spices cultivation in N E Region:

2.54. This scheme is to be taken up from the year 1989-90 in collaboration with Spices Board, Ministry of Commerce, Govt of India by <sup>joint</sup> funding between NEC and the Spices Board on 50:50 basis. Detail scheme for this programme is ready. This scheme envisages establishment of model spices farm for demonstration as well as for production of planting materials of spices for supply/distribution in the N E Region States. A provision of Rs.23.00 lakhs is proposed for the year 1989-90 as NEC's 50% share of the scheme. Another sum of Rs. 23.00 lakhs would be borne by the Spices Board, the total provision of the scheme for the year 1989-90 being Rs.46.00 lakhs.

2.55. Schemewise details on expenditures and out-lays for the above mentioned schemes are given in the annexed statement:

ANNUAL PLAN PROPOSAL FOR 1989-90 : HORTICULTURE

		( Statement : Ref. Para 55 )			(Rs. in lakhs)	
Sl. No.	Name of the scheme	7th Plan approved outlay	Actual expenditure 1985-88	Approved outlay 1988-89	Anticipated expenditure	1989-90 Proposed outlay
1.	2.	3.	4.	5.	6.	7.
1.	Regional Vegetable Seed Farm, Maicherra, Tripura.	23.05	8.62	5.00	5.00	10.00
2.	Regional Orchard-cum-Nursery for Citrus, Mynkre, Meghalaya	5.21	9.21	3.50	3.50	3.50
3.	Regional Coconut Seed Garden, Tripura.	42.37	28.00	8.00	8.00	10.00
4.	Regional Seed Garden for Spices and Bettle Leaf, Tripura.	51.46	16.20	15.00	15.00	18.00
5.	Development of Temperate Nut and Almond Crops, Arunachal Pradesh.	32.45	27.55	10.00	5.00	12.00
2.21 6.	Regional Temperate Fruit & Nut Nursery, Arunachal Pradesh.	26.09	7.50	10.00	10.50	8.50
7.	Scheme for Survey of Area and Production of Horticultural Crops.	10.00	17.90	8.00	4.00	5.00
8.	North Eastern Regional Agricultural Marketing Corporation.	325.00	300.00	25.00	-	25.00
9.	Expansion of Regional Foundation Seed Potato Production Farm, Manipur.	28.15	15.00	10.00	13.50	15.00
10.	Regional Foundation Seed Farm for Potato in Meghalaya.	50.00	-	10.00	-	1.00
11.	Regional Foundation Seed Farm for Potato, Mizoram.	40.10	1.08	1.00	1.00	15.00
12.	Establishment of Seed Farm for Production of Certified Seeds of Potato, Tripura.	65.00	15.00	12.00	12.00	20.00
13.	Regional Tuber Crops Farm, Tripura.	38.00	17.60	15.00	15.00	15.00

							(Rs. in lakhs)	
1.	2.	3.	4.	5.	6.	7.		
14.	Regional Vegetable Seed Farm, Arunachal Pradesh.	26.00	7.09	10.00	10.00	8.00		
15.	Regional Vegetable Seed Multiplication Farm, Manipur.	27.12	21.00	8.00	18.00	15.00		
16.	Scheme for Establishment of Clonal Seed Garden for Banana, Tripura.	60.00	25.00	15.00	5.00	16.00		
17.	Scheme for Rejuvenation of Old Orange Orchards, Tripura.	20.00	6.06	5.00	5.00	8.00		
18.	Establishment of Citrus Demonstration and Development Centre, Mizoram.	20.35	8.00	3.00	3.00	6.00		
19.	Establishment of Large Cardamon Nursery, Mizoram.	28.18	15.64	7.00	11.00	5.50		
20.	Establishment of Floriculture Seed Garden, Tripura.	22.00	6.66	3.00	3.00	5.00		
21.	Introduction of Saffron in Arunachal Pradesh.	11.00	3.20	3.00	3.00	3.50		
*22.	Establishment of Model Spices Farm and Popularisation of Spices Cultivation in North Eastern Region.	-	-	-	-	23.00		
TOTAL		951.53	536.25	186.50	172.00	248.00		

\* This Scheme is to be taken up in collaboration with Spices Board, Ministry of Commerce, Government of India, on 50 : 50 basis. The above indicated amount for 1989-90 is 50% share of North Eastern Council.

### C. PLANTATION

2.56 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 N.E. The NEC 6th 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. administration could replicate the same in respective areas for spread of such crops, which has largely succeeded. It is strongly felt that revamping of agriculture sector in NER would depend on diversification and in this, the plantation sector can play a key role. It is, therefore, necessary that a long-term development plan for such economical crops is drawn up by Govt. of India and Commodity Boards. The details of the schemes being implemented in NEC 7th Plan in this sector are as follows :

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

2.57 The scheme was sanctioned in March, 1981 at an estimated cost of Rs.21.20 lakhs and it was expected to be completed within four years. Under the scheme, 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. An outlay of Rs.10.00 lakhs has been approved in the 7th Plan. By June 1988, a total area of 31970 ha. of land has been surveyed and an amount of Rs.23.31 lakhs has been spent upto March 1988. The scheme has been revised in August, 1987 for an estimated cost of Rs.29.02 lakhs. Anticipated expenditure for 1988-89 is Rs.3.55 lakhs and an outlay of Rs.2.00 lakhs is approved for 1989-90.

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

2.58 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 in the meanwhile, had to be revised.



The total amount of Rs.80.50 lakhs was released for the scheme upto the end of 6th Plan. During the Seventh Plan, an approved outlay of Rs.204.00 lakhs was provided for the scheme. The scheme has been revised and approved at an estimated cost of Rs.268.00 lakhs. A sum of Rs.105.00 lakhs has been made available to the State Government in the Seventh Five Year Plan and upto March, 1988. The State govt has made an agreement with M/s Britannia Engineering Products and Services Ltd., a West Bengal Govt. Undertaking for implementation of the project on a turn key basis and it is proposed to complete the project within 20 months by March, 1989. The outlay of Rs.70.00 lakhs for 1988-89 will be utilised fully. An outlay of Rs.12.50 lakhs proposed for 1989-90.

### 3. Rubber Processing Factory, Tripura.

2.59 The establishment of a rubber processing factory at Tripura has been sanctioned in 1986-87 at an estimated cost of Rs.137.00 lakhs. The main cost components are civil work, operational buildings (Rs.48.60 lakhs), plant and machinery (Rs.31.10 lakhs), supporting services (Rs.20.80 lakhs), equipment facilities (Rs.11.10 lakhs), residential construction (Rs.20.00 lakhs), contingency and others (Rs.5.50 lakhs). The approved outlay for the scheme in the 7th Plan is also Rs.137.00 lakhs. The implementing agency i.e. Tripura Forest Development and Plantation Corporation Ltd. has got the detailed project report prepared through the Deptt. of Rubber Processing, Rubber Board. According to the project report it is indicated that the first Estate will be on the ground in 1987-88 and the factory can process upto 3000 kgs. 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. During 1986-88 an amount of Rs.85.00 lakhs was made available to the State Govt. for purchase of equipments and construction works. Anticipated expenditure for 1988-89 is Rs.50.00 lakhs against the outlay of Rs.70.00 lakhs. An outlay of Rs.2.00 lakhs is proposed for 1989-90.

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

2.60 The scheme is included in the N.E.C approved 7th Plan with an outlay of Rs.151.00 lakhs for the whole plan period. The implementing agency i.e. Tripura Forest Development and Plantation Corporation Ltd. has prepared the Techno-Economic Feasibility report in two parts i.e. Cultivation of Dioscorea floribunda and extraction of diosgenin. The scheme was sanctioned at an estimated cost of Rs.142.90 lakhs. During 1987-88 an amount of Rs.50.00 lakhs was spent on the scheme and an anticipated expenditure for 1988-89 is Rs.30.00 lakhs against the provision of Rs.50.00 lakhs. The money has been utilised for development of land including construction of road, purchase of vehicles, office equipments, survey equipments, pumpsets, procurement of plant protection chemicals etc. An amount of Rs.45.00 lakhs is proposed for 1989-90 as an outlay.

5. Establishment of Rubber Demonstration-cum-Training Centre.

2.61 Commercial cultivation of Rubber though stated 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 Assam, Meghalaya, Mizoram and Nagaland 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 govts and the NEC will provide rest of the financial assistance in setting up the centre.

2.62 The scheme was prepared in consultation with the Rubber Board at an estimated cost of R.446.80 lakhs and sent the Ministry of Commerce, Govt. of India. At the time of finalisation of NEC 1988-89 Plan, Planning Commission suggested for taking the respective centres in the State Plan and no outlay for the project was made in 1988-89 Plan of the NEC. Later on Ministry of Commerce as well the Rubber Board advised that it may not be desirable to allow State-wise fragmentation of the scheme because of the limited expertise at the State level. Accordingly the Planning Commission was requested to retain the project in the NEC Plan 1988-89. Pending the decision of the Planning Commission, no expenditure is anticipated in 1988-89. An outlay of R.50.00 lakhs is proposed for 1989-90.

2.63 The Plan allocation for the scheme mentioned above are given in the annexed statement.

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DRAFT ANNUAL PLAN 1989-90

PLANTATION

Statement  
(Ref. Para 2.63)  
(Rs. in lakhs)

Name of the Schemes	Approved 7th Plan Outlay	Actual Expendi- ture during 1985-88	1988-89		Proposed Outlay 1989-90
			Approved outlay	Anticipated expenditure	
1	2	3	4	5	6
<u>PLANTATION</u>					
1. Detailed Insitu Survey of land suitable for Coffee in the N.E. Region.	10.00	11.91	3.55	3.55	2.00
2. Factory for Small Farmer's Tee Estate, Tripura.	204.00	105.00	70.00	70.00	12.50
3. Rubber Processing Factory, Tripura.	137.00	85.00	70.00	50.00	2.00
4. Raising of Dioscorea Floribunda Plantation and Processing for manufacture of Diosgenin/ 16-DPA, Tripura.	151.00	50.00	50.00	30.00	45.00
5. Establishment of Rubber Demon- stration-cum-Training Centre in Assa, Meghalaya, Mizoram and Nagaland.	-	-	-	-	50.00
<b>Total</b>			193.55	153.55	111.50

2.27

D. FOREST AND PLANT RESOURCES:

2.64 The unprecedented floods in the sub-continent this year have caused extreme concern among all the planners, politicians and administrators. The loss of life and property has been colossal. All the Members of the North Eastern Council expressed their unanimous concern for the protection of the catchment areas of the major rivers and their tributaries in the North Eastern Region on a waf-footing. Extensive damage to the natural forests in the region by way of shifting cultivation and the effects of increasing population pressure are responsible for the degradation of the environment. The need for an integrated and co-ordinated approach for reforestation of the denuded hill slopes in the shortest possible time was highlighted by the Hon'ble Members of the NEC in their last meeting. The Prime Minister during his last visit to Tawang in Arunachal Pradesh during the first week of April, 1988 desired that all wastelands in the hills should be afforested at the earliest in the interest of protection of the catchments. The emphasis during the 7th Five Year Plan has been 'on afforestation of the denuded hill slopes specially in the catchment areas of hydro electric projects in order to reduce soil erosion and prolong the life of the reservoirs. In the light of the worsening floods year after year, this emphasis has to be further accentuated. A considerable amount of debate has been taking place at the national level regarding the wisdom and financial viability of big dams and embankments and such other engineering structures for flood control measures. There is now a greater awareness that afforestation of the hill slopes in the catchment areas is a much more viable and environmentally sound proposition apart from being economical for the long term control of floods. With this background the draft Annual Plan on Forest and Plant Resources for 1989-90 attaches much more importance to afforestation of catchment areas and include a couple of new schemes to be taken up in Arunachal Pradesh, Assam and Mizoram in addition to the ongoing schemes of afforestation,

propagation of tissue culture techniques for rapid multiplication of selected forest tree species, establishment of a sub-tropical botanical garden in Nagaland, development of minor forest products and medicinal plants, tree improvement and establishment of a Regional Forest Rangers College for the North Eastern States. Details of the schemes are given below:

### 3. Afforestation of Catchment Areas:

#### 2.65 (a) Umiam Hydro-Electric Project in Meghalaya -

The objective of the scheme was to afforest 2000 ha. out of 300 sq.kms (approx) of the total catchment during the 7th Plan period. The approved outlay for the scheme for the 7th Plan period is Rs. 75.00 lakhs. The scheme has been revised to cover an increased area of 3117 ha. at a revised cost of Rs. 110.81 lakhs. In 1986-87 advance work over 719 ha. was completed against the target of 569 ha. 719 ha have been planted in 1987-88. Further, advance work over 1436 ha. was completed in 1987-88 against the target of 1079 ha. This 1436 ha. has been planted up in 1988-89 in addition to maintenance of the afforestation over 719 ha. created in 1987-88. Advance work over 800 ha. is being taken up during 1988-89 which will be planted up in 1989-90. The work programme for 1989-90 comprises creation of plantations over 800 ha., maintenance of previous years plantations over 719 ha. and 1436 ha. and advance work over 519 ha. Actual expenditure upto 1987-88 was Rs. 40.82 lakhs. Revised expenditure in 1988-89 is anticipated to be Rs. 32.89 lakhs against the approved outlay of Rs. 25.00 lakhs. The provision for 1989-90 is proposed at Rs.35.60 lakhs. The scheme benefits the States of Meghalaya and Assam.

#### 2.66 (b) Loktak Hydro Electric Project in Manipur -

The objective of this scheme is to plant up 2500 ha. of the catchment of the Loktak Lake which is spread over 1860 sq.km (approx). The approved outlay of the scheme in the 7th Plan is Rs. 75.00 lakhs and the revised cost is Rs. 97.25 lakhs. During the 6th Five Year Plan, an area

## 2.30

of 1100 ha. was covered under afforestation. During 1986-87 advance works over 700 ha. was completed and this 700 ha. was planted up in 1987-88. Advance work over 1200 ha. was completed in 1987-88 against a target of 900 ha. Afforestation over 1200 ha. is expected to be completed in 1988-89 in addition to maintenance of the 700 ha. plantation already established. Advance work over 900 ha. is also expected to be completed in 1988-89. The work programme for 1989-90 comprises creation of plantation over 900 ha. and maintenance of 1200 ha. of plantation established earlier. The actual expenditure on this scheme upto 1987-88 was Rs. 47.17 lakhs. The approved outlay of Rs. 30 lakhs for 1988-89 will be utilised fully. A provision of Rs. 20.00 lakhs is proposed in 1989-90.

2.67 Heavy siltation of the Loktak Lake due to soil erosion from the catchment areas is threatening the life of the hydro-electric project apart from upsetting the ecological balance due to shrinking of the area under water. . . . WAPCOS have submitted detailed report for protecting the lake by taking up massive afforestation of the catchment area. In the light of this report the afforestation efforts will have to be stepped up in the very near future.

2.68 (c) Doyang Hydro-Electric project in Nagaland -  
This scheme has been approved with an outlay of Rs. 75.00 lakhs for the 7th Plan period. So far Rs. 17.21 lakhs have been released by NEC to the Govt. of Nagaland upto 1987-88 but it could not be utilised by the State Govt as land for afforestation could not be identified. It is now reported that identification of land has been done and the work of afforestation in the catchment will be taken up from 1988-89 onwards to complete the target of covering 1600 ha. by 1989-90. The approved outlay of Rs. 20 lakhs for 1988-89 will be utilised fully. The outlay proposed for 1989-90 is Rs. 30.00 lakhs.

2.69 (d) Kopili Hydro Electric Project in Meghalaya - The catchment of Kopili river is spread over 1622 sq.kms out of which 1410 sq. kms lie in Meghalaya and 212 sq.kms lie in Assam. A total area of 1325 ha. was planted up in the Meghalaya portion of the catchment during 6th Plan. The scheme has been revived since 1988-89 although it did not figure in the approved schemes for the 7th Plan due to the importance of the catchment. The scheme has been sanctioned with a total outlay of Rs. 50.27 lakhs. The approved outlay of Rs. 12.00 lakhs for 1988-89 will be utilised fully. The outlay proposed for 1989-90 is Rs. 28.00 lakhs. The work programme consists of advance work over 1344 ha. in 1988-89 to be planted up in 1989-90. A further 840 ha. will be taken up under advance work in 1989-90 to be planted up the following year.

2.70 The Agricultural Finance Corporation Ltd. was commissioned by NEC to prepare a report for the comprehensive afforestation of the entire Kopili catchment. The report which is now in the draft stage indicates the necessity for taking up afforestation over 37,500 ha. in Meghalaya and 15,000 ha. in Assam out of the critical areas identified. Evidently, much greater inputs will be required in the very near future to tackle this important catchment.

2.71 (e) Afforestation of wastelands in Tawang, Arunachal Pradesh - New scheme - A new scheme has been received from the Arunachal Pradesh Govt for afforesting 1000 ha. of wastelands in Tawang area which was visited by the Prime Minister during April, 1988. He had desired that all wasteland in Tawang should be afforested at the earliest. According to the scheme received from the Arunachal Pradesh Govt the area in question has been badly degraded on account of extreme shortage of wood. Being a sensitive border area the presence of Army necessitates exploitation of the forest to meet their day to day requirement of fuel wood and small timber. The entire land belongs to the tribal community



inhabiting the area. As it is not possible to acquire land for afforestation purposes due to the existing land tenure system, the Arunachal Pradesh Govt proposes to request the local people to take up afforestation on their lands with the technical guidance and help of the Arunachal Pradesh Forest Corporation and finance from the NEC. This will be a new kind of afforestation scheme with greater involvement of the local people who will be motivated to take up afforestation on their own lands. The scheme submitted by the Arunachal Pradesh Govt envisages a total expenditure of Rs. 102.32 lakhs over 6 years. It is proposed to start the scheme from 1989-90 with an outlay of Rs. 20.00 lakhs. The scheme will benefit Arunachal Pradesh and Assam.

2.72 (f) Teak Plantation scheme - New Scheme -

A new scheme has been received from the Govt of Mizoram for taking up teak plantation on suitable lands as a measure for controlling shifting cultivation. It is quite well known that a large number of families in the North Eastern region practice shifting cultivation as their way of life in the North Eastern Region. 50,000 families in Mizoram alone are known to be practising shifting cultivation. Under various other schemes of the Central Govt about 15,000 families are covered and are expected to be settled within a 5-year period. That still leaves about 35,000 families continuing with the destructive practice. Ministry of Agriculture has earmarked Rs. 6.25 crores for setting 2,100 families in Mizoram. Hence the new proposal received from Mizoram Govt for covering more number of families under the Teak plantation scheme needs to be supported. In the 28th Meeting of the NEC held at Guwahati on the 7th June, 1988 the Chief Minister of Mizoram expressed the importance and urgency of implementing the scheme. It is proposed to start the scheme from 1989-90 with an outlay of Rs. 20.00 lakhs.

2. SCHEME ON TISSUE CULTURE FOR RAPID MULTIPLICATION OF SELECTED CLONAL STOCK OF FOREST SPECIES:

2.73 Tissue culture is one of the latest bio-technologies which can revolutionise production of bio-mass qualitatively and quantitatively. So far, tissue culture as a technique has not made much headway in forestry though it has proved its worth in agriculture and horticulture. It helps in identifying promising clones and propagating the selected clone by vegetative means, thereby minimising the risks of genetic variation which is unavoidable in case of natural regeneration through seeds.

2.74 The Seventh Plan provision under this scheme is Rs. 1.00 crore after having agreed by the Planning Commission the merger of the scheme - Social & Agro Forestry to this. It has been decided that tissue culture work in respect of forest tree species will be confined to basic research on methodology alone to be conducted by Universities and Research Organisations during the 7th Five Year Plan. Practical application in the field can be taken up during the 8th Plan depending upon the success achieved in the basic research. So far schemes from Gauhati University and the North Eastern Hill University have been sanctioned for Rs. 8.31 lakhs and Rs. 11.37 lakhs respectively. A proposal from Tocklai Research Institute is under examination. The approved outlay for 1987-88 was Rs. 25.00 lakhs. The actual expenditure upto 1987-88 was only Rs. 11.85 lakhs. The approved outlay of Rs. 3.08 lakhs for 1988-89 will be utilised fully. The proposed outlay for 1989-90 is Rs. 3.23 lakhs.

3. SUB-TROPICAL BOTANICAL GARDEN, NAGALAND :

2.75 The scheme for establishment of a botanical garden at Puliebeze in Nagaland has been sanctioned in February, 1987 at an estimated cost of Rs. 135.23 lakhs. The 7th Plan approved outlay for this scheme is Rs. 175.00 lakhs. In 1986-88 Rs. 9.50 lakhs were made available to the State Govt. for this project. The State Govt. is expected to take up the work in full swing so as to complete the scheme in the remaining period of the

7th Plan. Revised outlay for 1988-89 is Rs. <sup>15.00</sup> lakhs against the approved outlay of Rs. 35 lakhs. The proposed outlay for 1989-90 is Rs. 20.00 lakhs.

#### 4. DEVELOPMENT OF MINOR FOREST PRODUCTS INCLUDING MEDICINAL PLANTS :

2.76 The North Eastern Region is rich in its flora. The forests in this region produce not only valuable timber but a large variety of herbs and shrubs, grasses, climbers, canes, bamboos and non-timber tree species of immense economic and ecological value. The destructive practice of shifting cultivation followed by the tribals in this region has threatened many a valuable species towards extinction. In order to conserve and grow some of the more important minor forest products including medicinal plants, a scheme has been taken up during the 7th Plan with a total approved outlay of Rs. 140.00 lakhs. All the seven constituent States of NE Region are implementing the scheme. The expenditure during 1986-88 was Rs. 43.42 lakhs. The sanctioned schemes are Rs. 4.97 lakhs for Meghalaya, Rs. 5.21 lakhs for Nagaland, Rs. 20.00 lakhs for Assam, Rs. 18.24 lakhs for Mizoram, Rs. 20.00 lakhs for Tripura, Rs. 21.00 lakhs for Manipur and Rs. 17.64 lakhs for Arunachal Pradesh. During 1986-87, 140 ha. of plantation of various minor forest products e.g. cane, dillchini, thatch, myrabolans, dioscorea, mentha, agarwood, cardamom, rauwolfia, lemon grass, smilax etc. were raised. 312 ha. of such plantations was raised during 1987-88. Revised outlay for 1988-89 is Rs. 27.75 lakhs. 320 ha. is expected to be brought under different minor forest products and medicinal plants during 1988-89. The anticipated expenditure for 1988-89 is Rs. 25.21 lakhs against the approved outlay of Rs. 25 lakhs. The proposed outlay for 1989-90 is Rs. 27.75 lakhs.

#### 5. TREE IMPROVEMENT SCHEMES FOR SELECTED FOREST SPECIES :

2.77 Massive afforestation schemes have launched all over the country under the new 20-point programme. The North Eastern region is also keeping pace with the national programme. For raising large plantations, good quality seeds

become a limiting factor. In order to produce sufficient quantity of seeds of proven quality it is essential to identify healthy tree-stands of important species, conduct provenance trials for selecting the better ones, and establish "seed orchards" to produce large quantities of seeds of good quality. During the 7th Plan period there is an approved outlay of Rs. 30.00 lakhs for this purpose. Rs. 24.95 lakhs were spent during 1986-88 plan period. The following schemes have been sanctioned; Rs. 13.14 lakhs for Assam, Rs. 7.35 lakhs for Arunachal Pradesh, Rs. 15.25 lakhs for Manipur, Rs. 5.90 lakhs for Meghalaya, Rs. 8.23 lakhs for Nagaland and Rs. 9.90 lakhs for Mizoram. A total of 17.5 ha. of seed stands and 295 plus trees of important species like Teak, Semul, Bonsum (Phoebe goal parens-Is) and Champa have been identified. Seed orchards of 17.5 ha. have been raised during 1987-88. The revised estimate for 1988-89 is Rs. 16.48 lakhs against the approved outlay of Rs. 18 lakhs and the proposed outlay for 1989-90 is Rs. 14.70 lakhs.

#### 6. REGIONAL FOREST RANGERS COLLEGE :

2.78 After the official level discussion on NEC Plan 1988-89 in the Planning Commission on 16th November, 1987, the Deptt. of Forest and Environment Govt. of India intimated that the Central Government have decided to discontinue the responsibility of training of Forest Rangers and would soon be closing down the four Forest Rangers Colleges run by them from the next year and this responsibility would rest with the respective State Govts. The Department of Forest and Environment had also intimated that while considering the issue, they had considered the problem of NE Region where the annual requirement of individual State is small and it might not be viable for any State to set up and run Rangers College to meet the needs. The NE Council Secretariat, therefore, was requested to consider setting up of a Regional Forest Rangers College. The Council Secretariat accordingly, convened a meeting of the Chief Conservators of Forests

of the NE States on 31st December, 1987 wherein, it was unanimously resolved for setting up of the Rangers College in the region.

2.79 Concurrence of the Ministry of Environment and Forests for establishing the College has been received. The approved outlay of Rs. 10.00 lakhs for 1988-89/1s <sup>sum of Rs. 1 lakh</sup> is expected to be utilised. However, since construction of buildings and development of other essential infrastructure will need greater inputs, the outlay for 1989-90 is proposed at Rs. 50.00 lakhs. <sup>against</sup>

2.80 The plan allocation for the schemes mentioned above are given in annexed statement.

DRAFT ANNUAL PLAN 1989-90

Statement

FOREST AND PLANT RESOURCES

(Rs. in lakhs)

Sl. No.	Name of the Scheme	7th	Actual	1988-89		Proposed
		Plan	expendi-	Approved	Anticipated	
		approved	ture	outlay	Expenditure	outlay for
		outlay	1985-88			1989-90
1	2	3	4	5	6	7
1.	Afforestation of catchment areas :					
	(a) Umiam Hydro Electric Project, Meghalaya	75.00	40.82	25.00	32.89	35.60
	(b) Loktak HE Project, Manipur	75.00	47.17	30.00	30.00	20.00
	(c) Doyang HE Project, Nagaland	75.00	17.21	20.00	20.00	30.00
	(d) Kopili HE Project, Meghalaya	New scheme	-	12.00	12.00	23.00
	(e) Tawang Wastelands, Arunachal Pradesh	- do -	-	-	-	20.00
	(f) Teak Plantation Scheme, Mizoram	- do -	-	-	-	20.00
2.	Tissue Culture Technique for the purpose of rapid Multiplication of selected clonal stock of forest species.	100.00	11.85	10.00	3.38	3.23
3.	Sub-Tropical Botanical Garden of Plant Resources Centre, Nagaland.	175.00	9.50	35.00	15.00	20.00
4.	Development of Minor Forest Products including Medicinal Plants.	140.00	43.42	25.00	25.21	27.75
5.	Tree Improvement P Schemes	80.00	32.70	18.00	16.48	14.70
6.	Regional Forest Rangers College	New scheme	-	10.00	1.00	50.00
TOTAL :-				185.00	155.96	269.28

ANIMAL HUSBANDRY

2.81 Livestock Development Programmes in the North Eastern Region are of considerable importance to support economic activities for helping livestock keepers, who generally belong to weaker sections of the society, to cross the poverty line. The traditional dependence of rural tribal population on livestock for appreciable part of their livelihood, consuming habits of the people, who are in general non-vegetarian, absence of taboo for consuming beef, pork and chicken meat etc., absence of sentiments regarding slaughter, which helps in elimination of below standard stock, and readiness to adopt improved livestock breeding and management practices are the specialities which have endowed the region with tremendous potential for rapid improvement in livestock production. The local breeds of livestock existing in the North Eastern Region are generally low-yielding and uneconomical. However, there is immense potential and possibility for improving livestock production in the Region. This could be done by improving the low-yielding and uneconomical local breeds by scientific methods of breeding, multiplication of improved varieties of livestock, providing health cover to animals and increasing fodder production by making available necessary quantities of seeds of improved fodder grasses for growing in various areas of the region etc.

2.82 The North Eastern Council has taken up a number of need-based schemes for improving livestock production in the North Eastern Region. Presently there are 27 schemes approved for implementation during the 7th Five Year Plan Period. Seven of these schemes were being implemented since 6th Five Year Plan period.

2.83 Details of various schemes for the year 1989-90 are given as under: . . .

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

2.84 There is a great need for increasing production of quality fodder for livestock in the North Eastern Region in view of the fact that various States of the Region are taking up large livestock development programmes. A scheme for establishing a Regional Temperate Fodder Seed Production-cum-Demonstration Farm in Arunachal Pradesh was taken up in the 6th Five Year Plan and was sanctioned in 1980-81. The scheme has a main farm located at Chandur, three sub-centre at Warjung, Thrillum and Tawang and Deputy Director's Head-quarters at Darang. The scheme aims at production of temperate fodder seeds to meet the requirements of such seeds for Arunachal Pradesh and other States of North Eastern Region and also to demonstrate cultivation of temperate fodder on scientific lines, so that fodder requirements during lean periods may be met. During the 6th Plan the main farm as well as sub-centres could not be fully developed. An expenditure of Rs 15.20 lakhs was incurred upto the end of 6th Plan period. As such, the scheme was allowed to continue during the 7th Five Year Plan period with an approved outlay of Rs 15.00 lakhs. The scheme was revised and sanctioned in 1986-87 for a total estimated cost of Rs 59.67 lakhs, the estimated cost for the 7th plan period being Rs 44.47 lakhs. During the period 1985-88 there was an expenditure of Rs 29.60 lakhs. Action was taken for developing various infrastructure for implementation of the scheme. Acquisition of land has been completed (140 acres of land at main farm at Chandur, 5 acres at Sub-centre at Warjung, 4 acres at Sub-centre at Tawang, 3 acres at Sub-centre at Thrillum and 4 acres at Deputy Director's head-quarter at Darang). An area of 48 acres at Chandur, 5 acres at Warjung, 4 acres at Tawang, 3 acres at Thrillum and 4 acres at Darang has been developed and largely brought under fodder cultivation, save the area used for construction of buildings. Fencing and construction of kacha farm roads has been completed at all the Sub-centres and Deputy Director's head quarters. Water supply and electricity supply facilities have been partly developed at the sub-centres. Procurment of over 90% equipment and farm implements, one jeep, one mini truck have been completed. Almost all the required staff have been appointed.



Action has been initiated for developing the remaining part of fencing at the main farm and construction of approach-cum-farm road and some of the remaining residential and functional buildings and also for developing remaining water and electricity facilities which would be completed partly in 1988-89 and partly in 1989-90. There is an approved outlay of Rs 7.00 lakhs for the year 1988-89, while an expenditure of Rs 7.13 lakhs is anticipated. An outlay of Rs 10.00 lakhs is proposed for the year 1989-90.

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

2.85 The scheme for establishing Regional Broiler Chick Production-cum-Demonstration Farm at Gauhati in Assam was sanctioned during the 6th Five Year Plan. Due to various constraints the scheme could not be implemented fully in the 6th Plan period. An expenditure of Rs 31.16 lakhs was incurred upto the end of the 6th Plan Period. In order to complete the implementation of the scheme it was allowed to continue during the 7th Plan Period. The scheme has been sanctioned for establishing A Broiler Chick Production-Cum-Demonstration Farm with 1440 parent stock (1200 females and 240 males) in order to produce 1.2 lakhs broiler chicks per year for distribution to various constituent States of the Region. The scheme also aims at training of farmers and unemployed youth in the practices of broiler production. The approved outlay for the scheme for the 7th Five Year Plan period is Rs 46.68 lakhs. The scheme has been revised and was sanctioned in 1986-87 at an estimated cost of Rs 83.70 lakhs, of which the 7th Plan liability is Rs 52.54 lakhs. During the year 1985-88 an expenditure of Rs 42.87 lakhs was incurred. Infra-structure for implementation of the scheme programme in terms of construction of buildings and procurement of various equipments has been largely completed. A parent stock of 1564 had been procured and about 48,600 broiler chicks produced by the year 1987-88. About twenty persons in two batches belonging to the category of unemployed youth and farmers community were imparted practical training on broiler chick production and work was in progress for imparting training to other batches. Action on implementation of various phases of technical programme will continue during 1988-89 and 1989-90. Approved outlay for the year 1988-89 is Rs 10.00 lakhs, while an expenditure of Rs 6.00 lakhs is anticipated. An outlay of Rs 15.00 lakhs is proposed for the year 1989-90.

3. Regional Feed Testing Laboratory,  
Khanapara, Assam.

2.86 The scheme was originally sanctioned in 1978-79 and continued during the 6th Plan period. An amount of Rs 19.76 lakhs had been incurred upto the end of the 6th Plan period. The scheme had been sanctioned with the objective of establishing a Regional Feed Testing Laboratory for carrying out qualitative/quantitative chemical analysis of feed and fodder samples, as well as microbiological tests for livestock feed samples. Due to non-availability of land and other difficulties the scheme could not be completely implemented during the 6th plan period. It was therefore, allowed to continue during the 7th plan period with an approved outlay of Rs 42.57 lakhs. The scheme was revised and was sanctioned in 1986-87 for implementation during the 7th Five Year Plan Period at an estimated cost of Rs 52.32 lakhs (the 7th Plan liability being Rs 32.56 lakhs). During the year 1985-88 there was an expenditure of Rs 36.78 lakhs. Action was taken for creation of various infra-structure. Improvement of 5 acres of land had been completed. A number of construction works had been completed, such as Trainee's Hostel, office-cum-Laboratory Building, Garage, 75% of residential buildings, part of electrification, farm roads and fencing. A number of equipment had been procured including part of laboratory equipment, type-writer, one vehicle, part of furniture. Action was being taken for completion of the remaining construction works and for procurement of the remaining items of equipment and furniture. There is an approved outlay of Rs 4.60 lakhs for the year 1988-89 while an expenditure of Rs 2.50 lakhs is anticipated. For the year 1989-90 an outlay of Rs 4.00 lakhs is proposed.

4. Regional Integrated Farming Systems Project,  
Assam Agricultural University, Khanapara, Assam.

2.87 The scheme aims at demonstrating integrated approach to animal husbandry and pisciculture by utilising wastes of cattle, pigs, poultry birds and ducks. It also envisages imparting training to farmers on this integrated farming technology. The scheme had been sanctioned towards the end of 6th Plan Period and as such, practically no action could be taken for implementing

the scheme programme during the 6th Plan Period. Therefore, the scheme was allowed to continue during the 7th Plan Period with an approved outlay of Rs 4.00 lakhs. The scheme was revised and was sanctioned in 1986-87 at an estimated cost of Rs 4.62 lakhs. During the period 1985-88 an expenditure of Rs 3.08 lakhs had been incurred. All construction works have been completed. About 248 farmers were imparted training in integrated farming system by 1987-88 and fish seeds of various varieties including grass-carp; common carp; silver carp; catlas, rohu and magur were released into fish ponds for breeding purposes. During the year 1988-89 and 1989-90 action will continue for implementation of various phases of technical programme. There is an approved outlay of Rs 0.40 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 0.40 lakhs is proposed for the year 1988-90.

5 Regional Cross-bred Cattle Breeding Farm, Thenzawl, Mizoram.

2.88 The scheme aims at developing cross-bred cattle suitable for meat production/dual purpose cattle for the State of Mizoram and other adjoining areas of North Eastern Region. The scheme was originally sanctioned towards the end of the year 1983-84 but could not be fully implemented during the 6th Plan Period. An expenditure of Rs 20.79 lakhs was incurred by the end of the 6th Plan Period. The scheme was allowed to continue during the 7th Plan Period with an approved outlay of Rs 40.00 lakhs. The revised scheme was sanctioned in 1986-87 for implementation during the 7th Plan period at an estimated cost of Rs 63.31 lakhs, the 7th Plan liability being Rs 42.52 lakhs. During the period of 1985-88 an expenditure of Rs 27.50 lakhs was incurred. Out of 200 acres of available land, about 100 acres had been developed. Construction works and development of other infrastructure have been nearly completed. A number of necessary equipment and implements have been procured. Necessary staff have been appointed. Development of remaining infrastructure including some construction works, water supply, internal and approach roads, electrification and procurement of some items of equipment, furniture and livestock will be completed partly in 1988-89 and partly in 1989-90. There is an approved outlay of Rs 6.00 lakhs for the year 1988-89, while an expenditure of Rs 7.80 lakhs is anticipated. An outlay of Rs 8.00 lakhs is proposed for the year 1989-90.

## 6. Regional Goat Breeding Farm, Tripura.

2.89 The scheme was originally sanctioned during the year 1980-81 for implementation during the 6th Five Year Plan Period. During the 6th Plan period necessary developmental works and creation of infrastructure facilities could not be completed. The design of goat houses was also proposed to be modified, to make it a permanent feature. The technical programme was also proposed to be modified. An expenditure of Rs 53.67 lakhs was incurred upto the end of the 6th plan period. The scheme was allowed to continue during the 7th Plan period with an approved outlay of Rs 29.33 lakhs. The revised scheme was sanctioned during 1986-87 for implementation during the 7th Plan period at an estimated cost of Rs 93.16 lakhs, the Seventh Plan liability being Rs 39.49 lakhs. The main objective of the scheme is to produce cross-bred goats by crossing Black Bengal to Beriberi for supplying appropriate germ-plasm to the farmers and Govt. agencies for improving indigeneous goat stock in Tripura and other adjoining areas in the North Eastern Region. There was an expenditure of Rs 19.76 lakhs during the period of 1985-88. The farm has an area of 480 ha. of land, out of which an area of 319 ha. has been put under pasture/fodder cultivation. Most of the infra-structure required for the project such as functional/residential buildings have been largely completed. Procurement of livestock and equipment etc. has largely been completed. Out of sanctioned 32 posts, 19 have been filled up. Action was being taken for procurement of additional breeding stock and part of equipment and for completing the remaining construction works. There is an approved outlay of Rs 10.00 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 9.70 lakhs is proposed for the year 1989-90.

### 7. Regional Pig Breeding Farm, Nalkata, Tripura.

2.90 The scheme was taken up from the year 1983-84 but could not be completed during the 6th Plan period. During the 6th Plan period an expenditure of Rs 9.64 lakhs was incurred. The scheme was allowed for continuance during the 7th Plan period with an approved outlay of Rs 34.11 lakhs. The revised scheme was sanctioned during the year 1986-87 for implementation during the 7th Plan period at an estimated cost of Rs 42.03 lakhs (the 7th Plan liability on the scheme being Rs 32.39 lakhs). The objective of the scheme is to produce exotic germ-plasm of Hampshire breed of pigs as well as cross-breeds for supplying to the farmers and Govt. agencies for various piggery development programmes in Tripura and other adjoining areas of North Eastern Region. During the period of 1985-89 an expenditure of Rs 24.53 lakhs was incurred. An area of 20 ha. of land had been procured, out of which 32 acres have been brought under fodder cultivation. A number of construction works have been completed and these include pig sties ( 3 units), farrowing house ( 1 unit), weaner shed for 100 weaner ( 1 unit), feed go-down ( 1 unit), construction of foundation for one transformer with necessary fittings and two ring-wells. Part of livestock and furniture had been procured. Action was being taken for completing the remaining construction works, and for procurement of power tillage part of furniture and equipment and foundation livestock for breeding herd. There is an approved outlay of Rs 10.00 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 7.20 lakhs is proposed for the year 1989-90.

### 8. Regional Mithun Breeding Farm, Arunachal Pradesh.

2.91 Mithun (*Bos-Frontalis*) is very important meat animal of Arunachal Pradesh, Nagaland and Manipur. Mithun population in the North Eastern Region has been estimated at around 1.20 lakhs out of which around 85,000 are found in Arunachal Pradesh alone. Mithun is a domestic animal, but traditionally is reared in semi-ranch conditions. It is also used in cross-breeding with cattle. The scheme envisages a programme for pure-breeding of Mithuns for improvement of

their stock and for supplying the improved germ-plasm to deserving farmers and Govt. agencies of Arunachal Pradesh and other adjoining areas of N.E. Region for improving their local stocks and for multiplication. The approved outlay for the 7th Plan period is Rs 25.00 lakhs. The scheme was sanctioned towards the end of the year 1986-87 at an estimated cost of Rs 40.00 lakhs. During the period 1985-88 an expenditure of Rs 20.70 lakhs was incurred. About 200 acres of hilly land with gradual slopes has been acquired. Out of this, 100 acres of land has been earmarked for being used for establishment of the farm. Action has been initiated for developing portions of land for construction of functional and residential buildings and approach road etc. Action has also been initiated for filling up of the sanctioned posts and for procurement of some of the items of equipment and furniture etc. There is an approved outlay of Rs 9.00 lakhs for the year 1988-89, while an expenditure of Rs 13.00 lakhs is anticipated. An outlay of Rs 10.00 lakhs is proposed for the year 1989-90.

#### 9. Regional Fodder Seed Production Farm, Assam.

2.92 For success of any cattle development programme the availability of adequate quantity of fodder of good quality is extremely important. For this purpose, it is necessary that adequate quantity of seeds of good quality fodder crops is made available to the farmers for growing the required fodder. In order to produce and supply fodder seeds to meet the requirement of plain areas of North Eastern Region, a scheme for establishing a Regional Fodder Seed Production Farm at Matia, District Goalpara in Assam during the 7th Five Year Plan has been taken up with an approved outlay of Rs 45.00 lakhs for the 7th Plan period. The scheme was sanctioned in 1986-87 at an estimated cost of Rs 44.87 lakhs. During the period of 1985-88 an expenditure of Rs 20.20 lakhs was incurred. The infra-structural facilities created included land reclamation, earth-filling, construction of office building, 7 residential buildings, go-down, seed drying house, thrashing shed, hay shed, garage, ring well, road culvert procurement of tractor, power tiller, diesel generator, diesel truck, 25 quintals of fodder seeds, part furniture and agricultural equipments. Action is being taken for constructing one deep

tube-well and completing the remaining construction works and procurement of one petrol jeep and some items of equipment and other materials. There is an approved outlay of Rs 12.00 lakhs for the year 1988-89, while the anticipated expenditure is Rs 27.00 lakhs. An outlay of Rs 18.00 lakhs is proposed for the year 1989-90.

10. Regional Frozen Semen Project, Assam  
(Silchar and Jorhat)

2.23

In the cattle development programmes the frozen semen technology has been a land-mark. 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 effects. Facilities for making the frozen semen available in abundant quantities, as and when required, need be created in the North Eastern Region. For this purpose, it is essential to expand the existing facilities of Frozen Semen Centre at Jorha and Silchar in the State of Assam. With a view to expand the said Frozen Semen Centres the scheme was taken up in the 7th Plan with an approved outlay of Rs 35.00 lakhs. The scheme was sanctioned during 1986-87 at an estimated cost of Rs 44.31 lakh for implementation during the 7th Plan Period. During the period of 1985-88 an expenditure of Rs 46.64 lakhs was incurred towards creation of infra-structural facilities including construction of building for installation of liquid nitrogen plant and water chiller and procurement of liquid nitrogen plant of 10 litre capacity for Jorhat Centre. Action for procurement of liquid nitrogen plant for Silchar Centre and for procurement of liquid nitrogen containers etc. is in progress. There is an approved outlay of Rs 2.70 lakhs for the year 1988-89, while an expenditure of Rs 19.50 lakhs is anticipated, because of increased customs duty and hike in the cost of the liquid nitrogen plant to be imported, An outlay of Rs 12.00 lakhs is proposed for the year 1989-90.

11. Regional Buffalo Breeding Farm,  
Barhampur, Assam.

2.94 Buffalo is an important animal for milk production as well as draught purposes in Assam and other States of the North Eastern Region. Assam has a rather good indigenous breed of buffalo which 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 N.E. Region the scheme for establishing a Regional Buffalo Breeding Farm in Assam in the 7th Plan was sanctioned in 1986-87 at an estimated cost of Rs 82.18 lakhs. The scheme envisages to build up pure-bred herd of 200 buffaloes of Murrah and Surti breeds and 50 local buffaloes to produce pure-bred and graded stocks for supplying improved buffalo germ-plasm to farmers of Assam and adjoining areas for improving their buffalo stocks. During the period 1985-88 an expenditure of Rs 32.96 lakhs was incurred. Repairs and renovation of existing buildings has been largely completed. Action has been initiated for completing the remaining part of repairs and renovation of existing buildings, construction of buffalo shed and calf shed and for part procurement of equipment and livestock and development of part of electricity and water supply facilities. Action is also being initiated for construction of 5 units of residential buildings and some other functional buildings. There is an approved outlay of Rs 20.00 lakhs for the year 1988-89, while an expenditure of Rs 27.00 lakhs is anticipated. An outlay of Rs 17.00 lakhs is proposed for the year 1989-90

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

2.95 The Institute of Veterinary Biologicals at Khanapara in the State of Assam, established during the 6th Five Year Plan under the NEC Programme needs to be strengthened and developed into a modern Veterinary Biologicals Production Institute, so that sufficient quantities of quality vaccines and other Biologicals can be produced for meeting the demands from the State of Assam and other constituent States of the North Eastern Region. The scheme is virtually a scheme for modernisation of mechanisation of the Institute of Veterinary Biologicals to ensure



self-sufficiency in manufacture of required quantities of veterinary biologicals. It is envisaged to install required number of high efficiency, preferably imported, modern equipments and instruments to bring mechanisation of production with assured sanitation and optimum conditions. The scheme was sanctioned during 1986-87 at an estimated cost of Rs 44.85 lakhs for the 7th Plan period. During the period 1985-88 an expenditure of Rs 18.18 lakhs was incurred. A deep tube-well with overhead tank and pump sets and water distribution line have been constructed. Action has been initiated for procurement of some essentially required laboratory equipments including shelf-type lyophiliser and other instruments including automatic filling and labelling machines and delivery van. There is an approved outlay of Rs 11.00 lakhs for the year 1988-89, while an expenditure of Rs 26.00 lakhs is anticipated. An outlay of Rs 20.00 lakhs is proposed for the year 1989-90.

13. Regional A. I. Training Centre-cum-Cryogenic Laboratory, Assam Agricultural University, Assam.

2.96 . . . . . In view of the large livestock development programme being taken up by various States of the North Eastern Region, the technique of artificial insemination has attained a great importance as a scientific method of animal breeding. An important bottleneck experienced in carrying out artificial insemination programme in the N.E. Region is the lack of sufficient number of skilled personnel. Thus there is a great need for imparting practical training on scientific lines in Artificial Insemination and its allied aspects to the Veterinarians and other extension workers engaged in A.I. work under various cattle development programmes. In view of this, the scheme for establishing A.I Training Centre-cum-Cryogenic Laboratory at the Assam Agricultural University, Khanapara was included in the 7th Plan with an approved outlay of Rs 20.00 lakhs. The scheme was sanctioned in 1986-87 at an estimated cost of Rs 19.05 lakhs. During the period 1985-88 an expenditure of Rs 7.35 lakhs was incurred. Renovation of existing laboratory building for establishment of cryogenic laboratory has been completed. Several items of laboratory equipment, AI Equipment, audio-visual aids, office

equipment, furniture and books and journals have been procured. Action has been initiated for procurement of some more items, and for filling up of the sanctioned posts. There is an approved outlay of Rs 4.15 lakhs for the year 1988-89, while an expenditure of Rs 7.00 lakhs is anticipated. An outlay of Rs 4.50 lakhs is proposed for the year 1989-90.

14. Regional Buffalo Breeding Farm, Wabgai Tera Urak, Manipur.

2.97 In tribal areas of Manipur as well as other parts of the North Eastern Region Buffalo is an important draught animal. The local buffalo of Manipur is a sturdy animal with qualities of resistance to several common diseases. There is great need to develop suitable breed of buffalo for draught as well as milk purposes in Manipur and other areas of N.E. Region. With this in view the scheme for establishing Regional Buffalo Breeding Farm at Wabgai Tera Urak in Manipur during the 7th Plan period was included with an outlay of Rs 49.20 lakhs. The scheme envisages establishing a breeding herd of 40 Murrah buffaloes and 60 Manipuri buffaloes and to produce purebreds and crossbred for studying their performance and supplying appropriate buffalo germ-plasm to farmers of Manipur and other States of N.E. Region for improving the local buffalo stocks. The scheme was sanctioned in 1986-87 at an estimated cost of Rs 61.36 lakhs. During the period 1985-88 an expenditure of Rs 30.90 lakhs was incurred. An area of 300 acres of land has been acquired, out of which 238 acres would be utilised for establishment of the farm. Five acres have been developed for construction of functional and residential buildings. Action has been initiated for developing 170 acres of land for cultivation of fodder. Action has also been initiated for construction of a ring-bund. Construction programme in respect of animal sheds, go-down, dispensary-cum-laboratory building, 2 garages, approach road, fencing, 10 units of residential buildings is in progress. Action has also been initiated for procurement of equipments and livestock. There is an approved outlay of Rs 20.25 lakhs for the year 1988-89, while an expenditure of Rs 30.00 lakhs is anticipated. An outlay of Rs 12.00 lakhs is proposed for the year 1989-90.

15. Regional Pony Development Project, Manipur.

2.98 Ponies are animals of immense importance for transporting various materials between different places in the hilly terrain of North Eastern Region. The pony of Manipur is famous for its sturdiness and because of being easy to maintain. Unfortunately, this breed of Manipuri Pony is slowly becoming extinct. With a view to conserve the germplasm of Manipuri Pony and for producing good quality ponies for supplying to the tribals military and para-military forces etc. for use in transport in interior hilly areas a scheme was taken up for establishing Regional Pony Development Project in Manipur with a 7th Plan approved outlay of Rs 60.00 lakhs. The scheme was sanctioned in 1986-87 at an estimated cost of Rs 71.83 lakhs to establish a Pony breeding farm with a foundation stock of 100 brood mares and 10 stallions. During the period 1985-88 an expenditure of Rs 25.85 lakh was incurred. An area of 300 acres of land has been acquired at Tingkai Khunou in Senapati District of Manipur. Action has been initiated for various construction works including functional and residential buildings and other civil works like approach road, fencing, over head tank, ground tank, go-down etc; and for procurement of various items of equipment. Action is also being taken for filling up of some of the sanctioned posts. There is an approved outlay of Rs 15.00 lakhs for the year 1988-89, while an expenditure of Rs 30.00 lakhs is anticipated. An outlay of Rs 20.00 lakhs is proposed for the year 1989-90.

16. Regional Composite Livestock Farm,  
NONE, Tamenglong District, Manipur.

2.99 For the tribal people in the interior areas of Manipur and other States of North Eastern Region animal husbandry is an important economic activity. However, tribal people involved in animal husbandry activities need training on modern scientific lines for improving their livestock. There is also need for supplying adequate number of good quality livestock to tribal families under various development programmes. In view of this, a Regional Composite Livestock Farm at NONE in Tamenglong District of Manipur is being established during the 7th Plan period. The farm will be established to produce good quality cattle, poultry, ducks and pigs for supply to the farmers. 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. While the 7th Plan approved outlay is Rs 35.00 lakhs, the scheme was sanctioned during 1986-87 at an estimated cost of Rs 42.55 lakhs. During the period 1985-88 an expenditure of Rs 22.85 lakhs was incurred. About 300 acres of land has been donated by the Village Authority, out of which 197 acres of useable land have been taken possession of by the State Department for establishment of the farm. Action for development of land and for construction of functional buildings including cow shed, bull shed, calf shed has already been initiated. Action has also been initiated for procurement of various equipment including incubator, power tiller, jeep with trailer and livestock. Action has been initiated for filling up of sanctioned posts. There is an approved outlay of Rs 16.40 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 3.40 lakhs is proposed for the year 1989-90.

17. Regional Pig Breeding Farm, Kyrdemkulai, Meghalaya.

2.100 In the North Eastern Region there is a considerable scope for development of Animal Husbandry with special reference to pig production. In general, black coloured pigs are preferred. The indigenous pigs are less productive and there is great need for supply of improved pigs of black variety to the farmers for breeding purpose to improve their indigenous stock for improving pigs production. In view of this, a Regional Pig Breeding Farm was approved for being established at Kyrdemkulai in Meghalaya in the 7th Plan period with approved outlay of Rs 40.00 lakhs. The scheme was sanctioned during 1986-87 at an estimated cost of Rs 51.23 lakhs. Subsequently the cost estimates of the scheme were revised as Rs 65.14 lakhs during 1988-89. It is envisaged to establish a 60 sow-unit breeding herd of Hampshire breed of pigs and to produce pure-breed Hampshire pigs for supply to the farmers for upgrading their indigenous stock and also to various agencies for establishing multiplication centre for this breed of pigs. During the period 1985-88 an expenditure of Rs 45.24 lakhs was incurred. Master Plan Survey, land

development, construction of approach road, construction of 4 pig sties and go-down have been completed. Work on construction of office building, garrage, fencing, laboratory building, water supply and electricity has been initiated. Work on residential building is being initiated. Action has also been initiated for procurement of various equipment and livestock and for filling up of sanctioned posts. There is an approved outlay of Rs 7.00 lakhs for the year 1988-89, while an expenditure of Rs 15.00 lakhs is anticipated. An outlay of Rs 6.50 lakhs is proposed for the year 1989-90.

18. Regional Fodder Seed Production-cum-Demonstration Farm, Thenzawl, Mizoram.

2.01 Requirement of feed and fodder for livestock is increasing appreciably in the North Eastern Region, because of various livestock development programmes being taken up and cross-bred animals being introduced in the various States of the Region. The livestock feed of good quality, with its high cost, is becoming out of reach for the poor tribal farmers. It is, therefore, necessary to develop fodder grasses and trees for meeting appreciable percentage of nutritional requirements of livestock. In view of this Regional Fodder Seed Production-cum-Demonstration Farm is being established at Thenzawl in Mizoram during the 7th Five Year Plan. The objective of the scheme is to produce quality seed of different varieties of fodder crops

suitable for agro-climatic conditions of Mizoram and other areas of N. E. Region like Manipur and North Cachar Hills District of Assam. Seeds of various suitable fodder crops, seedlings and cuttings will be supplied to farmers to improve their fodder production. The approved 7th Plan outlay for the scheme was Rs 25.00 lakhs. The scheme was sanctioned towards the end of 1986-87 at an estimated cost of Rs 27.00 lakhs. During the period 1985-88 an expenditure of Rs 15.59 lakhs was incurred. An area of about 50 ha. of land was acquired out of which 19 ha. have been developed. Construction of functional buildings including rat-proof seed storage go-down, office building, store room-cum-workshop, garrages for tractor and power tillers has been completed, besides 9 units of residential buildings and other civil works including-fencing and approach road about 2 km. in length. Several items required for the project have been procured including one tractor with accessories, one type-writer, one duplicating machine and some items of furniture. There is an approved outlay of Rs 5.00 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 7.00 lakhs is proposed for the year 1989-90.

19. Regional Broiler Chick Production-cum-Demonstration Farm, Tanhrill, Mizoram

2.102 In order to meet the ever increasing demand for chicken meat in Mizoram and other adjoining areas of the North Eastern Region, the scheme for establishing a Regional Broiler Chick Production-cum-Demonstration Farm at Tanhrill in Mizoram was included in the NEC 7th Plan with an outlay of Rs. 50.00 lakhs. It is envisaged to maintain 1250 females and 250 males of parental breeding stock for production of broiler chicks. It is envisaged to produce about 6 lakhs eggs and to hatch out 4 lakhs of chicks during the 7th Plan period. Besides supplying the day old chicks to farmers in Mizoram and other areas of the N.E. Region it is also envisaged to demonstrate the modern broiler chick production practices to the interested farmers and enthusiastic unemployed persons. The scheme was sanctioned towards the end of the year 1986-87 for implementation during the 7th Plan period at an estimated cost of Rs. 50.42 lakhs. During the period 1985-88 an expenditure of Rs 26.78 lakhs was incurred. An area of 25 bighas of land was acquired out of which 10 bighas have been developed. Various functional buildings including office-cum-Store room, brooder house, hatching house, feed go-down besides three residential buildings have been constructed. Construction of breeding house, 3 units of grower house, 2 units of finisher house, and internal and approach road is in progress. 2000 parent stock of broiler chicks have been purchased and action has been initiated for procurement of further parent stock of birds, and some items of equipment including incubator, hatching machine and part of electrification materials etc. There is an approved outlay of Rs 14.50 lakhs for the year 1988-89, while an expenditure of Rs 15.34 lakhs is anticipated. An outlay of Rs 10.00 lakhs is proposed for the year 1989-90.

20. Regional Cross-bred Cattle Farm,  
Baghty, Nagaland

2.103 The objective of the scheme is to establish a Regional Cross-Bred Cattle Farm at Baghty in Nagaland for evolving a suitable beef breed of cattle by crossing indigenous cows to well established exotic breeds like Red Dane and Angus/ Hereford/Short-Horn. Various types of cross-breeds will be produced and their performance studied. Bulls of the best performing cross-bred type (s) will be supplied to the farmers and other agencies of Nagaland and other States of N.E. Region for upgrading their local cattle stocks and for improving beef production under various development programmes. The approved 7th Plan outlay for the scheme is Rs 75.00 lakhs. The scheme was sanctioned towards the end of 1986-87 at an estimated cost of Rs 87.10 lakhs. During the period 1985-88 an expenditure of Rs 39.45 lakhs was incurred. Action has been taken for acquirement of 500 acres of land partly belonging to the State Agricultural Department and partly to individual owners. Action on payment of compensation of land has been largely completed and action on payment of compensation for remaining area of land is in progress. Construction materials, required for construction of various functional and residential buildings have been procured. Action has also been initiated for creation and filling up of some sanctioned posts. There is an approved outlay of Rs 22.00 lakhs for the year 1988-89, while an expenditure of Rs 25.00 lakhs is anticipated. An outlay of Rs 35.00 lakhs is proposed for the year 1989-90.

21. Regional Exotic Pig Breeding Farm,  
Nedziphema, Nagaland

2.104 In the North Eastern Region, in general pork is the most popular meat amongst the tribals. The tribals and other people from weaker sections of the society are traditionally involved in pig rearing. There is a wide gap between demand and availability of pork for human consumption in this region. This is because of poor management practices and non-availability of improved varieties of pigs. There is a great need for increasing and improving pig production in the region by cross-breeding of indigenous pigs with the improved



exotic breeds. In view of this, a Regional Exotic Pig Breeding Farm is being established at Medziphema in Nagaland. The objective of the scheme is to establish a farm with 150 breedings sow-unit and followers of Large White Yorkshire and Saddle Back/Hampshire breeds<sup>and</sup> to produce pure bred and cross-breds among them. Improved germplasm of appropriate pure-breds and cross-bred pigs will be supplied to farmers and other agencies in Nagaland and other States of the N.E. Region for use in upgrading the local pigs for improving pig production. The approved Seventh Plan outlay for the scheme is Rs 65.00 lakhs and the scheme with this cost was sanctioned towards the end of 1986-87. During the period 1985-88 and expenditure of Rs. 41.70 lakhs was incurred. An area of 30 acres of land has already been made available by the State Department of Veterinary and Animal Husbandry of Veterinary and Animal Husbandry in the premises of the existing Pig Breeding Centre. An area of another 70 acres of land, existing near the site, has been developed. Renovation of existing buildings has been completed. Construction of wallowing pool and extension of office building has also been completed. Construction work in respect of one boar house, 2 units of weaner house, isolation shed, 6 units of residential quarters, fencing and water supply facilities are in progress. Feed grinder and mixer, jeep with trailer, refrigerator and part of farm equipment have been procured. Action has been initiated for procurement of some more items of equipments and part of foundation stock. 14 out of 18 sanctioned posts have been filled. There is an approved outlay of Rs 18.00 lakhs for the year 1988-89 and will be utilised. An outlay of Rs 5.00 lakhs is proposed for the year 1989-90.

22. Expansion of Regional Broiler Chick Production-Cum-Demonstration Sub-Centre, Kohima, Nagaland.

2.105 There is an increasing demand for chicken meat in Nagaland and other States of the North Eastern Region. In order to meet this increasing demand for chicken meat a Regional Broiler Chick Production-Cum-Demonstration Sub-Centre at Kohima in Nagaland is being established during the Seventh Five Year Plan. The farm at the Sub-Centre will maintain 1200 Nos. of parent stock of broiler (1000 female and 200 male)

throughout the year to produce 5.40 lakhs eggs and to hatch 3.36 lakhs chicks during the Seventh Plan period. Day-old chicks will be supplied to farmers and other agencies in Nagaland and other States of the N.E. Region for broiler production. The farm will also provide opportunities of demonstrating broiler chick production practices to interested farmers and unemployed youths. The approved Seventh Plan outlay for the scheme is Rs 40.00 lakhs. The scheme was sanctioned towards the end of 1986-87 at an estimated cost of Rs 39.61 lakhs. During the period 1985-88 an expenditure of Rs 21.85 lakhs was incurred. The area of 5.5 acres of land acquired for the farm has largely been developed for various construction works. Several construction works have been largely completed and these include poultry shed ( 4 units), go-down, residential quarters ( 7 units) and fencing of farm area. Action was in progress for procurement of additional parental stock of birds, various machineries and equipments including incubator, refrigerator, brooders, electric goods, feeding troughs and water troughs etc. There is an approved outlay of Rs 13.00 lakhs for the year 1988-89, and will be utilised. An outlay of Rs 5.00 lakhs is proposed for the year 1989-90.

### 23. Regional Veterinary Biologicals Production Centre, Tripura.

2.106           There is a wide gap between requirement and availability of various animal vaccines and veterinary biologicals for providing timely and adequate health cover to livestock in the North Eastern Region. The Institute of Veterinary Biologicals at Gauhati in Assam is not in a position to meet all the requirements for various vaccines and veterinary biologicals for the whole of North Eastern Region. Apart from transport problem supply of vaccines from outside the Region is very irregular meagre and uncertain. In order to meet the requirement of various vaccines for different diseases and other biologicals, a Regional Veterinary Biologicals Production Centre is being established in Tripura in the 7th Five Year Plan. The approved outlay for the 7th Plan period is Rs 85.80 lakhs. The scheme was sanctioned towards the end of 1986-87 at an estimated cost of Rs. 88.30 lakhs for implementation

during the 7th Plan period. During the period 1985-88 an expenditure of Rs 19.00 lakhs was incurred. Action for acquirement of land has been taken and also for preparation of blue prints and final estimates for construction of functional and residential buildings. Action has also been taken for procurement of various equipments and laboratory instruments etc. Action has been initiated for creation and filling up of the sanctioned posts. There is an approved outlay of Rs 22.00 lakhs for the year 1988-89, while an expenditure of Rs 20.00 lakhs is anticipated. An outlay of Rs 25.00 lakhs is proposed for the year 1989-90.

24. Regional Centre for Investigation of Diseases of Ducks, Agartala, Tripura

2.107 Duck rearing is becoming popular among the tribals as well as non-tribals in the North Eastern Region. No systematic survey and investigations have been conducted about various diseases and health problems in ducks which could confront in successful duck farming. With a view to take up survey and investigation of common diseases afflicting ducks in North Eastern Region a Regional Centre for this purpose is being established in the 7th Plan period at Agartala in Tripura. The approved 7th Plan outlay for the scheme is Rs 25.00 lakhs. The scheme was sanctioned towards the end of 1986-87 at an estimated cost of Rs. 20.17 lakhs. During the period 1985-88 an expenditure of Rs. 9.00 lakhs was incurred. Action has been initiated for construction of laboratory building and animal houses, incinerator room and post-mortem room. Action has also been initiated for procurement of various laboratory equipments, office equipments, and furniture, and also for creation and filling up of the sanctioned posts. There is an approved outlay of Rs. 6.00 lakhs for the year 1988-89, while an expenditure of Rs. 10.00 lakhs is anticipated. An outlay of Rs. 1.00 lakhs is proposed for the year 1989-90.

25. Regional Pig Breeding Centre, Tamenglong, Manipur

2.108 Pig rearing is one of the most important animal husbandry activities of the tribals and people of weaker section

of the community in various States of the North Eastern Region in general and Tamenglong District of Manipur in particular. There is great need for supply of improved pigs of exotic breeds or suitable cross-bred pigs to these people for improving their local stocks. In view of this, a Regional Pig Breeding Centre is being established in the 7th Plan period in Tamenglong District of Manipur. The objective of the scheme is to produce pure-bred stock of exotic breeds of pigs (Large White Yorkshire and Hampshire) and their cross-breeds for meeting the requirements of the farmers in the State of Manipur and other States of the North Eastern Region. Besides supplying improved germplasm of pigs for various piggery development programmes the farm will also provide opportunities for demonstration to the interested farmers and unemployed youth in respect of improved practices for pig production and also extension services to the local tribals of Tamenglong District with regard to guidance on adopting improved management practices for profitable pig production under local conditions. The scheme has been sanctioned in 1987-88 at an estimated cost of Rs. 44.97 lakhs. During the period 1985-88 an expenditure of Rs. 11.70 lakhs was incurred. An area of 200 acres of land has been acquired. Action for developing part of the land is in progress and that for construction of approach road and functional and residential buildings has been initiated. Action has also been initiated for procurement of some items of equipment and for creation and filling up of the sanctioned posts. There is an approved outlay of Rs. 15.00 lakhs for the year 1988-89, while an expenditure of Rs. 25.00 lakhs is anticipated. An outlay of Rs. 3.00 lakhs is proposed for the year 1989-90.

#### 26. Regional Rabbit Breeding Centre, Nagaland.

2.109 There is great need for improving meat production for meeting the increasing demand for the same in the North Eastern Region. Rabbit meat is very delicious and is liked by people in general but is not available abundantly in the N.E. Region. The rabbit being prolific breeder will not only help in boosting up the meat production but also help in meeting the demand of rabbits for research purposes at various biological centres in N.E. Region, which are facing shortage of rabbits.

In view of this a Regional Rabbit Breeding Centre is being established in the 7th Plan at Jharnapani in Nagaland. It is envisaged to set up the centre with a herd size of 400 breedable rabbits of suitable meat type breed (bovievey Chinchilla/New Zealand White) and to produce on an average 85000 rabbits annually from 1989-90 onwards for supply to the rabbit farmers/private and govt. agencies for multiplication purpose and also to biological production centre for research purposes in the various N.E. constituent states. The scheme was sanctioned during 1987-88 at an estimated cost of Rs. 49.95 lakhs. During the period 1985-88 and expenditure of Rs. 19.00 lakhs was incurred. An area of 8 ha of land has been acquired. Construction programme for various functional and residential buildings and approach road has been initiated and is in progress. Construction materials have been procured. Action has been initiated for procurement of various items of equipment, machinery, vehicle animal cages and breeding stock, and for creation and filling up of the sanctioned posts. There is an approved outlay of Rs. 20.00 lakhs for the year 1988-89, while an expenditure of Rs. 25.00 lakhs is anticipated. An outlay of Rs. 5.00 lakhs is proposed for the year 1989-90.

#### 27. Regional Pork/Meat Processing Centres, Nagaland

2.110 Pig is one of the most important domestic species of livestock in the North Eastern Region. Pork consumption is very popular in the N.E. region, pork being one of the main items of food for most of the people, who have little or no religious or other tabbos. Pig rearing is a means of some livelihood for the people involved in this enterprise. Although pig rearing and pork production is the traditional occupation of the tribals and other weaker section of the community in North Eastern Region, there is no organised system which will 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 a price which may be offered to them or at routine market price. 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 whom may sell their animals to the organisation involved in preparation and marketing of various kinds of pork products. However, for this purposes existence of a suitable pork processing centre would be necessary. Therefore a Regional Pork Processing Centre in Nagaland during the 7th Five Year Plan is proposed to be established. The objective of the Regional Pork Processing Centre is to purchase pigs of slaughter age from the pig keepers in Nagaland and adjoining areas of the constituent states of the N.E. Region at reasonable prices and process the pork from them for preparing various kinds of pork products, and to sell/supply such pork products to interested individuals/Agencies in Nagaland and other States of N.E. Region on reasonable prices. This will also provide incentive to the pig keepers in the state of Nagaland and other adjoining areas by creating attractive market for selling the animals to be purchased for use at the Pork Processing Centre. Project Report relevant to the scheme has been prepared by the North Eastern Industrial and Technical Consultancy Organisation (NEITCO), Ltd., Guwahati. The cost estimates for implementation of the scheme during remaining part of the 7th Plan period (1988-90) by NEITCO Ltd, on turn-key basis are proposed at Rs. 157.68 lakhs. As agreed upon by the NEC and the Govt. of Nagaland, 50% of the total cost will be funded by the NEC as equity component and the remaining 50% of the cost of the project will be arranged from Institutional financing as long-term loan. There is an approved outlay of Rs. 40.00 lakhs for the year 1988-89 and will be utilised as equity component to be funded by the NEC. An outlay of Rs. 35.00 lakhs is proposed for the year 1989-90 for being funded by the NEC as equity component.

2.111 Schemewise plan allocation are given in the annexed statement.

DRAFT ANNUAL PLAN 1989-90

ANIMAL HUSBANDRY

(Rs in lakhs )

Sl. No.	Name of Scheme	7th Plan Approved Outlay.	1985-88 Actual Expdr.	1988-89		1989-90 Proposed Outlay.
				Approved Outlay	Revised Outlay (Anticipated Expdr.)	
1	2	3	4	5	6	7
1.	Regional Temperate Fodder Seed Production-cum-Demonstration Farm, Arunachal Pradesh.	15.00	29.60	7.00	7.13	10.00
2.	Regional Broiler Chick Production-cum-Demonstration Farm, Assam.	46.68	42.87	10.00	6.00	15.00
3.	Regional Feed Testing Laboratory, Assam.	42.57	36.78	4.60	2.50	4.00
4.	Regional Integrated Farming Systems Instructional Project, AAU, Assam.	4.00	3.08	0.40	0.40	0.40
5.	Regional Cross-bred Cattle Breeding Farm, Mizoram.	40.00	27.50	6.00	7.80	8.00
6.	Regional Goat Breeding Farm, Tripura.	29.33	19.76	10.00	10.00	9.70
7.	Regional Pig Breeding Farm, Tripura.	34.11	24.53	10.00	10.00	7.20
8.	Regional Mithun Breeding Farm, Arunachal Pradesh.	25.00	20.70	9.00	13.00	10.00
9.	Regional Fodder Seed Production Farm, Assam.	45.00	28.20	12.00	27.00	18.00

2.62

contd....

	1	2	3	4	5	6	7
10. Regional Frozen Semen Project Assam.			35.00	46.64	2.70	19.50	12.00
11. Regional Buffalo Breeding Farm, Assam.				32.96	20.00	27.00	17.00
12. Mechanisation of Institution of Veterinary Biologicals, Assam.				18.18	11.00	26.00	20.00
13. Regional A.I. Training Centre Cum-Cryogenic Laboratory, AAU, Assam.			20.00	7.35	4.15	7.00	4.50
14. Regional Buffalo Breeding Farm, Manipur.			49.20	30.90	20.25	30.00	12.00
15. Regional Pony Development Project, Manipur.			50.00	25.85	15.00	30.00	20.00
16. Regional Composite Live Stock Farm, Manipur.			35.00	22.85	16.40	16.40	3.40
17. Regional Pig Breeding Farm, Meghalaya.			40.00	45.24	7.00	15.00	6.50
18. Regional Fodder Seed Production-Cum-Demonstration Farm, Mizoram.			25.00	15.59	5.00	5.00	7.00
19. Regional Broiler Chick Production-cum-Demonstration Farm, Mizoram.			50.00	26.78	14.50	15.34	10.00
20. Regional Cross-bred Cattle Farm, Nagaland.			75.00	39.45	22.00	25.00	35.00

contd...



1	2	3	4	5	6	7
21.	Regional Exotic Pig Breeding Farm, Nagaland.	55.00	41.70	18.00	18.00	5.00
22.	Expansion of Regional Broiler Chick Production Cum-Demonstration Sub-Centre, Kohima.	40.00	21.85	13.00	13.00	5.00
23.	Regional Veterinary Biologicals Production Centre, Tripura.	85.80	19.00	22.00	20.00	25.00
24.	Regional Centre for Investigation of Diseases of Ducks, Tripura.	25.00	9.00	6.00	10.00	1.00
25.	Regional Pig Breeding Centre, Manipur.		11.70	15.00	25.00	3.00
26.	Regional Rabbit Breeding Centre, Nagaland.		19.00	20.00	25.00	5.00
27.	Regional Pork/Meat Processing Centre, Nagaland.			40.00	40.00	35.00**
TOTAL :				341.00	451.07	308.70

\* Rs 40.00 lakhs will be equity component to be funded by NEC.  
An equal amount will be arranged from Institutional Financing as Long Term Loan.

\*\* Rs 35.00 lakhs will be equity component to be funded by NEC.

## E. FISHERIES

2.112 There 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, Arunachal Pradesh and Tripura where there are large areas under lakes and beels. These water areas can be developed and brought under scientific pisciculture.

2.113 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 in different parts of this region for production of fish seed of various species. 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 and technical competence of extension workers as well as fisherman also need be developed, besides exploration of new areas for fish production. Thus in order to exploit fish culture potential and to train manpower, a Regional Fisheries Training Institute is also being set-up under the NEC programme under Manpower Development during Seventh Plan.

2.114 Schemewise details in fisheries sector are furnished in the following paragraphs :

### 1. Reclamation of Beel Fisheries, Arunachal Pradesh/Meghalaya.

2.115 The scheme is proposed as a pilot project and aims at demonstrating as to how beel fishery can be taken up on scientific lines for maximisation of the fish production from beels. This will also serve as a demonstration in Arunachal Pradesh and Meghalaya as well as in neighbouring states on the development of beel fisheries on scientific lines. The approved outlay for the scheme in the 7th Plan is Rs. 66 lakhs.

The scheme for Meghalaya has been sanctioned in two modules. Module-A is at an estimated cost of Rs. 16 lakhs sanctioned in February, 1987. Necessary land for the scheme has been acquired and necessary tools and machines purchased/are being purchased. In the year 1988-89 construction of functional buildings has been taken up. During 1986-87 and 1987-88 amounts of Rs. 4 lakhs and Rs. 2.99 lakhs respectively were spent on the scheme. Anticipated expenditure for 1988-89 is Rs. 3.50 lakhs against the similar approved outlay. An outlay of Rs. 5.50 lakhs is proposed for 1989-90.

2.116 Module-B of this scheme for Meghalaya has been sanctioned in September, 1988 at an estimated cost of Rs. 16.11 lakhs. Anticipated expenditure for 1988-89 is Rs. 2.00 lakhs with proposed outlay of Rs. 14.00 lakhs for 1989-90.

2.117 The scheme for Arunachal Pradesh has been sanctioned in April, 1988 at an estimated cost of Rs. 35.50 lakhs. Work on development of infrastructure has been initiated. Expenditure for 1988-89 is anticipated to be Rs. 12.00 lakhs against approved outlay of Rs. 7.00 lakhs. Proposed outlay for 1989-90 is Rs. 20.00 lakhs.

#### 2. Regional Fish Seed Farm, Meghalaya

2.118 The scheme seeks to establish a fish farm for production of variety of fish seed that would be suitable for culture in the hill states of Meghalaya, Nagaland and part of Assam. Under the scheme farm at Jange in Garo Hills is being set up at an estimated cost of Rs. 20 lakhs. Approved 7th Plan outlay for the scheme is Rs. 18 lakhs. The scheme has been approved in April, 1987 and basic infrastructural development works are in progress. Jeep and fishing implements have been purchased. The expenditure on this scheme during 1987-88 was Rs. 3.00 lakhs. Expenditure for 1988-89 is anticipated to be equal to the outlay of Rs. 10.00 lakhs. Outlay proposed for 1989-90 is Rs. 9.00 lakhs.

### 3. Regional Fish Seed Farm, Mizoram

2.119 The scheme envisages production of about 15 million fish seed of Indian Major Carps and Common Carps on its completion for distribution to fish culturists of Mizoram and neighbouring states of the region. Approved financial provision for the scheme for 7th Plan is Rs. 20 lakhs. The scheme at an estimated cost of Rs. 19.00 lakhs has been sanctioned in December, 1986. The farm is being set up at Tawipui near Lunglei. The State Government has acquired the land and the same has been developed. Ponds, approach road, staff quarters and two diversion channels have been constructed. Remaining construction work and purchase of equipments etc. are proposed to be completed during 1988-89. Expenditure on this scheme during 1986-87 and 1987-88 was Rs.2.00 lakhs and Rs.8.91 lakhs respectively. The anticipated expenditure for 1988-89 is Rs. 8.00 lakhs against the approved outlay of Rs.4.00 lakhs. For 1989-90 an outlay of Rs. 3.00 lakhs is proposed.

### 4. Regional Carp Fish Breeding and Culture Farm, Nagaland.

2.120 Carp fish can adapt to various types of climatic conditions and environment. 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 of the region. The present scheme aims at establishing a carp fish seed farm in Nagaland to supply fish seed to the private fish culturists in Nagaland and other neighbouring states of the region. On completion of the scheme, it is estimated to produce 83 million fry annually. Approved outlay for the scheme in 7th Five Year Plan is Rs. 50 lakhs. The scheme at an estimated cost of Rs.40.10 lakhs has been sanctioned during 1986-87. Major part of the land development, including jungle clearance, etc. and construction works pertaining to thirty-three ponds, 8 nos. of staff quarters and approach road have been completed. During 1987-88, the on-going works and construction of 27 nos. of ponds, one channel, three staff quarters were completed. In 1986-87 an

amount of Rs. 8.00 lakhs and in 1987-88 an amount of Rs. 17.66 lakhs were spent on the scheme. In the financial year 1988-89 the anticipated expenditure is Rs. 15.00 lakhs as against approved outlay of Rs. 9 lakhs due to advanced stage of construction programme. For the year 1989-90, an outlay of Rs. 2.00 lakhs is proposed.

#### 5. Regional Air Breathing Fish Seed Farm, Tripura.

2.121 The scheme envisages establishment of one Air Breathing Fish Farm at Jati Biri in South Tripura District. Farm will produce about 10 million fish fingerlings per year when it is fully developed. The fish fingerlings so produced will be made available to fish culturists of Tripura and neighbouring states of the region. Financial provision for this scheme is Rs. 48.97 lakhs for the 7th Plan. The scheme at an estimated cost of Rs. 37.43 lakhs has been sanctioned in November, 1986. The basic infrastructural development works pertaining to the scheme were initiated during the financial year 1987-88. The construction works on various functional buildings and other ancillaries are in progress with the help of the State PWD in the phased manner so as to complete them by the end of the financial year 1989-90. During the years 1986-88 an amount of Rs. 12 lakhs was spent on the project. The anticipated expenditure for the year 1988-89 is expected to be Rs. 1.60 lakhs against the approved outlay of Rs. 8.00 lakhs. Considering the expected completion of the scheme during 1989-90 an outlay of Rs. 24.00 lakhs is proposed.

#### 6. Fresh Water Carp Seed Farm, Manipur.

2.122 Loktak Lake is the biggest single inland water area in North Eastern Region with vast scope for development of various type of fish cultures. The present scheme stipulates establishment of Fresh Water Carpseed Farm, Walthou on the periphery of Loktak lake to produce carp seeds for distribution to private rearers in Manipur and other neighbouring states of this region. The farm will have an area of 20 (twenty) hectares and when fully developed would produce 14 million carp seeds at the end of 7th Plan period. Approved outlay for

Seventh Plan is Rs. 25 lakhs. The scheme at an estimated cost of Rs. 22.28 lakhs was sanctioned in the later part of the financial year 1986-87 and therefore, only preparatory works could be initiated during that year. Because of the nature of the site the scheme is to be implemented in two parts with hatchery complex at Lamphalpit and nursery and stocking ponds at Withou. Development works on both the sites are in progress and it is expected that major construction components of the scheme would be completed by the State PWD in 1988-89. The expenditure of Rs. 7.88 lakhs was incurred in 1986-88. The anticipated expenditure for the year 1988-89 is equal to the approved outlay of Rs. 5 lakhs. Proposed outlay for 1989-90 is Rs. 11 lakhs.

7. Regional Pengba Fish Seed Farm, Manipur.

2.123 Pengba which is one of the tastiest varieties of fish 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 Haotakpit in Bishnupur District to preserve this species of fish, production of Pengba fish seeds for distribution to fish farmers of Manipur and neighbouring states of the region to extend culture and availability of this fish in other parts of NE Region. Approved outlay for 7th Plan for the scheme is Rs. 25.00 lakhs. The scheme at an estimated cost of Rs. 24.753 lakhs has been sanctioned in the later part of 1986-87 and an expenditure of Rs. 4 lakhs was incurred during that year on infrastructural development. The construction works pertaining to ring bund ponds and other functional buildings such as office and staff quarters was taken up by State PWD during the year 1987-88 for which an expenditure of Rs. 6.43 lakhs was incurred. The anticipated expenditure for the year 1988-89 is equal to the approved outlay of Rs. 5 lakhs. Since all the development works are envisaged to be completed by the year 1989-90 an outlay of Rs. 12.00 lakhs is proposed for the year.

2.124 The financial details for the schemes mentioned above are indicated in the annexed statement.

DRAFT ANNUAL PLAN 1989-90

Statement  
(Ref. para

FISHERIES

(Rs. in lakhs)

Sl. No.	Name of the Scheme	Seventh Plan. approved outlay	1985-88 Actual expenditure	1988-89		Proposed outlay 1989-90
				Approved outlay	Anticipated Expenditure	
1	2	3	4	5	6	7
1.	Reclamation of Beel Fishery	.	.	7.00	12.00	20.00
	Module A - Arunachal Pradesh	.	.	3.50	3.50	5.50
	Module A - Meghalaya	66.00	6.99	-	2.00	14.00
	Module B - Meghalaya	.	.	.	.	.
2.	Regional Fish Seed Farm, Meghalaya	18.00	3.00	10.00	10.00	9.00
3.	Regional Fish Seed Farm, Mizoram	20.00	10.91	4.00	8.00	3.00
4.	Regional Carp Fish Breeding & Culture Farm, Nagaland.	50.00	25.66	9.00	15.00	2.00
5.	Regional Air Breathing Fish Seed Farm, Tripura.	48.97	12.00	8.00	1.60	24.00
6.	Freshwater Carp Seed Farm, Manipur.	25.00	7.88	5.00	5.00	11.00
7.	Regional Pengba Fish Seed Farm, Manipur.	25.00	10.43	5.00	5.00	12.00
<hr/>						
TOTAL :-		.	.	51.50	62.10	100.50

## CHAPTER- 3

### POWER AND WATER DEVELOPMENT AND RENEWABLE RESOURCES OF ENERGY

#### A. POWER DEVELOPMENT

##### a. GENERATION

##### 1) Kopili Hydro Electric Project.

3.01 The Kopili Hydro Electric Project envisages construction of two Power Houses viz. Khandong Power House (2x25 MW) and Kopili Power House ( 2x50 MW). The project is being implemented by NEEPCO since 1976. The latest approved estimated cost of the project is Rs. 212 crores. The first unit of Kopili Power House was made ready for commissioning in October, 1986. During commissioning test of the tunnel a mishap occurred in the Umrong HP tunnel on 22nd September, 1986. After the mishap the entire tunnel was inspected by experts from CWC, GSI, CSMRS etc. to suggest rectification/remedial measures to be adopted for restoration of the tunnel system. During early October, 1986 Kopili Power House was flooded which necessitated dismantling, clearing, re-conditioning replacement and erection of various assemblies, auxiliaries and turbine generating equipment. To cover the cost of rectification/remedial works in the project tunnel system (both Khandong and Umrong tunnel) on the basis of recommendation of the Experts and also to cover the cost of restoration of Kopili Power House, NEEPCO framed an estimate amounting to Rs. 21.10 crores ( including an amount of Rs.6.90 crores being the additional interest liabilities on LIC loan due to delay in commissioning) and sent to the CEA for examination and clearance. The CEA conveyed its clearance for Rs. 14.20.crores for the different works covered by the estimate. Ministry of Home Affairs, Govt. of India is being approached for arranging approval of increase in Kopili Project cost due to above additionalities and also for approval of the revised project cost estimate of Additional Transmission Line Project which has been cleared by CEA recently.



3.02 The Khandong Power House which started generation from early 1984 was shutdown in February, 1987 for strengthening of Khandong tunnel system. After the works in the tunnel were completed, the Unit-I of Khandong Power House was re-commissioned on 4.12.87 and Unit-II on 19.12.87 and since then both Units are operational.

3.03 One 50 MW Unit of Kopili Power House was rotated on 15.2.88 and the other Unit on 15.3.88. However, due to various technical snags commercial generation could not be started immediately thereafter. The problems were sorted out and one 50 MW Unit of Kopili Power House was to be put into commercial operation with effect from 22.6.88 and the other Unit from 21.7.88. However, there are some residual works particularly in the Kopili and Khandong dykes and all these works are expected to be completed by June, 1989. Some works remain to be completed in a bypass tunnel. Upto August, 1988 the figure of total generation from both Khandong and Kopili Power Station is 612.50 MU).

3.04 Upto March, 1988 an amount of Rs. 22549 lakhs has been made available to NEEPCO which includes LIC loan of Rs.6515 lakhs raised by NEEPCO. There is a provision of Rs.700 lakhs in 1988-89 annual plan and this provision is likely to be fully utilised. An outlay of Rs. 10.00 lakhs is proposed for 1989-90 for liquidating residual liabilities, if any.

## 2. Garó Hills Thermal Project :-

3.05 This project envisages construction of a thermal power station of 4x30 MW capacity. The first phase of 2x30 MW was approved by the Govt. of India in March, 1981 at an estimated cost of Rs. 4320 lakhs. A sum of Rs. 83 lakhs has been released so far for widening of curves and strengthening of bridges of the road to the project site by **B&TF**. The original cost of the project has gone up from Rs. 4320 lakhs to Rs. 11500 lakhs as per the latest revision of the project cost carried out by CEA. Planning Commission has set up a

Working Group under the Chairmanship of Secretary, NEC to study various issues connected with project. Terms of reference of the Group are to examine inter alia the aspect of coal availability on long-term basis, cost of generation evacuation of power, executing agency of the project and any other related matters. The report of the Working Group is awaited. No expenditure has been incurred on the project during 1985-88. In the above back drop, pending final investment decision by Government of India a token provision of Rs. 1.00 lakhs is kept in 1988-89 and an outlay of Rs. 10.00 lakhs is proposed in Annual Plan 1989-90.

### 3. Doyang Hydel Project

3.06 The Doyang Hydel Project ( 3x35 MW) was sanctioned by the Government of India during March, 1985 at an estimated cost of Rs. 128.61 crores with the stipulation that the project will be executed and managed by NEEPCO. The project cost estimates were based on the project report prepared by the Govt. of Nagaland on the basis of investigation carried out by them. As a part of pre-construction survey NEEPCO got the proposed reservoir area of the project re-surveyed by Survey of India. The detailed reservoir area map with 1 : 12500 scale became available in 1985. The revised surveys indicated a major error in the area of the reservoir and consequently it was found that capacity of the reservoir would be reduced from 1510 million cubic metres to 800 million cubic meters. This necessitated a complete reappraisal of the project parameters. After series of consultation with CEA and CWC by project authorities it was felt that most suitable proposal would be to go for the project having an installed capacity of 3x25 MW. Accordingly NEEPCO framed a revised project report for Doyang hydel project in Nagaland envisaging an installation of 75 MW and submitted to Government of India. It is learnt that CEA is considering issuing technical clearance to the project at an estimated cost of Rs. 166.66 crores.

3.07 The project authorities are proceeding with the infrastructural works. A brief resume of the progress of work upto June, 1988 is given below :

- (i) Land acquisition  
Out of total 2250 Ha of land, 270 Ha has been acquired.
- (ii) Temporary Accommodation
- (a) Residential :  
Out of 306 Units, 150 Units have been completed
- (b) Non-residential :  
Out of 9465 Sq. Mtrs area to be constructed, 1742 Sq. Mtrs have been completed.
- (iii) Permanent Accommodation
- (a) Residential :  
Out of 340 Units, orders have been placed for construction of 259 Units and the works are in progress and expected to be completed by October, 1989.
- (b) Non-residential :  
Out of 5697 Sq. Km area to be constructed, no works has been completed dur to non-finalisation of the work order. However, completion of the work has been planned by October, 1989.
- (iv) Approach road :  
All together 15 Kms of approach road to differnt work sites have been made motorable.
- (v) Construction power :  
About 1.5 MW grid power is available which has been proposed to be augmented by installation of 2 MW capacity Diesel sets and the same is under process of procurement/installation.
- (vi) River Diversion works :  
Design and specification have been finalised and work of diversion and depletion tunnel is nearing ordering stage.

(vii) Dam and Spillway

Tenders have been received and evaluation is in progress for the dam. Preparation of Design, drawing and specification of spillway are in progress.

(viii) Power House :

Preparation of designs, drawings and tender document are in progress.

(ix) Turbo Generator Equipment :

Technical/commercial bids have been received and evaluated and matter is under negotiation.

(x) Consultancy Services :

Detailed engineering consulting services for civil/electrical/mechanical works have been awarded to CWC, CEA respectively.

3.08 Upto March, 1988 an amount of Rs. 1725 lakhs has been released/made available to NEEPCO which comprises LIC loan of Rs. 500 lakhs raised by NEEPCO. There is a provision of Rs. 500 lakhs for the project for 1988-89 and the entire amount is to be raised by NEEPCO as LIC loan. NEEPCO proposes to raise the entire LIC loan for project expenditure during 1988-89. An outlay of Rs. 2500 lakhs is proposed for 1989-90.

4. Ranganadi Hydel Project Stage-I ( 3x135 MW)

3.09 The Government of India communicated its approval in April, 1987 to the execution of the project by NEEPCO at an estimated cost of Rs. 312.78 lakhs. A brief resume of the status of the project as on 30.6.88 is given below :

(i) Infrastructural Work(a) Land acquisition

Out of total requirement of about 327 Ha of land for the project, possession has already been taken from Government of Arunachal Pradesh for 202 Ha of land in different construction areas.

(b) Consultancy Services :

Detailed engineering and consultancy for works of the project has been entrusted to CWC and for electrical works to CEA.

(ii) Construction of Approach Roads :

Strengthening of Kinin-Zero road, construction of a 26 Km road to power house site and a diversion of 5 Km road have been entrusted to BRO ( Project VARTAK). About 5 Km of formation cutting in the road to Power House site has been completed. About 6.5 Km long approach road to the left of diversion dam site has been awarded to local constructors who have completed formation cutting.

Temporary Buildings :

Work orders for 250 Units of temporary buildings have been awarded out of which 150 buildings are expected to be ready by September, 1988 and another 100 Units by December 1988.

(iii) Civil Works :a) Diversion Tunnel :

Tender evaluation is complete and work orders are expected to be placed by September, 1988.

b) Main Dam :

Preparation of design, drawings and specifications is in progress.

c) Power House :

Civil works would be taken up once the approach to the Power House is ready. Preliminary works like preparation of tenders for excavation of power house are in progress.

Main Tunnel :

The tunnel is 8 . 8 Km long having 6.75 Mtrs diameter. Tenders have been floated. Tunneling works are expected to be started from April, 1989.

(iv) Electrical and Mechanical Works :

Offer for Turbine Generating Units have been received from M/S BHEL and these are being processed with a view to finalising the same.

3.10 Upto March, 1988 an amount of Rs. 1400 lakhs have been made available to NEEPCO which includes Rs. 550 lakhs raised by NEEPCO as LIC loan. There is a provision of Rs 1500 lakhs in Annual Plan 1988-89 and the entire amount is to be raised by NEEPCO as LIC loan. NEEPCO is planning to raise the entire amount of loan during the current financial year for meeting expenditure of the project. An outlay of Rs. 2400 lakhs is proposed for 1989-90.

5. Installation of Third Gas Based Turbine Generating Unit at Baramura Gas Thermal Power Station in Tripura

3.11 The Government of India sanctioned installation of Third 5 MW Unit at Baramura Gas Thermal Power Station at an estimated cost of Rs. 526 lakhs during March, 1987 under NEC programme. The Power Department, Govt. of Tripura who is executing the project started taking preliminary action and building up necessary infrastructure for project implementation. Orders have been placed with M/S BHEL for procurement of Generator and letter of intent has been issued to M/<sup>rs</sup> Hispano Suiza of France for import of a Turbine ( ISO rating 9250 KW) and other auxiliaries and spares etc. Recently the Govt. of Tripura has informed that they have kept the order placed on turbine supplier in abeyance as certain problems were encountered in the earlier two Units imported from the same Company. The Power Department of Tripura has decided to obtain expert opinion of CEA on the matter.

3.12 Upto March, 1988 an amount of Rs. 150 lakhs has been released to the Government of Tripura. Pending resolution of the technical problems that surfaced, it has been tentatively proposed to retain approved provision of Rs. 250 lakhs on adhoc basis for the year 1988-89. On same ground purely on an adhoc basis an amount of Rs. 165 lakhs is proposed for Annual Plan 1989-90.

6. 75 MW Gas Turbine Project at Rokhia in Tripura :

3.13 The Government of Tripura submitted a project report to the Government of India for installation of 75 MW Power Station near Rokhia in Tripura at an estimated cost of Rs. 6747 lakhs. Subsequently this estimate was revised to Rs. 14391 lakhs ( which also included transmission facilities for evacuation of power from the project). These revised project report is yet to be cleared/approved by the Government of India. Considering procedural appraisal involved in clearance/approval of the project, it is doubtful whether a real beginning on the ground could be made for the project during the current financial year. An amount of Rs. 10 lakhs is proposed to be retained at this stage for 1988-89 against the approved allocation of Rs. 900 lakhs. An outlay of Rs. 500 lakhs is proposed for the project for 1989-90.

7. New Generation Projects :

3.14 The Government of Mizoram has suggested inclusion of Serlui-B hydel Project ( 3x3.5 MW) in Mizoram (estimated cost Rs. 2936 lakhs). Government of Nagaland has proposed inclusion of Lakimro Hydel Project ( 15 MW) in Nagaland (estimated cost Rs. 1941 lakhs). Government of Arunachal Pradesh has suggested inclusion of Nuranang Hydel Project (3x2 MW ) in Arunachal Pradesh ( estimated cost Rs. 953 lakhs) in NEC Plan. Considering the fact that techno-economic clearance of the projects is yet to be received from CEA, a lump sum allocation of Rs. 150 lakhs is proposed for these project in NEC Annual Plan 1989-90. To enable make a beginning of any of the projects that may be sanctioned during the year, a token allocation of Rs. 5 lakhs is proposed for 1988-89.

**b. TRANSMISSION****8. (a) Additional Transmission Lines Project :**

3.15 The Additional Transmission Lines Project was taken up mainly for supply of Power from Kopili Hydel Project to a part of Assam, Manipur, Tripura and Mizoram. It envisages laying of a 132 KV Single Circuit line from (a) Khandong to Haflong, (b) Haflong to Jiribum, (c) Jiribum to Aizawl and (d) Aizawl to Kumarghat including loop in and loop out of existing 132 KV line from Agartala to Dharmanagar at Kumarghat. The scheme also envisages construction of 132 KV Sub-stations/ Switching stations at Haflong, Jiribum, Aizawl and Kumarghat. With completion of the 132 KV Jiribum-Aizawl portion during September, 1988, the entire project has been practically completed.

3.16 The latest approved project cost amounting to Rs.2812 lakhs was revised by NEEPCO. CEA has informed that re-revised project report at an estimated cost of Rs. 3317 lakhs ( excluding 175 lakhs IDC) has been cleared. Details of CEA approval are awaited for taking up the case with Ministry of Home Affairs for arranging approval of the <sup>re</sup>revised project cost estimate.

**8. (b) Construction of 132 KV Luangmual - Zembawk line :**

3.17 This line was originally not included in the Additional Transmission Lines Project and was sanctioned subsequently after obtaining comments/approval of the CEA/Planning Commission. The entire amount of estimated cost which is Rs. 73.95 lakhs has been released to NEEPCO out of the plan provision of Additional Transmission Line Project.

3.18 An amount of Rs. 3060 lakhs has been released to NEEPCO upto 31.3.88 for Additional Transmission Line Project including the cost of Luangmual-Zembawk Line. Considering the re-revised project cost estimate the anticipated expenditure will be of the order of Rs. 400 lakhs during 1988-89 against an approved provision of Rs. 175 lakhs which has a component of Rs. 100 lakhs to be raised as LIC loan by NEEPCO. An outlay



of Rs. 100 lakhs is proposed for 1989-90 for this scheme (Luangmual-Zemabawk line since completed and estimated project cost released to NEEPCO).

#### 9. Doyang Transmission Line Project :

3.19 . The project report for Doyang Transmission Line project has been approved by the Government of India in March 1985 at an estimated cost of Rs. 4087 lakhs. This Transmission System which is being executed by NEEPCO envisages evacuation of power from Doyang Hydel Project. Besides this, the transmission system will also enable flow of power from Kopili and Loktak Hydel Projects. There are three main transmission lines covered by the project report namely, 132 KV Double Circuit Doyang -Dimapur line ( 98 Km), 132 KV Single Circuit Dimapur- Imphal line ( 188 Km.) and 220 KV Double Circuit Dimapur- Misa ( Kathiatoli) line ( 112 Km). Preliminary survey of all the lines have been completed and check survey is in progress in respect of 132 KV Doyang- Dimapur line and 132 KV Imphal-Dimapur line. Six numbers of foundation have been cast in Doyang-Dimapur section. There are three main Substations/Switching stations covered by the project report. These are 220/132 KV Dimapur Substation, 220 KV Misa (Kathiatoli) Switching station and 132 KV Imphal Switching Station. Land for all the Substations/Switching station have been acquired and levelling works have been more or less completed. Various Substation and Transmission line equipments have been ordered.

3.20 An amount of Rs. 810 lakhs has been released/made available to NEEPCO upto 31.3.88. There is a provision of Rs. 682 lakhs in approved Annual Plan 1988-89 which includes a component of Rs. 500 lakhs to be raised by NEEPCO as LIC loan. This provision is likely to be fully utilised. An outlay of Rs. 2000 lakhs is proposed for 1989-90.

#### 10. Ranganadi Transmission Line Project

3.21 The Ranganadi Transmission Line Project was approved by the Government of India at an estimated cost of Rs. 4734

lakhs during April 1987. The project provides mainly for construction of a 400 KV Doble Circuit line from Ranganadi Project to Balipara in Assam. The survey work of the line is in progress.

3.22 An amount of Rs. 25 lakhs have been released to NEEPCO upto 31st March, 1988. There is a provision of Rs. 25 lakhs in 1988-89 plan. The provision is likely to be fully utilised. An outlay of Rs. 50 lakhs is proposed for the project during 1989-90 mainly for survey and other preliminary works.

#### 11. 132 KV Gohpur- Itanagar line

3.23 The project envisages construction of 132 KV line from Gohpur Substation (Assam) to Itanagar (Arunachal Pradesh) and establishment of a 132 KV Substation at Itanagar. The sanctioned estimated cost of the project is Rs. 239.22 lakhs. Though initially this scheme was decided to be implemented by Assam and Arunachal Pradesh Governments through their respective agencies within their respective territories, on a review of related issues, the scheme was entrusted to NEEPCO for implementation during February, 1987. NEEPCO has completed the survey of the line. A few tower foundations have been cast and a few towers have already been erected. Major transmission line and substation equipment are being procured. The project is expected to be completed in 1989-90. The implementing agency has revised the project cost estimate to about Rs. 416 lakhs. The estimate is presently under examination in the Council Secretariat.

3.24 An amount of Rs. 146 lakhs has been released to the implementing agency upto 31.3.88. There is an approved provision of Rs. 100 lakhs in NEC Plan 1988-89 and this provision is likely to be fully utilised. An outlay of Rs. 170 lakhs is proposed for 1989-90.

#### 12. Transmission System in Meghalaya, Mizoram and Manipur :

3.25 There is an approved provision of Rs. 100 lakhs for 1988-89 for construction of transmission system in Meghalaya

Mizoram and Manipur. In line with the suggestion of the Planning Commission to identify a important transmission lines with reference to a perspective transmission system plan for NEC funding, the assistance of a Consulting firm has been sought by Council Secretariat in reviewing transmission need of the North Eastern Region. All the constituent Units of the North Eastern Region, CEA, NEREB, have been associated in helping Council Secretariat in this exercise by inviting their comments on preliminary draft report submitted by the consultanting Engineer firm. Taking into account the comments of all concerned, consulting engineer firm has been requested to modify their draft report. It is proposed to consult Government of India after necessary exercises completed in the Council Secretariat for deciding funding of the important transmission system. A tentative outlay of Rs. 150 lakhs is proposed for 1989-90 for funding of important transmission system in the North Eastern Region.

13. Establishment of Regional Load Despatch Centre and State Load Despatch Centres in the North Eastern Region :

3.26 It has been agreed that Load Despatch facilities will be created in the North Eastern Region for which a Regional Load Despatch Centre (RLDC) in Shillong and three State Load Despatch Centres (SLDC) in Assam, Meghalaya and Tripura will be set up. Composite report of RLDC and SLDCs has been revised and the revised estimated cost now stands at about Rs. 68 crores :- RLDC-Rs.29.70 Crores and three SLDCs-Rs. 3852 lakhs including on demand display and printing facilities for Manipur, Mizoram, Nagaland and Arunachal Pradesh. (Assam Rs. 1993, Meghalaya Rs. 1172 lakhs, Tripura Rs. 663 lakhs) facilities to other N.E. States as referred Rs. 24 lakhs.

3.27 As desired by Government of India a draft Memorandum of Understanding to be entered into between CEA/NEREB and NEC has been prepared and sent to Government of India for necessary action. Meanwhile in the last NEREB meeting held at Shillong on 26th May 1986 an understanding was reached amongst

all the States of the North Eastern Region, NEEPCO, NHFC, NEREB regarding modalities of implementation of SLDCs. The revised project report for the composite project is yet to receive necessary approval of Government of India. An outlay of Rs. 30 lakhs is proposed for 1989-90.

c. SURVEY AND INVESTIGATION

14. Loktak Down stream and Tuivai Hydel Projects in Manipur.

3.28 The Government of Manipur is getting the Loktak Downstream and Tuivai Hydel Projects investigated through its Power Department. The revised sanctioned cost estimate for investigation of Loktak Downstream Project is Rs. 146.83 lakhs (gross) and that of Tuivai is Rs. 138.40 lakhs (gross). The amount released to Government of Manipur for the two schemes upto March, 1988 is Rs. 280.77 lakhs. There is an approved provision of Rs. 1 lakh in Annual Plan 1988-89 and the provision is not likely to be utilised. The project report of Loktak Downstream has been prepared and submitted. The field investigation works of Tuivai Hydel Project is practically complete and the project report is under preparation and is expected to be ready by December, 1988. A token outlay of Rs. 1.00 lakh is proposed for these two investigation schemes for 1989-90 plan.

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

3.29 The approved estimated cost of investigation schemes of Barak Stage-I is Rs. 101.59 lakhs and that of Irang Hydel Project is Rs. 132.27 lakhs. The Power Department, Government of Manipur is investigating agency for these two schemes. Field works of Irang Hydel Project is practically complete and the project report is under preparation and is expected to be ready by December, 1988. As regards investigation of Barak hydel project, all the field works except drilling

have been almost completed. The progress of drilling works work of the project which had been entrusted to Central Water Commission got impeded due to recent floods and progress was therefore slow. It is expected the field works of the project could be completed by March 1989. However, hydrological metrological observations will continue. The project report is expected to be ready by August, 1989. An amount of Rs.221.00 lakhs has been released to the Government of Manipur for these two schemes upto March, 1988. There is an approved provision of Rs. 27 lakhs in Annual Plan 1988-89 against which an expenditure of Rs. 10 lakhs is anticipated during the year. An outlay of Rs. 5.00 lakhs is proposed for these two investigation schemes for 1989-90 Plan.

16. Investigation of Tuivai Hydel Project in Mizoram :

3.30 The Central Water Commission is investigating the Tuivai Hydel Project in Mizoram. The approved estimated cost for this investigation scheme is Rs. 356.26 lakhs. The field investigation works were practically complete excepting some residual works. However, on the advise of Geological Survey of India some more geological investigation works will need to be done. The project report is expected to be ready some time towards end of 1989-90. An amount of Rs. 334.65 lakhs have been made available to CWC upto March, 1988. The approved outlay for the scheme for 1988-89 is Rs. 17.00 lakhs out of which the anticipated expenditure for the year is Rs.19.00 lakhs. An outlay of Rs. 5.00 lakhs is proposed for 1989-90.

17. Preliminary investigation of Kynshi Hydel Project in Meghalaya

3.31 The approved estimated cost of preliminary investigation of Kynshi Hydel Project is Rs. 96.18 lakhs. The Government of Meghalaya is getting the scheme investigated by Meghalaya state Electricity Board. An expenditure of Rs.28.12 lakhs have been incurred on the project upto 31.3.88. Due to some local problem the investigation work remained suspended for quite some time past. The approved provision for the project in 1988-89 Plan is Rs. 15 lakhs will not be utilised

A token outlay of Rs. 1.00 lakh is proposed for 1989-90 plan. This token provision is proposed so that provisions could be operated in case the project works could be resumed.

18. Investigation of Ranganadi, Damwe and Papu Hydel Projects In Arunachal Pradesh :

3.32 The North Eastern Electric Power Corporation Limited (NEEPCO) is the agency for investigation of these hydel projects. The latest approved estimated cost for investigation projects of Ranganadi, Damwe and Papu in Arunachal Pradesh are Rs.283.55 lakhs, Rs. 211.30 lakhs and Rs. 57.94 lakhs respectively.

The project report for Stage-II of Ranganadi Hydel Project, the field works of which have been completed, is expected to be ready by October, 1988. As per the indication available the Stage-II of Ranganadi hydel project will be in a position to augment the firm power of Ranganadi Stage-I project from 65 MW to 100 MW with additional installed capacity of 100 MW at Stage-II project.

3.33 The investigation of Damwe project was started in 1980. According to NEEPCO based on the results of investigation a preliminary project report was drawn envisaging total generation of 1000 MW at an estimated cost of Rs. 764 crores. Since some geological faults were found in the river bed which was not favourable for concrete gravity dam, implementing agency is getting further investigation done for modifying the project report. The investigation of Papu hydel project continues to remain suspended. The expenditure incurred towards these investigation schemes upto March, 1988 is Rs.512.77 lakhs. There is an approved provision of Rs. 1.00 lakhs during 1988-89 and this provision is likely to be utilised. A token provision of Rs. 1.00 lakh is proposed for Annual Plan 1989-90.

19. Investigation of Dikrong Hydel Project in Arunachal Pradesh.

3.34 The North Eastern Electric Power Corporation Limited (NEEPCO) is investigating the Dikrong hydel project in Arunachal

Pradesh. The approved estimated cost of the project is Rs. 54.54 lakhs (gross). The investigation works was commenced in October, 1984. Survey of dam site and power house site have been completed, geological mapping has been proposed to be taken up in the next working season. Geologists have conducted preliminary survey and geological foundation work<sup>in</sup> power house is in progress. Areas of construction materials have been identified, hydrological and meteorological observations are being recorded. The project report is expected to be ready some time towards end of 1989-90. An amount of Rs. 54.54 lakhs have been released to NEEPCO upto 31.3.88. There is a provision of Rs. 1.00 lakh in Annual Plan 1988-89 and this provision is likely to be utilised. A token provision of Rs. 1.00 lakh is proposed for 1989-90 plan.

20. Investigation of Papumpam Hydel Project in Arunachal Pradesh

3.35 The scheme was approved during March 1987 at an estimated cost of Rs. 155.51 lakhs and NEEPCO was to implement the project after obtaining necessary environmental clearance, etc. On a further review it was felt that more emphasis should be laid by NEEPCO on ongoing schemes where the NEEPCO's available personnel could be more gainfully utilised and works for this investigation scheme may not be taken up for the present. The approved provision of Rs. 1.00 lakh for 1988-89 will not be utilised. A token provision of Rs. 1.00 lakh is proposed for 1989-90 in case it is decided to start the work.

21. Investigation of a few Micro-hydel sites in Arunachal Pradesh

3.36 There is an approved provision of Rs. 15 lakhs for undertaking investigation of a few micro-hydel sites in Arunachal Pradesh. Considering relevant factors it was felt that State Government may consider implementation of this investigation scheme under the State Plan. The approved amount of Rs. 15.00 lakhs for 1988-89 will not be utilised.

22. Investigation of a few Micro-hydel sites in Manipur.

3.37 There is an approved provision of Rs. 15.00 lakhs for investigation of a few Micro-hydel sites in Manipur. Considering various related issues in undertaking investigation works, it has been felt that these works will not be implemented under NEC programme. The approved provision will not therefore be utilised.

23. Investigation of a few Mini/Micro hydel sites in Nagaland.

3.38 The scheme was sanctioned at an estimated cost of Rs. 17.05 lakhs during March, 1988. However, Government of Nagaland desired certain changes in sites of investigation in respect of a few sites of investigation earlier proposed sanctioned. Accordingly the scheme was revised and sanctioned for Rs. 14.95 lakhs. The investigation works are in progress. Upto March, 1988 an amount of Rs. 3.00 lakhs has been released to Government of Nagaland which is getting the investigation done through their Power Department. There is an approved provision of Rs. 9.00 lakhs during 1988-89 and this provision is likely to be fully utilised. An outlay of Rs. 1.00 lakh is proposed for 1989-90.

24. Investigation of a few Mini/Micro hydel sites in Meghalaya

3.39 The Government of Meghalaya suggested taking up investigation of a few mini/micro-hydel projects in Meghalaya at an estimated cost of about Rs. 37.00 lakhs. The scheme received from Meghalaya is presently under examination. The Government of Meghalaya has taken preparatory steps to undertake the investigation works through MeSEB. There is an approved provision of Rs. 15.00 lakhs for this investigation works in Annual Plan 1988-89 and this provision is likely to be fully utilised. An outlay of Rs. 16.00 lakhs is proposed for Annual Plan 1989-90.



25. Continuation of Hydrological observation of Kameng  
Hydel Project in Arunachal Pradesh

3.40 A scheme has been sanctioned for continuation of hydrological observation for Kameng hydel project upto the end of Seventh Plan at an estimated cost of Rs. 26.50 lakhs. The Works is being done by NEEPCO. An amount of Rs. 10.00 lakhs have been released to NEEPCO upto March, 1988. There is an approved provision of Rs. 1.00 lakhs during 1988-89 plan and which will be utilised fully. An outlay of Rs. 10.00 lakhs is proposed for 1989-90 plan.

26. Residual Investigation of Kameng Hydel Project :

3.41 The Central Water Commission has completed the investigation of the project and a project report has already been prepared. There is a token provision of Rs. 1.00 lakhs in Annual Plan 1988-89 for liquidating any residual liability pending final settlement of account. This amount is proposed to be retained at the revised estimate stage of 1988-89. For the same reason i.e. pending settlement of account a token provision of Rs. 1.00 lakh is proposed for 1989-90.

27. Investigation of Tipaimukh High Dam project :

3.41(a) The Central Water Commission has completed the investigation of the project and a project report has already been prepared and submitted. There is a token provision of Rs. 1.00 lakh in Annual Plan 1988-89 for liquidating any residual liability pending final settlement of account. This amount is proposed to be retained at the revised estimate stage of 1988-89. For the same reason i.e. pending settlement of account a token provision of Rs. 1.00 lakh is proposed for 1989-90.

## B. WATER DEVELOPMENT

### INTRODUCTION :

3.42 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.

#### 1. Investigation of Micro-hydel-cum-Irrigation Projects in Mizoram:

3.43 The Central Water Commission undertook field investigations and preparation of six Projects Reports for micro-hydel-cum-Irrigation projects during 1988-89 at an estimated cost of Rs. 74.25 lakhs. An anticipated expenditure during 1988-89 is Rs. 20.00 lakhs against the outlay of Rs. 25 lakhs and for 1989-90 an outlay of Rs. 25 lakhs has been proposed. At present investigations for 2 micro-hydel projects are under progress and the preparation of designs for 2 more are also in progress.

#### 2. Longai Investigations, Tripura :

3.44 For controlling the floods in the Longai river basin in Cachar, a storage dam is proposed to be built near the Tripura-Cachar border and this is expected to be a multi-purpose project, the CWC was asked to take up this work and

the estimate for Rs. 43.12 lakhs was approved during the year 1987-88. An approved outlay of Rs. 40 lakhs exists in the 7th Plan. The actual expenditure upto 87-88 was Rs. 9.08 lakhs and the approved outlay for the current year is Rs. 15 lakhs. However, the anticipated expenditure in 1988-89 is Rs. 25 lakhs. An outlay of Rs. 7.00 lakhs is proposed for the year 1989-90.

### 3. North Eastern Regional Institute of Water and Land Management (NERI/W/LM):

3.45 The establishment of a Regional Institute of Water Management and Command Area Development to study the various aspects of water management including flood control, irrigation, water harvesting, CAD etc. was approved by the Planning Commission and the Ministry of Water Resources. A project proposal for Rs. 460.40 lakhs was proposed during 1987-88 and has got approved by the Ministry of Water Resources with the proviso that a detailed Project Report be got prepared indicating the various syllabi for studies, research, training courses etc. for phased wise implementation. The construction colony of the NE Rly. on the north bank of the Bomoraguri bridge consisting of about 100 housing units and office accommodation has been approved for establishing the proposed Institute. An outlay of Rs. 131.28 lakhs exists in the 7th Plan for the project. M/S WAPCOS have been engaged as Consultants for preparing the detailed Project Report. Preliminary works such as taking over the colony, creation of infrastructure etc, are proposed to be taken up during the current year itself so that the Institute could start functioning from the year 1988-89. An outlay of Rs. 80 lakhs is proposed for the current year as against the outlay of Rs. 30 lakhs and for 1989-90 an outlay of Rs. 100 lakhs is proposed.

### 4. Flood Protection Works for the South Bank of Brahmaputra River upstream of Kaliabhomora bridge:

3.46 During the flood season of 1987-88 the river Brahmaputra started heavily eroding the south bank upstream of the Kaliabhomora road bridge between Silghat and Gakhirkhati 3 Km. upstream of the road bridge. An erosion of 200 mtrs.

took place within a period of a month over this entire reach. An Experts' Committee appointed by the NEC under the Chairmanship of Shri R. Rangachari, the then Member, CWC recommended the construction of 13 bed bars and percupine and a 2.3 kms long retired embankment as an immediate adhoc measure to stop erosion. It also recommended the construction of a river model for these reach for undertaking studies for evolving longterm protection measures. The Flood Control Department, Assam submitted an estimate of Rs. 98 lakhs for the immediate short-term measures and this was approved as an urgent proposal during the year 1987-88. An allocation of Rs. 80 lakhs was made during the year 1987-88. The Flood Control Department completed the scheme before the onset of the monsoon this year i.e. before July, '88 and during recent floods these measures have withstood the fury of the floods and the erosion has been stopped. For evolving a longterm measures 30 kms. reach of the river is being reproduced in a model under construction in the River Research Station, Guwahati of the Flood Control department of Assam at the specific request of the Secretary, Flood Control. The construction has just been completed and model studies are being started to evolve the long term measures. The cost of these model experiments amounting to Rs. 4.9 lakhs is being funded by the NEC under the Chairman's Investigations programme. The balance of Rs. 18 lakhs for the completed works has been released during the current year.

##### 5. Sedimentation Survey of Umiam Reservoir in Meghalaya :

3.47 The Meghalaya State Electricity Board has proposed sedimentation studies of the Umiam Reservoir at the cost of Rs. 12 lakhs during the year 1984-85. An approved outlay of Rs. 11 lakhs exists in the 7th Plan and a total expenditure of Rs. 7.4 lakhs has been incurred upto 1987-88. As per the progress reports furnished by the MSEB action for procurement of the necessary instruments etc. has been taken and also the construction of HM pillars alongwith periphery on the reservoir has been completed. The work is expected to be completed during the year 1989-90. The anti-

culated expenditure in 1988-89 is Rs. 1.96 lakhs against the provision of Rs. 5 lakhs. An outlay of Rs. 7 lakhs is proposed for 1989-90.

#### 6. Exploration of Ground Water in Mizoram:

3.48 The Government of Mizoram proposed to undertake the exploratory studies of ground water exploration at a cost of Rs. 44.56 lakhs. This was sanctioned by the NEC during 1986-87 and a total expenditure of Rs. 27.46 lakhs has been incurred upto 1987-88. Procurement of Drilling Machines with accessories as well as the creation of necessary infrastructure have been done so far and during the current year the exploratory studies are proposed to be taken up. The allocation of Rs. 11 lakhs in the current year will be utilised fully and an outlay of Rs. 6 lakhs is proposed for 1989-90.

#### 7. Irrigation Project - Jiri :

3.49 3 Medium Regional Irrigation Projects included in the 7th Plan of the NEC with an outlay of Rs. 218.39 lakhs were : (i) Diphu Downstream Irrigation Project in Nagaland, Assam, (ii) Tirap Irrigation Project in Arunachal Pradesh-Assam and (iii) Jiri Medium Irrigation Project in Manipur-Assam. Preliminary investigations for these were funded by the Chairman's investigation programme and thus revealed that out of these 3 only Jiri Irrigation Project was found to be feasible and therefore the other two projects have been dropped. Detailed investigations for the Jiri Irrigation Project were done by the Manipur Govt. During 1987-88 the detailed project report to benefit a total of 9,000 ha. of command area in both Assam and Manipur at a cost of Rs. 15.82 crores was prepared by the IFC Department of Manipur and was approved by the TAC during the current year. The scheme is now with the Ministry of Home Affairs for issue of administrative approval. In the mean time NEC has proposed to set up a Jiri Control Board to execute the project and has also proposed to engage M/S WAPCOS as the technical consultants for the implementation of the project as also

monitoring etc. The current year's allocation of Rs. 10 lakhs for completing the residual works etc. will be utilised fully. An allocation of Rs. 200 lakhs is proposed for the year 1989-90 for implementation of the project.

#### 8. Pagladiya Dam Project - Phase-I :

3.50 The Pagladiya Detention Dam Project was originally investigated by CWC and envisages construction of a 16.93 Km. long and 15.75 M maximum height earth fill dam across river Pagladiya at Thalukuchi (26 KM's from Nalbari Town). The Project Report was submitted during April '72 and the estimated cost of this project at the 1969-70 price was 12.60 crores. The Planning Commission accorded approval on this Project vide their letter No. 11.12(7)/72.A&I dated 1.2.73. While considering the Scheme, the Planning Commission had, however stressed the need to examine the other benefits viz. irrigation through optimal utilisation of water resources of this river.

3.51 The Brahmaputra Board revised the Project Report incorporating irrigation component for gross command area of 32,600 ha. and cultivable command area of 21,200 ha. and submitted the same to the Govt. of India in 1985. The project was re-named as Pagladiya Dam Project. The estimated cost of this project is Rs. 108.21 crores on 1984-85 price level. The Project Report is under examination by the Central Water Commission and some comments have been received for clarification/modifications.

3.52 While this work was in hand, due to growing demand for early implementation of this project for flood control consideration of Pagladiya Basin and for establishing the communication link of the North Eastern Region with the rest of the country, the Brahmaputra Board has been directed to prepare revised project Report for phased construction of this project. The Brahmaputra Board has reviewed the March '72 report on the hydrology, cost estimate and construction programme for construction in two phases. The first phase

will be for flood control only and the second phase will add the irrigation component to the project. The Phase-I of the project will form part of the total project. The estimated cost of Phase-I is Rs. 98.13 crores at 1988 price level. The construction period of Phase-I is 4 years. At the request of the Assam Govt., the NEC during the 28th Meeting of the NEC agreed to take up the implementation of this project under the NEC Plan and the Ministry of Home Affairs and Planning Commission have been intimated accordingly. Since the Brahmaputra Board is doing the preparatory works from their resources the allocation of Rs. 20 lakhs made in the NEC Plan 1988-89 for the same purpose will not be utilised. A provision of Rs. 500 lakhs is proposed for 1989-90 for the implementation of the project.

9. Tipaimukh High Dam Project - Phase-I :

3.53 The Tipaimukh dam project investigated by the CWC envisages construction of a 161 Mt. high rock fill dam (FRL-RL 175 m and crest of dam RL.180 m) across the river Barak at Tipaimukh for hydro-power generation with an installed capacity of 1500 MW and complete flood moderation of the downstream reaches specially Cachar and Karimganj districts of Assam. The Project was estimated to cost Rs. 1078 crores at the 1983-84 prices.

3.54 The investigation of this project was done by the CWC at the instance of the NEC and when the project report was submitted, the NEC entrusted the Brahmaputra Board to process the project report for sanction. Accordingly, the Brahmaputra Board formally submitted the project report to the Ministry of Water Resources, CWC and CEA. The Board has been attending to the replies to the observations of CEA and CWC.

3.55 Recently, the Ministry of Water Resources have directed the Brahmaputra Board to examine the feasibility of taking up phased construction of Tipaimukh project. The first phase will comprise construction of the upstream coffer dam which will be designed as full-fledged dam and will provide

enough storage for complete flood moderation of the downstream reaches. The phasing will be done in such a way that the first phase will be a part of the ultimate project. The top of the coffer dam will be at RL 95 metre. The coffer dam will be able to moderate a 100 year flood and also it will be safe against MPF preceded by a 25 year flood. There will be 3 nos. of diversion tunnels instead of 2 nos. provided in the original project estimate. This will eliminate the requirement of a spillway in the 1st phase. This arrangement has been found to be techno economically suitable. Detailed estimate of Phase I of the project is under preparation and it will be of the order of Rs. 300 crores. Construction of Phase I including the pre-construction activities will take approximately 5 years. The NEC will be funding the implementation of this project as already intimated to MHA and Planning Commission. An outlay of Rs. 500 lakhs is proposed for the project during 1989-90, pending the clearance of the Project Report which is expected to be done during the current year.

10. Drainage Projects in Barak Valley - Harang Sub-Basin :-

3.56 Permanent measures to control the flood of the Barak basin by construction of a reservoir would take considerable time and hence it has been decided to take up some drainage schemes in the Barak Basin to reduce the flood damage that occur almost every year to some extent. In the above context, the Government of India have directed the Brahmaputra Board vide No.2/14/83/FC dated 29.6.87 to take up a drainage scheme in the Barak basin.

3.57 In the draft Master Plan for Barak Basin prepared by the Brahmaputra Board, the following sub-basins chronically affected by drainage congestion have been identified :

1. Anjur Sub-Basin.
2. Puni Sub-Basin.
3. Badri Sub-Basin.
4. Ghagra Sub-Basin.



5. Larsing Sub-Basin.
6. Pola Sub-Basin.
7. Harang Sub-Basin.
8. Singla Sub-Basin.

3.58 The basin drainage problem of all these sub-basins are that when the main river (Barak) is in high apate, the tributary cannot drain into it and as a result drainage congestion takes place in the sub-basins. The severity of the drainage congestion depends mainly on the duration of the stage of the Barak and on the quantum of rainfall on the sub-basin concerned. Drainage congestion would be more if there is synchronisation of high flood in both Barak and the tributary.

3.59 Out of the identified drainage pockets referred to in the foregoing paragraphs, it has been decided to take up first a drainage scheme in Harang sub-basin on the Indian side of the Border. The drainage problem of the Harang basin consists of drainage congestion at the confluence of the river Harang with Barak. Earlier the river Harang used to outfall into a beel called Chandpurhaor from where it used to drain into the river Barak through a drainage channel called Benaimulla. There is a drainage sluice at Benaimulla. The purpose of the drainage sluice was to check the back flow of the Barak into Harang sub-basin during its high stages. Over the years, Chandpur haor has been silted up and as a result, drainage of the area has deteriorated. At present the Harang has established a new drainage line. From Chandpur haor it drains into Jabdar haor on the bank of Surma and then drains into Surma through a drainage channel called Kinnorkhal. Lately it has been observed that Jabdar Haor is also getting silted up.

3.60 The scheme of drainage improvement proposed by the Board envisages as follows :-

1. Construct/improve drainage channel connecting Chandpur Haor and low lying areas near Barak and Jabdar Haor and then to Surma via Kakakhal.

2. Extension of existing Surma embankment upto outfall point at Kokhakhai.
3. To provide storage in Chandpur and Jabdar Har for winter irrigation.

3.61 The estimated cost of the project is approximately Rs. 5.00 crores and time of construction will be 2 years. As the Brahmaputra Board is doing the preparatory works from their own resources, the outlay of Rs. 20 lakhs provided in the NEC Plan 1988-89 for the same purpose will not be utilised. A provision of Rs. 100 lakhs is proposed for 1989-90 for the implementation of the project.

#### 11. Development of Loktak Lake :

3.62 The Loktak Lake in Manipur is one of the largest fresh water lakes in the country covering an area of about 500 Sq.Km. 9 river basins in the Manipur Valley drained into this lake. The Loktak hydel-power project utilised waters in this lake for generation of power. During the years due to neglect and encroachment, the Loktak lake is deteriorating enormously and at present the extent of water spread is only about 250 sq.km. and the depth has become very shallow, in addition, the entire lake is covered with water weeds mainly the hyacinth which leads to a very great depletion of the plant and animal life which were subsisting on the lake earlier. The NEC had requested M/S WAPCOS to prepare the Identification Report for the rejuvenation and development of the Loktak Lake. M/S WAPCOS submitted a detailed Identification Report during the current year. This Report envisages the investment of Rs. 87 crores on long-term measures spread over 7-8 years and Rs. 5 crores for immediate short-term measures spread over 2 years. Since the Loktak Lake is the only natural fresh water in the region and also the life of the Loktak Hydel Project is directly depending upon this lake, the NEC proposes to take up the rejuvenation project as an NEC Project to supplement the efforts of the State Govt. The various proposals of development such as dewatering, fisheries development, afforestation, construction of Civil Engineering regulatory structures apart from collection of

basic data etc. are now being studied for implementation. These shall have to be taken up in a phased manner, from the next year so that within the next decade the Lake could be brought back to its original stature. An allocation of Rs. 10 lakhs is kept for 1988-89 for the project. In the revised budget, An outlay of Rs. 100 lakhs is proposed for 1989-90.

12. Investigation of Sissiri and Kamlang Projects in Arunachal Pradesh :

3.63 A joint team of Experts from CWC and CEA had visited Arunachal Pradesh last year at the request of the State Govt. and identified a few major multi-purpose projects to be taken up for investigation for phased development of water resources. The State Govt. had requested the CWC to undertake these investigations in a phased manner. The issue had come up for discussion in 28th Meeting of the NEC. The CWC submitted an estimate of Rs. 330 lakhs to take up the investigations of Sissiri and Kamlang projects in the first phase. The estimate is under process for sanction during the current year itself and an allocation of Rs. 5 lakhs is proposed during the current year to help the CWC to take up the preliminary works. An allocation of Rs. 50 lakhs is proposed for 1989-90.

13. Investigations of Dzuza-Tsurang Projects in Nagaland :

3.64 The State Govt of Nagaland had requested the CWC to undertake the investigations of multi-purpose projects in the basin of Dzuza and Tsurang rivers in Nagaland. The CWC has submitted an estimate of Rs. 109.86 lakhs for these investigations and the State Govt. approached the NEC to fund these investigations. These estimates are now under process for approval. A provision of Rs. 15 lakhs is proposed for 1989-90 for these investigations.

14. Investigations of Dikhu-Tamlu Projects in Nagaland :

3.65 At the request of the State Govt., the CWC have submitted an estimate of Rs. 91.48 lakhs to undertake and prepare Project Reports of Water Development Projects

In the Dikhu-Tamlu River basins. The estimated cost is Rs. 91.48 lakhs and the NEC has agreed to fund these investigations at the request of the State Govt. A provision of Rs. 15 lakhs is proposed for 1989-90.

15. Investigations of Hydel Project near Atengbak:

3.66 The Nawani Committee Report for the development of the Zeliangrong area in Manipur had recommended the possibility of a hydel project on the river Barak near Atengbak in Tamenglong district. The CWC at the request of the NEC has submitted an estimate of Rs. 52.64 lakhs which is now under process for sanction. A token provision of Rs. 5.00 lakhs is kept during the current year and an allocation of Rs. 25 lakhs is proposed for the year 1989-90.

16. Investigations/Implementation of Schemes in Brahmaputra Valley :

3.67 The Flood Control Department, Assam have submitted investigation/implementation of a few drainage schemes in Brahmaputra Valley which are of a very urgent nature. The NEC at the request of the State Govt. have agreed in principle to fund these proposals in a phased manner. These proposals are under processing. A provision of Rs. 20 lakhs is proposed for 1989-90

17. River Morphology Studies for the River Brahmaputra :

3.68 During the 1988-89 Plan discussions, Member Planning Commission (Agriculture) suggested that river morphology studies for the Brahmaputra basin be got done by suitable experts in the field. The Brahmaputra Board has set up a Sub-Committee to explore these possibilities. It is expected that the firm proposals in this regard would be made by the Brahmaputra Board/CWC shortly. A provision of Rs. 20 lakhs is proposed for 1989-90.

C. RENEWABLE RESOURCES OF ENERGY AND INTEGRATED RURAL ENERGY PROGRAMME

3.69 Over the past few years the Government of India has been laying special emphasis for taking up programme for development of new and renewable resources of energy and also micro level planning and implementation programme so that conventional and non-conventional type of energy devices could be suitably integrated for optimal use for meeting the energy needs. It is a common experience that rural areas suffer from lack of adequate availability of both commercial and non-commercial energy sources for meeting the total energy requirements. Development of new and renewable resources of energy within a perspective of total energy need is therefore very important. In the context of North East, this is not only relevant but as a matter of fact inescapable irrespective of the type of energy sources opted for considering uneven development of the North Eastern States, uneven number of area based alternatives available for choices, uneven consumption, uneven geographical location of the North Eastern Region having mainly two river valleys surrounded by the Sub-Himalayan Hill ranges with sparsely populated villages. In this typical backdrop rural mass particularly in hilly areas is prone to depend mostly on nature's abundant forest resources for commercial needs thus making forest resources, flora and fauna vulnerable to wanton destruction for catering to the commercial energy requirement in the hills. It is therefore imperative that such a situation needs to be corrected location specific new and renewable resources can to a great extent, provide an answer in this regard in remote and hilly areas where conventional energy sources may not have an easy access on economic consideration. It is also necessary that innovative ideas are brought in and promoted in field of new and renewable energy with the ultimate objective for providing answer to meet the energy requirement to the extent possible to conserve fossil fuel which is fast depleting and needs to be carefully preserved for/ ~~Solar~~ <sup>posteriority.</sup> Some of the probable devices a solar heating system, Biogas, Micro/mini hydel projects, Energy efficient

Chulas etc. Though a late entrant, NEC has made a modest beginning in sponsoring schemes for exploiting renewable resources of energy from 1982-83. Since then it has been the persistent effort of the NEC to promote programmes like installation of biogas, improved chulas, exploiting solar energy and wind energy and harnessing small stream for mini and micro-hydel power projects. In sponsoring all such schemes it has always been the idea of the NEC that besides supplementing the efforts of the some of the States, a general awareness is created by sponsoring certain schemes on pilot/demonstration basis. The Planning Commission has recommended that NEC should play a major role in implementation of Integrated Rural Energy Programmes in the North Eastern Region. NEC's role as visualised by the Planning Commission in this sphere of activity has been that NEC should put up a few IREP projects for demonstration purpose as well as supplement the programmes of the constituent States of the North Eastern Region and that NEC should arrange workshop for training courses for personnel at rural energy planning Cells at State and block levels.

3.70 The schemes sponsored by NEC in the North East upto September, 1988 are 242 number of Bio-gas plant, 52 number of Solar Pumps, 18 number of Solar Hot Water System having capacity ranging from 250 LPD to 5000 LPD, 21 Wind Devices, 3 Micro Hydel Projects, 2 Hydrums, 11 Wood Gasifier system and Electrification of 22 villages using Solar Photo-voltaic Modules. NEC has also sanctioned programmes in the field minimum domestic cooking energy needs programme. NEC has supported schemes for setting up of 8 Rural Energy Centres in various States of the North Eastern Region. NEC has also funded procurement of a battery operated vehicle by Government of Tripura for demonstration purpose as research scheme and has also placed some fund with the Regional Research Laboratory, Jorhat for exploring the possibility of developing Bio-gas from Water Hyacinth.

3.71 In line with the concept given by Planning Commission regarding taking up of integrated rural energy programme NEC has sponsored 3 such programmes at Tuipang CD Block in Mizoram, at Doimukh Block in Arunachal Pradesh and at Samada Block in Meghalaya. It is proposed to step up the activities further in this sphere during 1989-90.

3.72 There is an approved provision of Rs. 70.00 lakhs for various programmes under renewable resources of energy and IREP programme for Annual Plan 1988-89. Considering the Status of implementation of the schemes, it is anticipated that an expenditure of Rs. 56.00 lakhs including Rs. 4.00 lakhs for establishment charges will be incurred during 1988-89 against the approved provision of Rs. 70.00 lakhs. An amount of Rs. 70.00 lakhs is proposed for Annual Plan 1989-90 for the following broad categories of activities :-

1. New and Renewable Resources of Energy :

1)	Establishment of Consultancy and Staff Support.	- Rs. 5.00 lakhs
ii)	Training of Technical personnel	- Rs. 0.50 "
iii)	Research & Development	- Rs. 1.00 "
iv)	Micro Hydel Schemes	- Rs. 25.00 "
v)	Pilot/Demonstrational schemes (ongoing and new)	- Rs. 20.00 "

2. Minimum Domestic Cooking Energy Need Programme

i)	Improved/Energy Efficient/ Smokeless Chulla.	} - Rs. 2.00 Lakhs
ii)	Energy Plantation	

3. Integrated Rural Energy programme - Rs. 16.50 "

3.73 The schemewise detailed expenditure outlay and proposed outlay is given in the annexured statement.

DRAFT ANNUAL PLAN 1989-90  
POWER, WATER DEVELOPMENT AND RRE

Statement  
(Ref Para 3.73)

(Rs. in lakhs)

Name of the scheme	7th Plan approved outlay	Actual expenditure 1985-88	1988-89		Proposed outlay 1989-90
			Approved outlay	Anticipated expenditure	
1	2	3	4	5	6
<b>A. POWER DEVELOPMENT</b>					
<b>a. GENERATION</b>			<u>3851.00</u>	<u>2966.00</u>	<u>5735.00</u>
1. Kopili H.E. Project	3100.00	7	700.00	700.00	10.00
2. Garo Hill Thermal Project	3000.00	-	1.00	1.00	10.00
3. Doyang H.E. Project	10000.00	1325.00	500.00	500.00	2500.00
4. Ranganadi H.E. Project	5000.00	1400.00	1500.00	1500.00	2400.00
5. Gas Turbine in Tripura (3rd unit at Baramura)	-	150.00	250.00	250.00	165.00
6. 75 MW Gas Turbine Project in Tripura.	-	-	900.00	10.00	500.00
7. New Generation Projects )	-	-	-	5.00	150
i) Seruli 'B' HEP in Mizoram )					
ii) Lakimro HEP in Nagaland. )					
iii) Nuranang HEP in A.P. )					
<b>b. TRANSMISSION</b>			<u>1112.00</u>	<u>1207.00</u>	<u>2500.00</u>
1. Additional Trans. Line Project including const. of 132 KV Luangmuhl-Zemabawk line	882.00	1260.00	175.00	400.00	100.00
2. Doyang Tran. line Project	4000.00	810.00	682.00	682.00	2000.00



	1	2	3	4	5	6
3. Ranganadi Trans. Line Project	500.00	25.00	25.00	25.00	50.00	
4. 132 KV Gonpur-Itanagar Trans. Line Project.	-	146.00	100.00	100.00	170.00	
5. Trans. System in the North Eastern States	-	-	100.00	-	150.00	
6. Establishment of RLDC/SLDC in NE Region.	-	-	30.00	-	30.00	
<u>C- INVESTIGATION</u>				<u>120.00</u>	<u>58.00</u>	<u>44.00</u>
1. Loktak Down Stream and Tuivai hydel in Manipur.	15.17	38.82	1.00	-	1.00	
2. Barak & Irang HE in Manipur	198.86	186.00	27.00	10.00	5.00	
3. Tuivai in Mizoram	211.12	178.54	17.00	13.00	5.00	
4. Kynshi Basin in Meghalaya	86.18	26.00	15.00	-	1.00	
5. Ranganadi, Damwe & Papu in Arunachal Pradesh	63.85	81.86	1.00	1.00	1.00	
6. Dikrong HE in Arunachal Pradesh	39.54	44.54	1.00	1.00	1.00	
7. Papumpam HE Project in Arunachal Pradesh.	-	15.00	1.00	-	1.00	
8. Investigation of micro hydel sites in Arunachal Pradesh.	-	-	15.00	-	-	
9. Invest. of Micro hydel in Manipur	-	-	15.00	-	-	
10. Investigation of micro hydel in Nagaland.	-	3.00	9.00	9.00	1.00	

1	2	3	4	5	6
11. Investigation of Mini/micro hydel sites in Meghalaya	-	-	15.00	15.00	16.00
12. Continuation of Hydrological observation for Kameng H.E. Project.	--	10.00	1.00	1.00	10.00
13. Residual Investigation of Yameng.	-	-	1.00	1.00	1.00
14. Tipaimukh High Dam Project.	-	-	1.00	1.00	1.00
TOTAL OF POWER DEVELOPMENT -			5083.00	4231.00	8279.00

2B WATER DEVELOPMENT

1(a) Investigation of micro hydel cum-irrigation project in Mizoram.	-	-	25.00	20.00	25.00
(b) Investigation Tanswsang Project in Nagaland	-	-	2.00	-	-
2. Investigation for Longai river in Tripura.	40.00	9.08	15.00	25.00	7.00
3. North Eastern Regional Institute of water and land Management.	131.28	-	30.00	80.00	100.00
4. Sedimentation Survey of Umiam Reservoir, Meghalaya	11.00	7.40	5.00	1.96	7.00
5. Flood Protection works of near Koliabjomong Bridge.	-	80.00	18.00	18.00	-

3.36

	1	2	3	4	5	6
6. Exploration of Ground water in Mizoram.	-	( 27.45	11.00	11.00	6.00	
7. Jiri medium Irrigation Project Manipur.	218.39	23.00	10.00	10.00 (investigation)	200.00 (Imp)	
8. Construction of Kyladia Dam	-	-	20.00	-	500.00 (Constr.)	
9. Drainage Project in Barak Velly ( Hasang Sub -basin	-	-	20.00	-	100.00	
10. Development of Laoktak Lake Manipur	-	-	-	10.00	100.00	
11. Construction of Tapaimukh High Dam Project.	-	-	-	-	500.00	
12. Investigation of Sissiri and Kamlong Project, Arunachal Pradesh.	-	-	-	5.00	50.00	
13. Investigation of Afangbak project Manipur	-	-	-	5.00	25.00	
14. Investigation of Dariza-Tsurang project Nagaland	-	-	-	-	15.00	
15. Investigation of Dikhu-Tamlu project Nagaland.	-	-	-	-	15.00	
16. Drainage Schemes in Branmapurtra Valley.	-	-	-	-	20.00	
17. River Morphology Study for Brahmapurtra.	-	-	-	-	20.00	
Total for Water Development	-	-	156.00	185.96	1690.00	

	1	2	3	4	5	6
C. RENEWABLE RESOURCES OF ENERGY	200.00	101.70	70.00	56.00	70.00	
GRAND TOTAL	-		5298.00	4461.96		10039.00

CHAPTER--4INDUSTRIES AND MINING

4.01. The geological resources of the N.E. 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 materials, fertiliser rocks and refractory minerals which require limited capital and the adoption of known technology. Such industries 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 and other base metal ores requires positive identification and establishment of reserves and would also come under large scale capital intensive industry.

4.02 The main objective of NEC Programmes for the development of industries and minerals has been (i) acceleration of regional resource assessment (ii) initiation of programmes for estimation and providing of mineral resources to facilitate their exploitation (iii) techno-economic feasibility study for taking up viable projects (iv) R&D efforts for industrial utilisation of local resources and (v) setting up of large and medium industries.

4.03 The details of the schemes under this sector are given in the succeeding paragraphs:-

A. Detailed minerals investigation & proving:

4.04 The following schemes on detailed minerals investigation and proving have been completed.

- i) Siju Lime & Coal Exploration, Meghalaya.
- ii) Borjan Coal Exploration, Nagaland (first phase).
- iii) Dilli Joypore Coalfield, Assam.
- iv) Bokajan Lime Stone.
- v) Namchik-Nampuk Coalfield, Arunachal Pradesh.
- vi) Makum Coalfield in Assam.
- vii) Limestone exploration in Lumshnong, Meghalaya.
- viii) Langrin Coal Exploration, Meghalaya.
- ix) Western Extension Block of Namchik-Nampuk coalfield Arunachal Pradesh.

However, to clear pending liabilities, an anticipated expenditure in 1988-89 is Rs.32.00 lakhs and an amount of Rs.20.00 lakhs is proposed for 1989-90 for the same purpose.

2. Coal Exploration in Dilli-Joypore Coalfield, Assam:

4.05 The 7th plan outlay for this scheme is Rs.35 lakhs and DGM, Assam was identified as the implementing agency. The administrative approval to this scheme at an estimated cost of Rs.35 lakhs was issued in August, 1987. The scheme envisaged total drilling of 3150 mts. in 14 boreholes. The project is expected to be completed by 1989-90. The anticipated expenditure for 1988-89 is estimated at Rs.12.00 lakhs against the approved outlay of Rs. 12 lakhs. An amount of Rs.11 lakhs is approved for 1989-90.

3. Detailed Exploration of Cement Grade Lime stone in New Umrangshu Area, N.C. Hills, Assam:

4.06 The 7th plan approved outlay for the scheme is Rs.25 lakhs. The administrative approval for the scheme was issued in Aug., 87 at an estimated cost of Rs.25 lakhs. The scheme envisages total drilling of 3400 mts. in 64 boreholes and topographic survey of 8.0 sq.km. along with necessary core logging, pitting and mapping. The scheme is expected to be completed in 1989-90. The current year's provision of Rs. 7.00 lakhs will be utilised fully and an outlay of Rs.11.00 lakhs is proposed for 1989-90.

4. Detailed Exploration of Nimi Lime Stone Deposit, Tuensang District, Nagaland :

4.07 The 7th Plan approved outlay for this project is Rs. 24 lakhs. A comprehensive scheme was prepared for 1300 mts. of drilling in 8 boreholes at Kheti block of Nimi Limestone Belt with a financial involvement of Rs. 24 lakhs. The scheme was approved in July, 1987. The scheme is expected to be completed by March, '90. For meeting the requirement of equipments etc. an anticipated expenditure for 1988-89 is Rs. 10 lakhs, an outlay of Rs. 10.00 lakhs for 1988-89 has been proposed for completion of the project.

5. Detailed investigation of High Grade Limestone in Lumshing, North Block, Jaintia Hills, Meghalaya :

4.08 The 7th Plan approved outlay for this scheme is Rs. 16 lakhs. The comprehensive scheme for total drilling of 1200 mts. and geological mapping of 1.50 sq.km. was drawn up and approved at an estimated cost of Rs. 16.00 lakhs in September, 1987. In 1988-89, the programme of work includes 450 mts. of drilling, 100 nos. out crop sampling and 250 nos core sampling. Anticipated expenditure for 1988-89 has been assessed at Rs. 3.54 lakhs against an approved outlay of Rs. 3.00 lakhs. An outlay of Rs. 3.50 lakhs has been proposed for 1989-90.

5(a) Exploration of Ground Water in Itanagar.

4.09 (Transferred to Water Development Sector).

B. Large & Medium Industries:

7. Wazeho Mini Cement Plant (50 TPD), Nagaland:

4.10 The project was approved in July, 1982 with a capital outlay of Rs. 140 lakhs. It is being executed by NEITCO on a turn key basis. The project was revised to Rs. 243.52 lakhs in March, 88. The increase in cost was due to high cost of materials, labour and time over run not attributable to NEITCO. To expedite the progress of the work, a joint visit of NEITCO, NEC and NSMDC was made in July, 87 and the time schedule for completion of the project was redrawn. Nagaland State Minerals Dev. Corp. who is expected to take over the plant after commissioning pointed out some deficiencies and NEITCO was requested to look into the matter. The matter of supplying levy cement for construction work was also taken up by NEC with the Development Commissioner, Cement Industries. Till March, '88 an expenditure of Rs. 238.52 . . lakhs has been incurred. Estimated expenditure for 1988-89 is Rs. 5.00 lakhs. For meeting the pending liability an outlay of Rs. 1.00 lakhs is proposed for 1989-90.

8. Hundung Mini Cement Plant (50 TPD), Manipur:

4.11 The project was approved in 1982 with an approved outlay of Rs. 175 lakhs. This project is also being executed by NEITCO on turn key basis. The project cost was revised in March 1988 to Rs. 225.64 lakhs. To expedite the progress, a joint visit of NEITCO, NEC and State Directorate of Industries was made in May, 1987. Secretary, NEC reviewed the progress in a meeting held on 10th Sept., '87 with participation from the representatives of State Govt. Officials, NEITCO and the machinery manufacturers. Till March, 1988 an expenditure of Rs. 220.64 lakhs was incurred. Anticipated expenditure for 1988-89 is Rs. 5.00 lakhs. An amount of Rs. 1.00 lakh is proposed for 1989-90 for clearance of liabilities.



9. Paper Grade Lime Plant (200 TPD) at Unrangshu Area, North Cachar Hills District, Assam

4.12 The scheme was approved in June, 1983 with estimated cost of Rs.573.84 lakhs. Due to reservation for manufacture of lime under small scale sector, except for captive consumption the Industrial Licences could not be obtained by the AIDC. Accordingly, HPC was approached to set up the plant for the captive consumption.

4.13 In the light of recent re-notification regarding manufacture of lime through SSI Sector, the State Government was requested to submit the proposal for the project. The Govt. of Assam has not yet submitted the proposal. There is no approved outlay for the project in 1988-89 Plan. A token provision of Rs.1.00 lakh is proposed in the 1989-90 Plan of the NEC.

10. Paper Grade Lime Plant (200 TPD) at Lumshnong, Jaintia Hills, Meghalaya

4.14 The Scheme was approved in 1983-84 with a capital outlay of Rs.480.30 lakhs and MIDC was identified as the implementing agency. After withdrawal of the restriction for manufacture of lime under SSI Sector, MIDC applied for industrial licences/letter of intend. NEITCO at the request of MIDC has submitted the revised project report with the estimated cost of the project as Rs.862.39 lakhs. The revised project is yet to be approved. NEC proposes to fund the project on equity basis. For finalisation of the other details a meeting is being convened in Delhi on the suggestion of the Adviser (SP), Planning Commission. Considering the finalisation of the project a token provision of Rs.10.00 lakhs is proposed for 1989-90.

11. DETAILED RAW MATERIAL INVESTIGATION  
(FEASIBILITIES STUDIES)

4.15 To explore potentiality of industrial/Mining projects in the region, provision was made in the Seventh Five Year Plan of the NEC for the following studies :  
(i) Beneficiation and utilisation studies of glass, sand and clays, (ii) Beneficiation and utilisation list of Sillimanite and Kynite, (iii) Beneficiation test on Garnet and other Minor Abrasive Minerals, (iv) Feasibility and detailed studies for 1 Million Tonne Cement Plant and (v) Feasibility studies for Chemical/High Grade Lime Stone. It has, however, been decided that it would be appropriate if pre-feasibility studies may be undertaken first. Accordingly studies in respect of (i) - (iii) mentioned above have been taken up. Negotiations for the other two studies are going on. Anticipated expenditure during 1988-89 is Rs.6.90 lakhs. An outlay of Rs.11.00 lakhs is proposed for 1989-90

C. R&D PROJECTS FOR INDUSTRIAL UTILISATION  
OF REGIONAL RAW MATERIALS:

12. Low Temperature Carbonisation of Coal:

4.16 The scheme in consultation with CSIR and Department of Coal, Government of India has been finalised and approved at an estimated cost of Rs.17.51 lakhs in August, 1987. The Scheme is being implemented by RRL, Torhat. The share of NEC funding to the scheme works out to be Rs.8.30 lakhs against the total cost of Rs. 17.51 lakhs. Under the study it is envisaged to undertake Carbonisation studies on coals sample from Makum Coalfields, Assam and one from Laltryngew mines, Meghalaya in a 2 Kg batch bench scale unit after varying temperature of carbonisation from 600<sup>o</sup> to 750<sup>o</sup>. The 7th Plan approved outlay for the scheme is Rs.10.00 lakhs. Anticipated expenditure for 1988-89 is Rs.1.00 lakh. An amount of Rs.1.00 lakh is proposed for completing the project in 1989-90.

13. Development of Fluidised Bed Technology using high sulphur N.E.R. Coal:

4.17 RRL, Jorhat submitted the scheme in March '86 and was administratively approved in August '87. NEC's share of expenditure was worked out to Rs.10.95 lakhs out of the total cost of Rs.19.20 lakhs. The scheme is being implemented with the involvement of BHEL after complying with the observations/suggestions of CSIR and Department of Coal by RRL, Jorhat. In 1987-88, RRL, Jorhat took up modification & standardisation of design aspects for distributor plate & feeding system of FBC boiler unit. The programme of work for 1988-89 includes optimisation of the operating parameter for combustion of Boragolai Coal, Cherrapunjee Limestone. Seventh Plan approved outlay for the scheme is Rs. 10.00 lakhs. The outlay of Rs.1.00 lakh approved for 1988-89 will be utilised fully. A provision of Rs.1.00 lakh is proposed for 1989-90.

14. Desulphurisation of Flue Gas Generated In the Bee-hive Coke Oven:

4.18 The Proposal submitted by RRL, Jorhat was forwarded to the Department of Coal after preliminary scrutiny in March '87. The Ministry conveyed the observations of CSIR which included preparation state of art report before taking up the R&D work. The proposal was modified in the light of the guidelines of the CSIR and was administratively approved in Sep '87. The NEC's share of expenditure works out of Rs.4.75 lakhs out of the total approved cost of Rs.6.46 lakhs. During 1987-88, The RRL, Jorhat carried out literature survey and prepared the state of art report. The programme for 1988-89 includes lab/scale design of scrubber and trial in bee-hive oven for flue gas absorption. Seventh Plan outlay for the scheme is Rs.5.00 lakhs. Anticipated expenditure for 1988-89 is Rs.1.00 lakhs and similar amount is proposed for 1989-90.

15. Determination of Physical and Chemical characteristics of Coal of N.E.Region:

4.19 The scheme envisages preparation of a compendium on characteristics of NER coals. The approved 7th Plan outlay is Rs.30 lakhs. CMPDIL,Ranchi submitted a proposal at an estimated cost of Rs.37 lakhs in Aug.86 which was revised in April'87 after discussing the modus operandi for collection of available data. The administrative approval was issued in August,87 at an estimated cost of Rs.37 lakhs. It is proposed to bring out the report in two volumes containing the informations on Eocene coals of Garo Hills,Khasi Hills,Jaintia Hills and Mikir Hills in Volume I and Oligocene coal of the coalfields of Nagaland, Upper Assam and Arunachal Pradesh apart from the incorporating available details regarding Gondwana coals on outer Himalayas in Arunachal Pradesh. The volume I is expected to be ready for printing in about 18 months (i.e. by March,1989) and the Volume II will take another year. Expenditure during 1988-89 is assessed at Rs.10.00 lakhs. An outlay of Rs.17.00 lakhs is proposed for completing the project in 1989-90.

16. Setting up of Chemical and Petrological Laboratory at Dimapur:

4.20 The approved 7th Plan outlay for the scheme is Rs.33 lakhs. After discussion with the DGM,Nagaland and GSI, it was considered to restrict the scheme for setting up of an advanced petrological laboratory at an estimated cost of Rs.12.50 lakhs. The purchase of sophisticated equipments requiring Rs.29.50 lakhs as proposed by DGM, Nagaland may be considered, if necessary, after the operational aspect for running this equipments is settled. The administrative approval was issued in Aug'87. The programme for 1988-89 includes procurement of polishing microscope,grinding, polishing and rock cutting machines etc. The outlay of Rs.7.50 lakhs will be utilised fully in 1988-89 and the project completed.

17. Cement Clinker Grinding Units in Mizoram and Tripura and expansion of Bokajan Cement Plant:

4.21 The constant shortage of cement resulting both from allotment, distribution and transport uncertainties had prompted initially 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 and transporting. In addition obtaining transport for bulk movement is easier than for small packages. Considering this wider perspective, the Planning Commission agreed for a supplementary scheme for setting up of a Clinker Grinding Unit in Mizoram during 1986-87 and made a provision of Rs.5.00 lakhs. The issue was further reviewed in NEC as well as in Planning commission during the Annual Plan discussion 1987-88 and it was agreed that similar unit may also be set up in Tripura. CCI had been commissioned for preparation of detailed feasibility report which also include identification of the source of clinker for the two grinding units.

4.22 The CCI has since submitted the report which recommended expansion of existing Bokajan Cement Plant for supply of clinker to these grinding units. The comprehensive proposal costing about Rs.35.33 crores is pending with Govt. of India for cabinet approval. The financing pattern of the project as agreed to by CCI is in the ratio 1:1 equity and loan from financial institution (IDBI). The CCI has also applied for the letter of intent in May, 1987 and necessary environmental clearance required for the projects is also being obtained.

4.23 1988-89 approved outlay for the projects is Rs. 600 lakhs. Keeping in view the delay in cabinet approval to the project no expenditure is anticipated during 1988-89. An outlay of Rs. 10,00.00 Lakhs is proposed for 1989-90.

18. COKE BREEZES PLANT ' 33,000 TONNES CAPACITY TO MEET THE REQUIREMENTS OF VSK CEMENT AND LIME PLANTS

4.24 Mini Cement plants which are based on VSK technology and lime plants which are entirely based on the VSK technology require coke breezes or lump coal with very low sulphur content. It has been found that the coke breezes supply which is expected from outside the NE Region is uncertain because of difficulties of rail transport. In view of the uncertainties regarding such transport and the inability of the NE coalfields to provide lump coal, it is proposed to set up a coke breeze plant at one of the coalfields in NE Region. The R&D project 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 assessment of the requirements of the NE Region made by M/s NEITCO, Gauhati has shown that around 2.00 lakhs tonnes per annum would be required by 1987-88 by the different industrial and non-industrial consumers of this region.

4.25 For establishing a 100 tonnes capacity of coke breezes plant, M/s NEITCO, Gauhati has estimated the cost as Rs.141.00 lakhs. Seventh Plan outlay for the plant is Rs.166.00 lakhs. Details of the project are being worked out in consultation with the Government of Assam. Anticipated expenditure during 1988-89 is Nil as against the approved provision of Rs.10.00 lakhs. An outlay of Rs.10.00 lakhs is proposed for 1989-90.

D. SERICULTURE

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

4.26 Arunachal Pradesh has the potential for the development of Muga and Oak activities and for exploiting this potential, this scheme was sanctioned during the VI Plan with an outlay of Rs. 12.88 lakhs. The project could not be completed during the VIth Plan and has been extended during the VIIth Plan with an approved outlay of Rs. 10.50 lakhs. During 1985-88, Rs. 2.27 lakhs were spent. 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. As against the outlay of Rs. 2.00 lakhs approved for 1988-89, anticipated expenditure is only Rs. 0.50 lakh. The scheme is expected to be completed by 1989-90 and Rs. 3.00 lakhs have been proposed for the purpose.

20. Establishment of a composite Silk Reeling & Twisting Unit at Gaurisagar in Assam.

4.27 Assam has the unique distinction of having all the four types of silk namely mulberry, eri, muga and tasar. The climatic conditions are very congenial for the growth of the silk worms as well as the food plants and gives it the status of a prominent producer of silk in the North Eastern Region. The reeling of mulberry cocoons in this region is being practiced on bhowries and domestic char-khas, which practice is most primitive resulting in low production of inferior quality of silk necessitating purchase of huge quality of silk from outside Assam. To improve the quality of reeled silk the Govt. of Assam proposed to establish reeling units with modern reeling machines.

The VIIth Plan approved outlay for the scheme is Rs. 8.00 lakhs. The scheme was sanctioned at an estimated cost of Rs. 20.635 lakhs during the last quarter of 1986-87. An amount of Rs. 9.60 lakhs has been spent on the project upto March 1988.

For the year 1988-89 the approved outlay is Rs. 5.00 lakhs which would be required to complete the building component. The machinery required for the project has been ordered and expected to be delivered during the year 1988-89. For the year 1989-90 a provision of Rs. 6.00 lakhs has been proposed to complete the erection of machinery etc and the unit will go into production from the same year.

21. Scheme for the modernisation of Silk Reeling and Twisting Unit in the State of Meghalaya.

4.28 The state of Meghalaya produces good quality of Bivoltine cocoons but suffers from the lack of modern improved reeling machinery for production of good quality of reeled Silk. The present reeling unit in Meghalaya is very old and obsolete, resulting in low production. It was therefore, found necessary to replace the existing machinery in the reeling unit of the state with upto date modern machinery. The State Government therefore, drew a scheme for the modernisation of the existing silk reeling unit to step up its production from 0.5 tonne to 1.5 tonne of good quality raw silk annually. The scheme was sanctioned during the last quarter of 1986-87 with an estimated cost of Rs. 18.05 lakhs. The approved 7th Plan outlay for this scheme is Rs. 8.00 lakhs only. An amount of Rs. 9.00 lakhs has been spent on the project. The approved outlay for the year 1988-89 is Rs. 4.00 lakhs, which will be utilised fully. To complete the construction works and to enable the State to complete the erection of machinery and appointment of staff a provision of Rs. 5.00 lakhs is proposed for 1989-90. The Unit is expected to start production from 1989-90.

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

4.29 The purpose for the establishment of above unit in Mizoram was to provide all the facilities like reeling, spinning, weaving etc. under one roof for different types of cocoons produced in the State and to train private entrepreneurs to produce raw silk and silk fabric. The estimated cost of the



approved project is Rs. 13.35 lakhs, where as the approved 7th Plan outlay for the scheme is Rs. 15.00 lakhs. An amount of Rs. 6.07 lakhs has been spent on the project upto March 1988 on construction of cooking, spinning houses and purchase of machinery. For the year 1988-89 the approved outlay for the scheme is Rs. 5.00 lakhs. However, the anticipated expenditure for the current year is only <sup>Rs.</sup>3.80 lakhs for completing the construction works and erection of the machinery etc. To complete the remaining works and purchase & erection of machinery a provision of Rs. 3.50 lakhs has been proposed during 89-90 which would enable the state to start the production in the same year.

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

4.30 Nagaland possess an excellent thermo hydrographic and soil structure for the around development of sericulture for the improvement of rural economy and provide employment in the rural area. The State of Nagaland is therefore giving greater emphasis on the development of mulberry silk in the State and wants to raise the mulberry silk production in the State.

Presently the entire silk is being produced by cottage basins and charkhis which produce low quality silk having low market value. The Govt of Nagaland therefore, proposed to intensify the activity by installing modern reeling & twisting machinery for the production of quality silk. A Scheme was therefore formulated for the establishment of an integrated reeling and twisting unit at an estimated cost of Rs. 28.58 lakhs which was sanctioned during the last quarter of 1986-87. The approved outlay for the scheme in the VIIth Plan is Rs. 8.00 lakhs only. An amount of Rs.11.00 lakhs has been spent on the project upto March 1988 for construction of functional buildings and purchase of machinery. For the year 1988-89 the approved outlay is Rs. 5.00 lakhs

against which the anticipated expenditure is Rs. 15.00 lakhs for meeting the requirements of construction and purchase of machinery for which orders have been placed. The buildings have come upto roof level and expected to be completed this year itself. Rupees 5.00 lakhs have been proposed for 1989-90. The scheme will become fully operative and production will start in 1989-90 itself.

24. Silk Reeling Unit in the State of Tripura.

4.31 The State of Tripura holds a good future in the development of mulberry silk. The climatic factors make it very congenial place for the luxuriant growth of mulberry which is very much essential for the growth of sericulture. By the end of VIIIth Plan period the state is expected to produce about 90 metric tonnes of cocoons, and with this increase in cocoon production it will be possible to produce 9 metric tonnes of reel silk. Keeping this in view, establishment of a reeling unit was considered essential for the development of sericultural activities in the villages. A scheme for the establishment of a reeling unit was sanctioned during the last part of 1986-87 at an estimated cost of Rs. 12.43 lakhs. The 7th Plan approved outlay for this scheme is Rs. 8.00 lakhs. An amount of Rs. 3.55 lakhs has been spent on the project upto March, 1988 for meeting the requirements of building construction and purchase of some machinery. For the year 1988-89 the approved outlay of Rs. 5.00 lakhs was made for installation of the machinery, construction of residential building etc. However, the anticipated expenditure for the current year is only 2.50 lakhs. To complete the construction work, purchase & installation of machinery and to start the production an amount of Rs. 6.50 lakhs has been proposed for 1989-90.

25. Tassar Silk Weaving Unit in the State of Malpur.

- 4.32 The Govt of Manipur with the increase production of Tassar and mulberry silk, has been concerned about its utilisation within the state for the production of silk fabric. With the rich tradition of handloom weaving in the State, Govt proposed for setting up the silk weaving unit to produce silk fabric of different design and blends. Keeping in view the above objectives a scheme at an estimated cost of Rs. 12.494 lakhs was sanctioned during the last quarter of 1986-87. The 7th Plan outlay for the scheme is Rs. 8.00 lakhs. An amount of Rs. 7.00 lakhs has been spent on the scheme upto March, 1988 for construction of building and purchase of looms etc. The approved outlay for the year 1988-89 is Rs. 2.00 lakhs which will be utilised fully. Some looms have been purchased and production of fabric started in a rented building. To complete the scheme during 1989-90 a provision of Rs. 3.50 lakhs is proposed.
- 4.33 The scheme wise plan allocations and other financial details for the schemes in Industries & Mineral sector are annexed in the statement.

Draft Annual Plan 1989-90

Statement

(Ref. para 4.33)

(Rs. in lacs.)

INDUSTRIES & MINERALS

Name of the scheme	Approved Seventh Plan Outlay	1985-88 Actual Expenditure	1988-89		Proposed Outlay for 1989-90
			Approved Outlay.	Anticipated Expenditure	
1	2	3	4	5	6
A. <u>Detailed Minerals Investigation and Proving:</u>			724.50	727.94	1109.50
1. (a) To clear pending liabilities for			20.00	20.00	10.00
(a) Siju, Borjan, Dilli-Joypore, Bokajan, Namchik-Nampuk, Lumshnong, Makum exploration.					
(b) Langrin Coal Exploration, Meghalaya	50.00	42.75	5.00	5.00	5.00
(c) Exploration of Western Extension block of Namchik-Nampuk Coalfield, Arunachal Pradesh.	35.00	34.25	7.00	7.00	5.00
2. Coal Exploration in Dilli Sector of Dilli-Joypore Coalfield, Assam.	35.00	12.61	12.00	12.00	11.00
3. Detailed Exploration of Cement grade Limestone, New Umrangshu, Assam.	25.00	7.00	7.00	7.00	11.00
4. Detailed Exploration of Nimmi Limestone Deposit, Nagaland.	24.00	10.00	10.00	10.00	10.00
5. Detailed investigation of high grade limestone in Lumshnong, North Block, Jaintia Hills, Meghalaya.	16.00	7.50	3.00	3.54	3.50
5(a) Exploration of Ground Water, Mizoram		27.46	11.00	11.00	UIncluded under Water Development.

4.16

	1	2	3	4	5	6	7
<u>B. Large &amp; Medium Industries</u>							
6. Mini-Cement Plant at Wazeho, Nagaland (50 TPD) including Agency Payment to M/S NEITCO.	21.50	108.10		5.00	5.00	1.00	
7. Mini-Cement Plant at Hundung, Manipur (50 TPD) including Agency Payment to N/S NEITCO.	40.80	72.93		5.00	5.00	1.00	
8. Paper-grade Lime Plant at Lumshnong, Meghalaya.	10.00					10.00	
9. Paper-grade Lime Plant at Umrangshu, (200 TPD), Assam.	1.00					1.00	
10. Detailed Raw Material Investigation for specific projects (Feasibility Studies)							
(a) Benefication and utilisation studies of Glass and sand clay in Meghalaya and Tripura.	15.00			3.00	6.20	1.00	
(b) Sillimanite & Kyanite benefication test, Meghalaya and Assam.	8.00			4.00	-		4.17
(c) Benefication test on Garnet & Other Minor abrasive Minerals.	24.00			1.00	-	10.00	
(d) Feasibility & detailed studies for one million tonne cement plant.	30.00				-		
(e) Feasibility studies for Chemical Grade Lime-stone.	5.00			1.00	0.70		
<u>C. R&amp;D Project for Industrial Utilisation of Regional Raw Materials:</u>							
11. Low Temperature Carbonisation of NE Coal.	10.00	8.00		1.00	1.00	1.00	
12. Fluidised bed technology using high sulphur, NER Coal.	10.00	9.65		1.00	1.00	1.00	

	1	2	3	4	5	6	
13. Development of Desulphurisation of Flue Gas Generated in the Beehive Coke-oven.	5.00		3.25	1.00	1.00	1.00	
14. Determination of physical, Chemical characteristics of Coal - NE Region.	30.00		9.87	10.00	10.00	17.00	
15. Setting up of Chemical & Petrological Laboratory at Dimapur, Nagaland.	33.00		5.00	7.50	7.50		
16. <u>Industrial Project:</u>							
(a) Clinker Grinding Plants, Mizoram & Tripura				200.00	-	400.00	
(b) Expansion of Bokajan Cement Plant.				400.00	-	600.00	
17. Breeze Coke Plant (for 30,000 tonnes) to meet requirement of VSK cement and lime plant.	166.00			10.00	-	10.00	
D. <u>SERICULTURE</u>				28.00	32.80	32.50	
18. Establishment of Muga Plant and Oak Plant Nursery, Arunachal Pradesh.	10.50		2.27	2.00	0.50	3.00	
19. Establishment of Composit Silk Reeling Unit, Assam.	8.00		9.60	5.00	5.00	6.00	4.18
20. Scheme for Modernisation of Mulberry Silk Reeling Unit, Meghalaya.	8.00		9.00	4.00	4.00	5.00	
Establishment of Silk Reeling Spinning, Weaving Training-cum-Production Centre at Kolasib, Mizoram.	15.00		6.07	5.00	3.80	3.50	
22. Establishment of Integrated Reeling and Twisting Unit, Nagaland.	8.00		11.00	5.00	15.00	5.00	
23. Silk Reeling Unit, Tripura.	5.00		3.55	5.00	2.50	6.50	
24. Establishment of Tassar Silk Weaving Unit, Manipur	8.00		7.00	2.00	2.00	3.50	
Total				741.50	145.74	1142.00	

ADDENDUM TO CHAPTER-4

4.19

26. North Eastern Handlooms & Handicrafts Development Corpn.

4.34                      The North Eastern Handlooms and Handicrafts Development Corporation was set up in March, 1977 for development and promoting the handlooms and handicrafts in this region. For this purpose it was meant to be an agency for providing raw materials, technical knowhow, design development and marketing facilities. The authorised share capital of the Corporation is Rs. 2 crores out of which NEC has provided an amount of Rs. 1 crore so far. In the 26th Council meeting held on July 29, 1986 the performance of the Corporation was commented upon and a need was expressed to activate the Corporation for more effective functioning. As a sequel to this, the Council Secretariat had reviewed the position with NEHHDC authorities. As a result of this review, a comprehensive scheme was prepared by NEHHDC for an estimated amount of Rs. 39.20 lakhs. Under the scheme it is proposed that NEHHDC would procure cotton and acrylic yarn in bulk, dye in its dye house and then distribute to state level agencies for processing. The finished products is proposed to be collected and marketed by the Corporation inside and outside its emporias. NEC propose to give 50% towards the scheme as its equity contribution to the Corporation and the rest 50% would be taken under the SSIDC scheme by the Corporation. It is proposed to include the scheme in NEC 1989-90 plan and an outlay of Rs. 10 lakhs is proposed for the same.

4.35                      The proposed outlay for the schemes under Industry and Mineral Sector for the year 1989-90 thus will be Rs. 1152 lakhs.

## CHAPTER - 5

### TRANSPORT AND COMMUNICATION

5.01 The North Eastern Region comprising the seven States with an area of 2,59,000 sq.m is geographically isolated and is connected to the rest of the country through a narrow corridor of about 50Km. width. The entire area except the Brahmaputra valley is hilly and mountainous in 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 region depend on air dropping for food supply. The Infrastructure facilities like transport, communication and power which are essential for all developmental activities are lacking, which has created a feeling of isolation.

5.02 The North Eastern Council as such has given a high priority to the Transport and Communication Sector right from the inception. During the Fifth and Sixth Plan of the NEC this sector has remained to be the major priority sector of NEC Plan. There is a wide gap in the all India averages and the averages of N.E. 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. which all depend on the condition of the means of transport.

#### 5.03 Railways :

Based on the surveys undertaken during Fifth Plan, the actual execution of 6 of these railway lines was started under the Railway Plan, which are in different stages of progress. In addition to this, the surveys on six more railway lines in the region were also 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.)
4. Lalaghat-Vairengte	(20.3Km.)
5. Kumarghat-Agartala	(120 Km.)
6. Jiribam-Makru	( 10 Km.)

5.04 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 1985 was Rs 82.82 lakhs. During 1985-86 funds of Rs 2.68 lakhs were released. Thus total expenditure upto March 1986 was Rs 85.50 lakhs. The Surveys on all these lines have been completed. In addition surveys for New Railway lines have been planned to take up under Railway Budget.

5.05 Ropeway : . . . . .

In the hilly areas of the region, it could be economical to transport goods and materials by ropeways. In the Fifth Five Year Plan the NEC had undertaken the surveys on the 10 ropeways but it was observed that a ropeway would be economically viable only if there is a concentrated project oriented traffic and is not suitable for the general transport.

5.06 During the Sixth Five Year Plan the survey on two ropeways namely Lumshing-Badarpur for the Paper grade line plant and Siju-Dudhnoi for the Cement Plant in the Garo Hills were undertaken. It was proposed to execute one of the Ropeway and as such a provision of Rs 265 lakhs was made in the Sixth Five Year Plan of the Council. However, this did not materialise. An expert Committee constituted by Planning Commission to examine the feasibility report of Siju Dudhnoi Ropeway prepared by M/S Jessop and Co. and this committee recommended the ropeway for a length of 12-16 Km. from Siju

to Patharigithim only Phase I for serving the proposed Cement Plant to be established by Govt. of Meghalaya at Siju. Preparation of D.P.R for the project has been taken up by NEC and entrusted to M/S RITES this year, is in progress. The status report of the proposed Cement Plant at Garo Hills is still awaited from Meghalaya, Government. An outlay of Rs 10 lakhs provided in the year 1988-89 could not be utilised as implementation decision is still awaited.

5.07 During the Seventh Plan period the survey for three mini ropeways namely (a) Kipti to Mukto (b) Jang to Rhou and (c) Rhou to Thimbu in Twang District of Arunachal Pradesh for transportation the essential food stuff, building materials and defence materials were undertaken. The proposal for construction of above ropeways in Arunachal Pradesh has been submitted to the Planning Commission for inclusion under NEC Seventh Five Year Plan. An outlay of Rs 20.00 lakhs is proposed in the NEC 1989-90 Annual Plan for the Ropeways in Meghalaya and Arunachal Pradesh.

5.08 Inland Water Transport :

The region has considerable potential for Inland Water Transport with large length of navigable waterways. The river Brahmaputra flows for a length of about 720 Km. in this region and provides the best navigable waterway. The second main waterway consists of river Barak and through these two rivers the region is connected to Calcutta through Bangladesh. This being the cheapest mode of transport has got a lot of potential for further development.

5.09 Construction of Floating Jetties/Ferry Services on Brahmaputra River Ghats.

During the Sixth Plan the scheme 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 facilities for the reaches Jogi-lyhopa to Tezpur has been completed. Out of the 6 floating jetties, one was procured from N.F. Railway and the construction of 2 more jetties of 500 tonne capacity each have been sanctioned for Rs 126 lakhs and funds released to Govt. of Assam. These have been practically completed. The remaining 3 jetties have been taken up for construction during March 1987, sanction for which has been issued for Rs 189 lakhs. These are expected to be completed by 1989. In the Seventh Plan of NEC a provision of Rs 400 lakhs has been made for IWT schemes, including floating jetties and for improvement of infrastructure facilities for other river ghats by CIWTC. The revised cost of Phase I of the scheme is Rs 656 lakhs for which administrative approval was issued in January 1987. The works are likely to be completed by 1990. During 1988-89 Rs 64.00 lakhs have been provided for completion of the floating jetties. For 1989-90 a provision of Rs 50 lakhs has been made for Ferry services for Assam/Arunachal Pradesh over river Brahmaputra.

5.10 River Terminal Facilities at Badarpur :

It has been approved by the Planning Commission to improve the terminal facilities at Badarpurghat within the approved outlay in NEC Seventh Plan for IWT schemes. Accordingly M/S CIWTC has been entrusted with the work to improve the terminal facilities at Badarpur. This proposal has been cleared by the Ministry of Surface Transport recently. Administrative approval for this work amounting to Rs 120 lakhs is being issued shortly. Considering the likely delay in taking up the work, revised

outlay is kept of Rs 10 lakhs during 1988-89 as against the approved outlay of Rs 30 lakhs for 1989-90 Rs 50 lakhs are proposed for this scheme.

5.11 Mechanical Cargo Handling Plant at Pandu :

For the work and mechanical cargo handling plant at Pandu, funds to the tune of Rs 280 lakhs had been released upto 1987-88. An outlay of Rs 200 lakhs had been approved for 1988-89. The revised outlay for 1988-89 is Rs 150.00 lakhs. During 1989-90 an outlay of Rs 200.00 lakhs has been proposed.

5.12 Roads and Bridges :

(a) Inter-State Roads and Roads of Economic Importance being executed by State PWDS

During the Fifth Five Year Plan period 20 road schemes of improvement and new construction covering a total length of about 1472 Kms. were taken up under the NRC Plan in the region. The expenditure on these road scheme upto March 1980 was Rs 3,418 lakhs and expenditure of Rs 2,073 lakhs was incurred during Seventh Plan period upto 1987-88 /incurred

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

5.14 In addition to the road programmes taken in hand during Fifth Plan, further road lengths of 1820 Kms. of the Inter-State roads were sanctioned during Sixth Plan which are in various stages of the construction. During the Sixth Plan period, the outlay on the roads was Rs 109 crores against which expenditure of Rs 102.71 crores has been incurred. During 1988-89 Rs 4,730 lakhs

have been approved in respect of roads of Inter-State. Considering the total left-over works and capabilities of PWDs Rs 4925.20 lakhs has been earmarked during 1988-89. During 1989-90 an outlay of Rs 6,269.00 lakhs has been proposed.

(b) Roads of Economic Importance:

In addition to these Inter-State roads another category of roads pertaining to the economic importance was taken up during Sixth Plan and about 2580 Kms. have been sanctioned against this category.

The roads of economic importance are being generally executed by the Border Roads Organisation in all the States except in Assam. In Mizoram, apart from roads of economic importance being constructed by B.R.O. one such road scheme is being executed by Mizoram P.W.D. Upto March ending 1988 only roads of Class-V/surfaced specification have been constructed by BRO. Due to heavy rainfall, nature of the soil strata and future traffic generation, it has been decided that all roads of economic importance . . . . . will be of Class-IX . . . . .

surfaced specification. For these roads approved outlay during 1988-89 is Rs 3,425.00 lakhs, which is being raised to Rs 4,421.00 lakhs. During 1989-90 an outlay of Rs 5,092.00 lakhs is proposed.

5.15      Bridge over river Brahmaputra at Bhomoraguri near Tezpur.

The work on the bridge over Brahmaputra has been completed on 31.3.87 against revised target date of 31st July 1987 at a re-revised cost of Rs 9204 crores (gross). Funds to the level of Rs 89.135 crores have been released upto 1987-88. An outlay of Rs 0.10 crores was provided in the annual plan of 1988-89. However, Rs 159.00 lakhs are required during 1988-89 to meet the requirements of the construction agencies like N.F. Railway, Assam PWD, etc.

- 5.7 -  
SURVEY OF RIVER BRAHMAPUTRA AT BOGIBIL

5.16 During the Sixth Plan, the survey for another bridge at Bogibil near Dibrugarh was undertaken by NEC at a cost of Rs 65.00 lakhs which was to be financed partly by NEC and partly by N.F. Railway on 50:50 basis. There was a provision of Rs 48.00 lakhs in the Sixth Plan for this work. However, funds released upto march 1985 is Rs 32.50 lakhs. The survey for the rail-cum-road bridge has been completed by M/S RITES. Rs 4.00 lakhs were provided in the approved plan of 88-89. Rs 3.86 lakhs are required in 88-89. For clearance of liabilities of Rs 1.00 lakhs has been proposed during 89-90.

5.17 Financial Support for Helicopter Services  
IN NORTH EASTERN REGION

For supplementing the Vayadool/DAC flights in the N.E. Region introduction of Helicopter services has been constantly pressed for by the members of the N.E. Council. In the meeting held on the 19th January/88 in the chamber of the Union Home Minister, a decision was taken for the introduction of Helicopter services in the N.E. Region. Consequently, Ministry of Home Affairs have prepared a proposal for introduction of Helicopter services in the region in a phased manner. At the instance of the Ministry, M/S Pawan Hans Ltd. have prepared a feasibility study report. The study report has been sent to the State Govts. of N.E. Region for their views. In the meeting referred to above, it was proposed that Westland 30 Helicopters held by M/S Pawan Ltd. will be wet leased to NEC for the purpose and NEC will bear the cost of fixed monthly charges to be paid to the corporation and will also subsidise any gap between recovery of passenger fares and actual flight running cost. Pending finalisation of the detailed project report Rs 5 crores have been proposed for 1989-90.

5.18 Setting up of Inland Transport Corporation for  
NORTH EASTERN REGION

As per the recommendation of **ICC** a Working Group was set up for creation of Inland Transport Corporation in N.E. Region. M/S RITES is entrusted with the preparation of D.P.R. at a cost of Rs 12.00 lakhs. The report is expected to be submitted by the end of December 1988. Rs 10.00 lakhs have been proposed as a token provision during 1989-1990.

SLT NO	NAME OF SCHEME	7TH PLAN APPROVED	EXPENDITURE			APPROVED OUTLAY 1988-89	ANTICIPATED EXPENDITURE 1988-1989	PROPOSED OUTLAY FOR 1989-1990
			1985-86	1986-87	1987-88			
1	2	3	4	5	6	7	8	9
1.	Railway Survey	16.00	2.68	-	-	-	-	-
2.	Ropeway	1.00	-	-	-	5.00	-	20.00
3.	I.W.T.							
	(a) Construction of floating jetties by IWI Directorate of Assam, improvement of river Terminal facilities at Badarpurghat by CIWTC and provision of improved ferry Services between Assam/ Arunachal Pradesh	410.00	10.00	126.00	50.00	94.00	74.00	100.00
4.	Mechanical Cargo Handling	253.00	50.00	40.00	125.00	200.00	150.00	200.00
5.	Setting up of CRR unit at Dimaapur	4.00	4.00	-	-	-	-	-
6.	ROADS AND BRIDGES							
	A. <u>P.W.D.</u>							
	(a) Inter State Road	15996.00	2292.67	3566.00	4580.00	4730.00	4925.20	6269.00
	(b) Roads of Economic importance.	1799.00						
	(B) <u>B.R.O.</u>							
	Roads of Economic importance.	1113.68	1600.00	3328.00	3545.00	3425.00	4421.00	5092.00



1	2	3	4	5	6	7	8	9
7.	Kaliabhomara Bridge	160.00	210.00	451.00	10.00	10.00	159.00	-
8.	Survey of Bridge over river Brammaputra at Bogibil	-	-	-	-	4.00	3.36	1.00
9.	Support for rail cum road bridge over Brahmaputra at Jogighopa.	-	-	-	-	1500.00	1500.00	-
10.	Support for Helicopter services in N.E. Region.	-	-	-	-	-	-	500.00
11.	Setting up of Inland Transport Corporation.	-	-	-	-	-	-	10.00
TOTAL		29752.68	4169.35	7511.00	8310.00	9968.00	11233.06	12192.00

10/5

RS IN LAKHS

SL. NO.	NAME OF THE ROAD SCHEME	OUTLAY FOR 88-89	REVISED OUTLAY FOR 88-89	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
1.	Orang-Mazbat-Rupa ( 436) 3/90	280.00	410.00	310.00	
2.	Pakke-Seijosa-Itakhola (876) 3/92	150.00	180.00	200.00	
3.	Gohpur-Itanagar(130) 3/90	160.00	160.00	50.00	
4.	Pakke-Gongo-NT Road (891) 3/92.	120.00	150.00	100.00	
5.	Longding-Bimalpur-( Nil)	20.00	50.00	100.00	
6.	Tezu-Sadiya 3/89	-	10.00	-	
7.	New road	20.00	-	10.00	
8.	NT Dehing bridge	-	-	10.00	
	Ropeway	-	-	10.00	
	TOTAL :	750.00	960.00	360.00	

Unspent balance - Rs 26.42 lakhs

-5.11-

DRAFT ANNUAL PLAN 1989-1990

STATE : ASSAM

Rs in lakhs

SL. NO.	NAME OF THE ROAD SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>FIFTH PLAN SCHEME:</u>					
1.	Orang-Mazbat-Rupa	40.00	66.00	5.00	
2.	Margherita-Deomali	50.00	25.00	40.00	
3.	Simulguri-Naginimara	20.00	15.00	-	
4.	Kawnpui-Bhairabi-Gharmura	30.00	20.00	80.00	
<u>SIXTH PLAN SCHEME</u>					
5.	Jowai-Khanduli-Baithalangsua	-	1.00		
6.	Pavement-Orang-Mazbat-Rupa	5.00	18.00	10.00	
7.	Mairang-Ranigodown-Azra	20.00	25.00	20.00	
8.	Mawshynrut-Hahim-Singra	20.00	35.00	20.00	
9.	Krishnai-Mendipathar	-	7.00	-	
10.	Rongsai-Bajengdoba	-	3.00	20.00	
11.	Gohpur-Itanagar	-	5.00	-	
12.	Daporijo-NT Road	15.00	30.00	45.00	
13.	Kohima-Leike-Laisong	80.00	50.00	80.00	
14.	Lekhapani-Woyrampur	10.00	10.00	15.00	
15.	Baithalangsua-Kampur-Raha	50.00	70.00	150.00	
16.	Longding-Bimalpur	20.00	30.00	50.00	
17.	Link road to Feeder road Tipong	10.00	20.00	10.00	

-5.12-

1	2	3	4	5	6
18.	Nidanpur-Fakirganj	8.00	15.00	10.00	
19.	Mahur-Laisong	50.00	60.00	50.00	
20.	Dkhia-Moulsei-Haflong	35.00	20.00	60.00	
21.	Hailakandi-Gharmura	40.00	50.00	50.00	
22.	Lowarpo-Kahrun road	40.00	50.00	70.00	
23.	Tezu-Sadiya-road				
	<u>ROADS OF ECONOMIC IMPORTANCE :</u>				
24.	Laisong-Rajabazar	30.00	40.00	60.00	
25.	Naharkatia-Tinali	5.00	-	30.00	
25.	Japrajan-Upper Doemali	5.00	5.00	30.00	
27.	Lunghit-Bazar-Sherakjan	50.00	55.00	50.00	
28.	Bokajan-Hidippi.	-	2.00	40.00	
29.	Dehangi-Thuruk-Harangjao	50.00	65.00	80.00	
30.	Lahowal-Duliajan-Bordubi-Tinsukia	55.00	111.00	100.00	
31.	Dalmora-Tarapong	25.00	45.00	10.00	
32.	Mankachar-Purkasia	15.00	20.00	35.00	
33.	Rani-Ferry	30.00	5.00	50.00	
34.	New Schemes	20.00	-	50.00	
	TOTAL :	330.00	1055.00	1410.00	

Unspent balance - Rs 46.00 lakhs

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DRAFT ANNUAL PLAN 1989-1990

STATE : MANIPUR

Rs in lakhs

SL. NO.	NAME OF THE ROAD SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>Fifth Plan Scheme</u>					
1.	Tamenglong-Khongsong-Jiribam-Tipaimukh.	30.00	104.00	100.00	
<u>SIXTH PLAN SCHEME :</u>					
2.	Pavement of road Tamenglong-Khongsong & Jiribam-Tipaimukh.	130.00	60.00	130.00	
3.	Tamenglong-Tousem-Haflong	140.00	125.00	140.00	
4.	Khazawl-Sinzawl-Thanlon	70.00	30.00	30.00	
5.	Tadohi-Pfutsero	-	1.00	-	
6.	New Roads	30.00	30.00	50.00	
TOTAL :		400.00	400.00	500.00	

Total outlay Rs 500.00 lakhs

-5.14-

DRAFT ANNUAL PLAN 1988-1990

STATE : MEGHALAYA

Rs in lakhs

SL. NO.	NAME OF THE ROAD SCHEME	OUTLAY FOR 1983-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>(A) FIFTH PLAN</u>					
1.	Jowai-Khanduli-Baithalangu	30.00	30.00	58.00	
2.	Agia-Mendhipara-Tura	150.00	150.00	130.00	
3.	Mankachar-Garobedha	90.00	90.00	100.00	
4.	Nongstoin-Nongjeng	30.00	30.00	30.00	
5.	Shillong-Cherra	20.00	25.00	7.00	
Total :		320.00	325.00	425.00	
<u>(B) SIXTH PLAN :</u>					
6.	Mairang-Ranigodown-Azra	150.00	150.00	200.00	
7.	Mawshynrut-Hahim-Singra	50.00	55.00	28.00	
8.	Dkhiah-Moulsei-Hflong	120.00	130.00	210.00	
9.	Kongsei-Borjhora-Bajengdoba	30.00	30.00	97.00	
TOTAL :		350.00	365.00	535.00	
New road schemes - Unallocated :		30.00	10.00	40.00	
Roadway :		-	-	1.00	
GRAND TOTAL :		700.00	700.00	1010.00	

Unspent balance - Rs 73.77 lakhs

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DRAFT ANNUAL PLAN 1989-1990

STATE : MIZORAM  
Rs in lakhs

SL. No.	NAME OF THE ROAD SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>FIFTH PLAN SCHEME</u>					
1.	Kawnpuo-Bhairabi-Gharmura	100.00	110.00	150.00	
2.	Tamenglong-Aizawl	50.00	60.00	100.00	
3.	Aizawl-Vanghmun-Kumarghat	100.00	100.00	150.00	
<u>SIXTH PLAN SCHEME</u>					
4.	Khazawl-Sinzawl-Thantlon	125.00	125.00	130.00	
5.	Damcherra-Khedecherra-Tuilutkawn	120.00	140.00	150.00	
<u>ROADS OF ECONOMIC IMPORTANCE</u>					
6.	Phairang-Bunghmun	130.00	130.00	160.00	
7.	New Scheme	25.00	-	20.00	
TOTAL :		650.00	665.00	910.00	

Unspent Balance Rs 28.61 lakhs

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SL. NO.	NAME OF ROAD SCHEME	OUTLAY FOR 1989	REVISED OUTLAY 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6

## (A) FIFTH PLAN SCHEMES : COMPLETED

(B) SIXTH PLAN SCHEMES :

1.	Kohima-Leiké	525.00	525.00	474.00	
2.	Tadabi-Pfutsaro-Bible Hill	210.00	165.00	200.00	
3.	Approach road to Agriculture College.	15.00	30.00	47.00	
4.	Bridge over Diphupani	20.00	50.00	12.00	
TOTAL :		770.00	770.00	733.00	
NEW SCHEMES		30.00	30.00	140.00	
GRAND TOTAL :		800.00	800.00	873.00	

Unspent Balance - Rs 13.58 lakhs  
(State )



DRAFT ANNUAL PLAN 1989-1990

STATE: TRIPURA

		Rs in lakhs			
SL. NO.	NAME OF SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>FIFTH PLAN SCHEME</u>					
1.	Aizawl-Tangmun-Kumarghat	60.00	45.00	67.00	
2.	Tulthai-Damcherra-Tuiruibari	30.00	50.00	40.00	
<u>SIXTH PLAN SCHEME</u>					
3.	Damcherra-Khedecherra-Tuilutkawn	50.00	50.00	65.00	
4.	Pacherthal-Chebri	120.00	120.00	210.00	
5.	Manu-Govindabari-Phuldungsi	250.00	235.00	230.00	
6.	Dangabari-to junction of Manu-Govindabari.	30.00	125.27	34.00	
7.	NEW SCHEME	10.00	-	10.00	
TOTAL		600.00	675.27	706.00	

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Unspent balance - Rs 81.00 lakhs  
( State )

REQUIREMENT OF FUNDS FOR BRDB IN RESPECT OF ROADS OF ECONOMIC IMPORTANCE

Rs in lakhs

SL. No.	NAME OF SCHEME	APPROVED OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1.	2.	3.	4.	5.	6.
<u>(A) PROJECT PUSHPAK</u>					
1.	Thenzawl-Bunghmun-road	85.00	205.00	277.00	
2.	Nalkawn-Chamdur	150.00	152.00	165.00	
3.	Kawkulh-Mimbung	125.00	227.00	285.00	
4.	Champai-North-Vanlaiphai	130.00	190.00	227.00	
5.	Manu-Kanchampur	10.00	66.00	149.00	
6.	Khamdingbari on NH South of Teliamura	150.00	35.00	31.00	
7.	NEW ROADS	-	-	06.00	
TOTAL :		650.00	993.00	1190.00	
<u>(B) PROJECT VARTAK</u>					
1.	Ditso-Dime-Riga-Migging	425.00	473.00	303.00	
2.	Keying-Tato	200.00	265.00	283.00	
3.	Seppa-Sagali-Yazali	350.00	300.00	290.00	
4.	Taliha-Nacho	100.00	171.00	203.00	
5.	Kunchai-Menabum-Deban	150.00	105.00	154.00	
TOTAL :		1225.00	1314.00	1316.00	

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DRAFT ANNUAL PLAN 1989-1990

STATE : MIZORAM  
Rs in lakhs

SL. No.	NAME OF THE ROAD SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>FIFTH PLAN SCHEME</u>					
1.	Kawmpuo-Shairabi-Gharmura	100.00	110.00	150.00	
2.	Tamenglong-Aizawl	50.00	60.00	100.00	
3.	Aizawl-Vanghmun-Kumarghat	100.00	100.00	150.00	
<u>SIXTH PLAN SCHEME</u>					
4.	Khazawl-Sinzawl-Thantlon	125.00	125.00	130.00	
5.	Damcherra-Khedecherra-Tuilutkawn	120.00	140.00	150.00	
<u>ROADS OF ECONOMIC IMPORTANCE</u>					
6.	Phairang-Bunghmun	130.00	130.00	160.00	
7.	New Scheme	25.00	-	20.00	
TOTAL :		650.00	665.00	910.00	

Unspent Balance Rs 28.61 lakhs

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SL. NO.	NAME OF ROAD SCHEME	OUTLAY FOR 1989	REVISED OUTLAY 1989-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6

## (A) FIFTH PLAN SCHEMES : COMPLETED

(B) SIXTH PLAN SCHEMES :

1.	Kohima-Leiké	525.00	525.00	474.00	
2.	Tadöbi-Pfutsaro-Bible Hill	210.00	165.00	200.00	
3.	Approach road to Agriculture College.	15.00	30.00	47.00	
4.	Bridge over Diphupani	20.00	50.00	12.00	
TOTAL :		770.00	770.00	733.00	
NEW SCHEMES		30.00	30.00	140.00	
GRAND TOTAL :		800.00	800.00	873.00	

Unspent Balance - Rs 13.58 lakhs  
(State )

DRAFT ANNUAL PLAN 1989-1990

STATE: TRIPURA

		Rs in lakhs			
SL. NO.	NAME OF SCHEME	OUTLAY FOR 1988-1989	REVISED OUTLAY FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>FIFTH PLAN SCHEME</u>					
1.	Aizawl-Jangmun-Kumarghat	60.00	45.00	67.00	
2.	Tulthai-Damcherra-Tuibuibari	30.00	50.00	40.00	
<u>SIXTH PLAN SCHEME</u>					
3.	Damcherra-Khedecherra-Tuilutkawn	50.00	50.00	65.00	
4.	Pacherthal-Chebri	120.00	120.00	210.00	
5.	Manu-Govindabari-Phuldungsi	250.00	235.00	230.00	
6.	Dangabari-to junction of Manu-Govindabari.	30.00	125.27	34.00	
7.	NEW SCHEME	10.00	-	10.00	
TOTAL		600.00	675.27	706.00	

Unspent balance - Rs 81.00 lakhs  
( State )

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REQUIREMENT OF FUNDS FOR BRDB IN RESPECT OF ROADS OF ECONOMIC IMPORTANCE

Rs in lakhs

SL. No.	NAME OF SCHEME	APPROVED OUTLAY (FOR 1988-1989)	REVISED OUTLAY (FOR 1988-1989)	PROPOSED OUTLAY (1989-1990)	REMARKS
1.	2.	3.	4.	5.	6.
<u>(A) PROJECT PUSHPAK</u>					
1.	Thenzawl-Bunghmun-road	85.00	205.00	277.00	
2.	Nalkawn-Chamdur	150.00	152.00	165.00	
3.	Kawkulh-Mimbung	125.00	227.00	235.00	
4.	Chanpei-North-Vanlaiphai	130.00	190.00	227.00	
5.	Manu-Kanchanpur	10.00	66.00	149.00	
6.	Khamdingbari on NH South of Teliamura	150.00	35.00	31.00	
7.	NEW ROADS	-	-	06.00	
TOTAL :		650.00	993.00	1190.00	
<u>(B) PROJECT VARTAK</u>					
1.	Ditae-Dime-Riga-Migging	425.00	473.00	303.00	
2.	Kaying-Tato	200.00	265.00	283.00	
3.	Seppa-Sagali-Yazali	350.00	300.00	298.00	
4.	Taliha-Nacho	100.00	171.00	283.00	
5.	Kumchai-Menabum-Deban	150.00	105.00	154.00	
TOTAL :		1225.00	1314.00	1316.00	

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REQUIREMENT OF FUNDS FOR BRDS IN RESPECT OF ROADS OF ECONOMIC IMPORTANCE

Rs in lakhs

SL. NO.	NAME OF SCHEMES	APPROVED OUTLAY FOR 1988-1989	(REVISED OUTLAY) FOR 1988-1989	PROPOSED OUTLAY FOR 1989-1990	REMARKS
1	2	3	4	5	6
<u>(C) PROJECT DANIAK</u>					
1.	MANKACHAR-PURKASLA	400.00	350.00	378.00	
<u>(D) PROJECT SEWAK</u>					
1.	Sansak-Tengnoupal	305.00	575.00	578.00	
2.	Singhat (Thinghat)-Sinzawl	120.00	116.00	279.00	
3.	Chumukdima-Tuli-Tizit	300.00	438.00	613.00	
4.	Akhego-Weshello-Furkhungri	300.00	371.00	377.00	
5.	Pungro-Moya-Mimmi	125.00	224.00	192.00	
6.	Merangkong-Tamlu-zero point Wakching	-	77.00	118.00	
7.	Chingtang-Saddle-Konya	-	12.00	51.00	
<b>TOTAL :</b>		<b>1150.00</b>	<b>1824.00</b>	<b>2208.00</b>	
<u>ABSTRACT :</u>					
A.	PROJECT PUSHPAK	650.00	933.00	1190.00	
B.	PROJECT DANIAK	400.00	350.00	378.00	
C.	PROJECT VARTAK	1225.00	1314.00	1316.00	
D.	PROJECT SEWAK	1150.00	1824.00	2208.00	
<b>GRAND TOTAL :</b>		<b>3425.00</b>	<b>4421.00</b>	<b>5092.00</b>	

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STATEWISE ROADS TAKEN UP DURING  
V AND VI PLAN COMPLETED UPTO MARCH  
1985 AND SPILLOVER TO VII PLAN

Sl. No.	STATE	TOTAL	COMPLETED UPTO 3/85	SPILLOVER TO VII PLAN
1	2	3	4	5
<u>INTERSTATE ROADS:</u>				
1.	Assam	636	380	256
2.	Arunachal Pradesh	457	248	209
3.	Manipur	304	237	67
4.	Meghalaya	571	357	214
5.	Nagaland	475	363	112
6.	Mizoram	377	200	177
7.	Tripura	472	246	226
TOTAL :		3292	2031	1261
<u>Roads of Economic Importance in P.W.D.</u>				
1.	Assam	374	46	328
2.	Mizoram	71	-	71
TOTAL		445	46	399
7	B.R.O.	2135	509	1626
GRAND TOTAL :		5872	2586	3286



ACHIEVEMENT DURING 1985-1988 ANTICIPATED  
ACHIEVEMENT DURING 1988-1989 AND TARGET  
FOR 1989-1990 FOR CONTINUING ROAD SCHEMES

SL NO	STATE	ACHIEVED DURING 1985-88	ANTICIPATED ACHIEVEMENT 1988-1989	TARGET FOR 1989-1990	REMARKS
1	2	3	4	5	6
<b>A. INTERSTATE ROADS</b>					
1.	Assam	142	48	41	
2.	Arunachal Pradesh	89	26	30	
3.	Manipur	44	14	9	
4.	Meghalaya	96	34	44	
5.	Nagaland	62	40	10	
6.	Mizoram	66	17	20	
7.	Tripura	135	38	18	
		634	217	172	
<b>B. ROADS OF ECONOMIC IMPORTANCE :</b>					
1 P.W.D.					
a.	ASSAM	117	40	45	
b.	MIZORAM	38	20	13	
		155	60	58	Achievement shown in Class
c.	B.R.D.B.	355	272	242	IX specification
GRAND TOTAL :		1144	549	472	

## 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 programme. 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 N.E. 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 1980 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, (b) granting of stipend in specialised Engineering, MPA and Hotel Management Courses, (c) Expansion, strengthening/modernisation of technical Institute already in existence in the region and (d) Setting up of new Institutions in the Region.

#### (1) Fellowship & Academic Programme :

6.02 The Fellowship & Academic Programmes are designed to sponsor deserving candidates selected by the constituent States for Post-Graduate and Ph.D programmes 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 Resource Development so that these personnel may be deployed suitably for implementation of various specialised programmes of the States.

Upto the academic session 1988-89, 2221 candidates have been sponsored for Under-Graduate, Post-Graduate and Ph.D studies and about 1100 Government Officers have taken advantage of the short duration specialised courses. Having due regard to the importance and the need of this programme, the scheme has been continued in the Seventh Plan with an approved provision of Rs. 230 lakhs. An amount of Rs. 124.56 lakhs has been spent on this programme during the Seventh Plan upto 1987-88. Anticipated expenditure for 1988-89 is Rs. 45.00 lakhs. An amount of Rs. 45.00 lakhs is proposed for 1989-90

(2) Linemen Training Programme :

6.03 Considering the need of the Region, an amount of Rs. 15.00 lakhs was provided during the Sixth Plan for financing two Linemen Training Centres one each at Barapani and Jorhat having 30 and 35 seats respectively for the purpose of training the untrained inservice Linemen of the States including NEEPCO and Sikkim. Upto 1987-88, Jorhat Centre has trained 939 Linemen while Barapani Centre has trained 900 Linemen. There will be 4 courses of training in each centre during 1988-89. The scheme has been approved in the Seventh Plan with an outlay of Rs. 25.00 lakhs and subsequently revised to Rs. 42.50 lakhs ( Barapani Rs.22.50 + Jorhat Rs. 20.00 lakhs). During the Seventh Plan and upto 1987-88, Rs. 25.56 lakhs were spent on the scheme. Anticipated expenditure for 1988-89 is assessed at Rs. 9.00 lakhs ( Assam 4.50 lakhs, Meghalaya-Rs.4.50 lakhs). For 1989-90 an outlay of Rs. 9.50 lakhs is proposed ( Rs. 4.50 lakhs for Assam and Rs. 5.00 lakhs for Meghalaya).

(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. During the 7th Plan, 8 courses

were conducted in 1985-86, 11 courses in 1986-87 and 9 courses in 1987-88 and besides this number of officials were trained under HSMI Training Programme. During the current year there is likely to be about 10 programmes.

6.05 The students belonging to the North Eastern Region are also granted stipend and bookgrants for pursuing studies in specialised Engineering, Hotel Management, MBA Courses. During 1987-88 more than 200 students were awarded stipend and bookgrants, Entrepreneurial Development Training under SSI Sector which has a huge financial involvement is also arranged under this programme. Besides, many other training programmes viz, Improvement of Science & Mathematics Education, Vocational Education 10 plus 2 level etc are proposed to be included under this programme. An amount of Rs. 132.00 lakhs has been provided in the Seventh Plan and Rs. 62.80 lakhs has been spent upto 1987-88 in the Seventh Plan. The 1988-89 provision of Rs. 30 lakhs will be utilised fully and an amount of Rs. 40.00 lakhs is proposed for 1989-90.

(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. 1500 lakhs has been provided in Seventh Plan. The Institute has started the first certificate course ( Base Module) from 1986-87. Construction of camps, and other buildings are at various stages. Till March, 1988 an amount of Rs. 14.00 Crores has been made available to the Institute in the Seventh Plan. An outlay of Rs. 5.00 Crores was allotted for 1988-89, out of which Rs. 50 lakhs are likely to be utilised during the year. For 1989-90 an outlay of Rs. 2.00 Crores is proposed.

(5) Extension of Assam Survey School :

6.07 The scheme with an estimated cost of Rs. 15.50 lakhs was approved in February, 1987. The main objective of the Institute to impart training in the field of Survey and Settlement. The cost of components of the scheme mainly consist of (a) Construction of necessary buildings (Assam type 10,000 Sq.Ft) (b) Purchase of necessary equipments (c) recurring expenses. During the year although the scheme was sanctioned late, construction programme was taken up with the State PWD. Upto 31.3.88, an amount of Rs. 9.50 lakhs was released. The current years outlay of Rs. 6.00 lakhs will be utilised fully.

The Govt of Assam proposed revision of the cost of the scheme due to escalation of price of the materials etc and also for slight modification in the original plan. They have been advised to submit the revised scheme. A provision of Rs. 5.00 lakhs has therefore been proposed for 1989-90.

(6) Financial assistance to the Assam Rifles Public School for improvement in the standard of Science and Mathematics Education:

6.08 Under the Sixth Plan a scheme for admission of 14 students 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 & 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 is Rs. 25.77 lakhs and the same amount was approved in 7th Plan. An amount of Rs. 18.73 lakhs was spent upto 1987-88. An amount of Rs. 5.00 lakhs approved for 1988-89 is likely to be utilised during the year. For 1989-90 an outlay of Rs. 5.00 lakhs is proposed.

(7) Fisheries Training Institute at Amranga, Assam:

6.09 The scheme envisages to train inservice candidates from Department 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. In the Seventh Plan an outlay of Rs. 54.41 lakhs has been provided for the scheme. The scheme with an estimated cost of Rs. 45.27 lakhs was sanctioned in 1986-87. The construction viz. Administrative Building, Residential units and Hostel are in progress. Most of the equipments etc have been procured. Training programme has already been started from June, 1987. Upto 1987-88 an amount of Rs.22.00 lakhs was released. Against the cutlay of Rs. 13.60 lakhs the anticipated expenditure in 1988-89 is Rs. 12.90 lakhs. For 1989-90, an amount of Rs. 10.30 lakhs is proposed.

(8) Regional Mining School, Nagaland :

6.10 The North Eastern Region has considerable mineral resources and the same is being exploited for commercial use. Considering enhanced mineral activities in the region, shortage of technical manpower has been felt considerably. There is no Mining institute in the whole of North Eastern Region which award Degree or Diploma. The nearest Institutes are located in the States of Bihar, West Bengal and Orissa. The required manpower for the mineral industries of this region is at present met from the Institutes located in the above States. An exercise undertaken to project the requirement of Diploma Holders for the mining activities at present as well as for the future, indicates that about 200 Diploma holders will be required upto the year 1989. The demand thus workout to ~~about~~ 30 Diploma per year at present which is likely to increase specially in the field of Mining machinery and Mine surveying when more projects are taken up for mining of coal and other minerals in the North Eastern Region. The requirement is also likely to go up with an increasing quarry operation as more and more Cement plants are being set up in the region. Keeping this consideration in view, it was decided to set up a Regional Mining School at Dimapur. The scheme has since been approved under the NEC Plan at an estimated cost of Rs. 299.86 lakhs towards non recurring expenditure and Rs. 23.09 lakhs towards recurring expenditure per annum. The institute will start 3-year Diploma level course with an annual

intake of 30 each in the disciplines of (1) Mining, (2) Mining & Surveying and (3) Mining Machinery. The School also envisages imparting training to skilled workers like blasters, short firers, sirdars, timber men, machinery operators etc. The Institute will also conduct inservice training/coaching. The Institute will function under an autonomous society to be set up under society registration Act. While the management of the Institute will vest with the duly constituted management committee being represented from various State Govts, for working out the itemwise and year-wise physical programme of works in connection with the setting up of the Institute, detailed project report is being prepared through Indian Bureau of Mines. The IBM has since submitted the draft and the same is being examined in consultation with Deptt of Mines, Govt of India. In view of procedural delays an anticipated expenditure in 1988-89 is Rs. 2.00 lakhs against the provision of Rs. 10.00 lakhs. For 1989-90 an outlay of Rs. 5 lakhs is proposed.

(9) Regional Medical College, Imphal:

6.11 The College was established in the year 1972 as a joint venture of Central Government and 6 North Eastern States. 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. For meeting the capital expenditure of the College and the hospital, the revised project was approved in June, 1986 at an estimated cost of Rs. 1902.00 lakhs.

6.12 The intake capacity of the College initially was limited to 50 students per year, the same has since been raised to 75 from the year 1979. The hospital attached to the College has a total bed strength of 600. The Seventh Plan approved outlay for the scheme is Rs. 700.00 lakhs.

6.13 During the Seventh Five Year Plan and till March, 1988 a total amount of Rs. 475.00 lakhs was released by NEC to the Institution. The number of students enrolled since inception of the College upto 1987-88 were about 1050 and the Regional Medical College has produced more than 550 medical graduates so far. Construction of various buildings are at various stages of completion. The anticipated expenditure for 1988-89 is Rs. 110.00 lakhs against an outlay of Rs. 190.00 lakhs. For the year 1989-90, an outlay of Rs. 200.00 lakhs is proposed.

(10) North Eastern Judicial Officers Training Institute, Guwahati:

6.14 A regular institute for training of Judicial Officers was established at Guwahati in 1981-82 with active collaboration and assistance from the Gauhati High Court. The Institute runs two courses viz. Foundation Course for Training Grade-III Officers of State 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 Seventh Plan and upto 31st March, 1988, an amount of Rs. 9.04 lakhs was released. So far 255 Judicial Officers have been trained at the Institute. The current year's outlay of Rs. 4.00 lakhs will be utilised fully and Rs. 4.00 lakhs are proposed as outlay for 1989-90.

(11) North Eastern Police Academy :

6.15 The academy was set up under NEC programme to meet the training of Police Officers of the State Police Department of NER and started functioning since July, 1978. The approved outlay for the academy for the 6th Five Year Plan was Rs. 630 lakhs was intended



to cover the cost of construction of Main building, Mess, Hostel, residential accommodation, Play ground etc together with the recurring expenditure for running the academy. Mainly due to increase in cost of construction materials such as cement, steel and revised of the schedule of rates of works of the executing agency, a revised project costing of Rs. 896 lakhs has been sanctioned recently. Construction works pertaining to various types of buildings is at various stages.

6.16 Till now in 1988, 1340 officers have been trained by organising basic training courses for Deputy Superintendent of Police and Sub-Inspectors of Police in addition to several pre-promotional courses. Intake in the academy is increasing year after year due to pressing demands from the States.

6.17 The 7th Five Year Plan approved outlay for the scheme is Rs. 347.39 lakhs. During the Seventh Plan and till March, 1988 an amount of Rs. 332.67 lakhs has been spent by the academy. Revised estimate of expenditure for the year 1988-89 is same as the approved outlay of Rs. 100 lakhs. An amount of Rs. 200 lakhs is proposed for the year 1989-90.

(12) Regional Dental College, Gauhati :

6.18 A four-year BDS course was introduced in Dental Wing of the Gauhati Medical College in 1982 with financial assistance from the North Eastern Council. Objective of the programme was to train young men and women of the NE Region in Dental Surgery leading to BDS degree qualification. A two storey college building for a 100 seat accommodation was constructed and equipment, furniture and books were purchased during the 6th Plan. Subsequently, a number of girl students have joined the institution under make shift arrangement for accommodation and 42 girls students have already been admitted. To accommodate the girl students hostel facilities are required to be provided for 50 students and expansion of the college building was felt necessary with construction of compound wall and purchase of equipment. Accordingly, the scheme was included in

NEC 7th Plan with an approved outlay of Rs. 40.00 lakhs. The works envisaged in the project were completed in 1987-88 and, therefore, no provision was made in 1988-89 plan.

The Govt of Assam have however, submitted a proposal for further strengthening of the Institute required for Post Graduate studies etc. The proposal has been sent to the Ministry of Health and the Planning Commission. A provision of Rs. 5.00 lakhs is being made in the revised budget of 1988-89 and an outlay of Rs. 10.00 lakhs is proposed for 1989-90.

(13) Regional Graduate Nursing College, Guwahati:

6.19 The Regional Graduate Nursing College, Gauhati was sanctioned by the North Eastern Council in May, 1977 with an intake capacity of 50 students but the admission was limited to 30 students due to non-availability of accommodation. As the scheme could not be completed in all respects in Sixth Plan, it was decided to take a new programme to complete the college in the Seventh Plan. A proposal for expansion of the college was received from the Govt of Assam based on the recommendations of the Indian Nursing Council. The Council Secretariat has accordingly included the scheme in the 7th Plan and sanctioned the scheme at an estimated cost of Rs. 84.80 lakhs in 1986.

6.20 The project is expected to be completed in 1988-89 with an anticipated expenditure of Rs. 60.00 lakhs in this year. However, a token provision of Rs. 1.00 lakh is proposed for 1989-90 for clearance of liabilities.

(14) 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 was completed by 1983-84. Considering the increasing need to expand the existing intake capacity from 50 to 100 a provision of Rs. 30.00 lakhs was approved in the Seventh Plan. The scheme with an estimated cost of Rs. 43.56 lakhs was sanctioned in February, 1987. In the Seventh Plan an amount of Rs. 10.00 lakhs has been spent upto 31st March, 1988.

The outlay of Rs. 7.00 lakhs for 1988-89 will be utilised fully for purchase of equipments and building construction. Rs. 10.00 lakhs are proposed for 1989-90 as an outlay.

(15) 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 Sixth Plan. As the Scheme did not cater to the need of the Institutional buildings, hostel, auditorium an outlay of Rs. 15.00 lakhs has been provided in the Seventh Plan. The scheme submitted by the Govt of Mizoram was approved at an estimated cost of Rs. 26.69 lakhs in February, 1987. An amount of Rs. 20.00 lakhs has been spent upto 31.3.88 for construction works etc. The current year's provision of Rs. 5.00 lakhs will be utilised fully. An outlay of Rs. 2.00 lakhs is proposed for 1989-90 for completing the project.

(16) Regional ITI for Women, Tinsukia :

6.23 In the entire North Eastern Region there was no ITI for Women at the beginning of the 7th Plan. Hence, there was an urgent need to provide this training facility to the women of this region. Accordingly, it was decided to establish a Regional ITI for Women at Tinsukia to cater to the needs of the constituent States of the NEC. In the Seventh Plan of NEC a token provision of Rs. 10.00 lakhs was made for the scheme. The scheme envisages intake capacity of 128 trainees in Dress Making/Cutting & Tailoring, Hair Dressing & Skin Care ; Secretarial Practice ; Knitting with Machine and Hand Embroidery & Needle work ; Draftsmen ( Civil). The scheme was approved at an estimated cost of Rs. 75.82 lakhs in the last part of 1986-87. An amount of Rs. 18.00 lakhs was spent till 31st March, 1988. The Institute has already started functioning in temporary accommodation with the first batch of trainees during the year 1987. The anticipated expenditure in 1988-89 is Rs. 38.00 lakhs against the outlay of Rs. 25.00 lakhs. Rs. 20.00 lakhs are proposed for 1989-90 as an outlay.

(17) Modernisation of ITI, Imphal:

6.24 The modernisation of ITI, Imphal at an estimated cost of Rs. 20.00 lakhs was approved in February, 1987. An amount of Rs. 18.65 lakhs was spent till 31.3.88 on the scheme for replacement equipments, purchase of new equipments for introducing new trades etc. An outlay of Rs. 1.00 lakh <sup>approved for 1988-89</sup> will be fully utilised and the project completed.

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

6.25 The Govt of Assam had submitted a scheme for establishment of a Regional Centre for Trainers Training in Farm Management at Rani near Gauhati. The scheme was sanctioned at an estimated cost of Rs. 77.47 lakhs. In the Sixth 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 Trainers are drawn from the relevant disciplines to provide practical training at the Institute. The Institute is already having some physical facilities such as farm land, buildings, fishery tanks, dairy etc. The scheme aims at upgrading these facilities for providing training to trainers in similar activities in other parts of North Eastern Region so that the flow of institutional finance in Agriculture for Entrepreneurship Development Programme in Agriculture sector is increased. The Institute is being developed as a centre for Entrepreneurship Programme in Agriculture. 184 Bighas of land for the centre were acquired and construction of five functional buildings and administrative block

completed. Most of the constructions have been completed and others are in progress. An amount of Rs. 55.00 lakhs has been spent till 31.3.88. For 1988-89 anticipated expenditure is Rs.19.00 lakhs against the provision of Rs. 15.00 lakhs. An amount of Rs. 20.00 lakhs is proposed for 1989-90.

(19) Construction of a Hostel accommodation in the Banasthali Vidyapith, Rajasthan for the students of the North Eastern Region :

6.26 The Vanasthali Vidyapith in Rajasthan has the status of a deemed University and has won wide acclaim for the programme of comprehensive and progressive education for the girls. A good number of girls of this region pursue their studies in that Institute. The progressive number of students of this region during the last three years is 412. The Vidyapith submitted a proposal for construction of a hostel and assured that in turn it would reserve seats for N.E.R. students. The Institute's proposal for construction of the hostel is estimated to cost about Rs. 20.28 lakhs. Planning Commission initially however agreed to provide one time assistance of Rs. 5.00 lakhs from NEC 1988-89 plan for the purpose. The one time grant has <sup>since</sup> been raised to Rs. 20.28 lakhs by the Planning Commission.

(20) Construction of Hostel at Delhi for the Students of the North East :

6.27 The problem of hostel accommodation for the students of the North Eastern Region at Delhi has been engaging the attention of the Council for quite sometime. Honourable Members of the Council have also emphasised the need of such a facility at Delhi. The Delhi University was contacted to provide hostel facility for North Eastern Students in Bharat Bhawan with NEC's financial support by constructing additional accommodation for the students of the North East. As the scheme will help the students of the North Eastern Region in getting hostel facility in Delhi, the scheme was accepted in NEC Plan by the Planning Commission and agreed to provide one time provision of Rs. 2.00 lakhs for the project during 1988-89 plan. The anticipated expenditure in 1988-89 is scaled down to Rs. 1.00 lakh as the project of the Delhi University is finding difficulty in getting additional land for the accommodation of the N.E. students. Negotiations with the Delhi University are still going on and in view of this a token provision of Rs. 2.00 lakhs is proposed for 1989-90.

(21) Institute of Urban Development :

6.28 The Govt of Assam has proposed to set up a Regional Housing & Urban Development Institute at Guwahati which will be of the type of Human Settlement Management Institute under the HUDCO.

6.29 The proposed Institute would cater to the need of the North Eastern Region in different types of training that will be mainly relating to Housing such as (i) Foundation Courses on

Housing Administration, Tech. Services, Planning Services, Municipal Services, (ii) Appreciation Courses on Housing Officers, Tech. Officers, District Level Officers, (iii) Professional Courses for Finance & Accounts Officers, Land Officers, Field Officers, and (iv) Refreshers Courses on various matters.

6.30 The proposed Institute is likely to cost Rs. 473.00 lakhs. The project details are being finalised. A provision of Rs. 10.00 lakhs is proposed for 1989-90.

(22) Operation Black Board :

6.31 In pursuance of the National Policy on Education, with a view to improving present unsatisfactory School environment, condition of buildings, and insufficiency of instructional materials the Govt of India, Ministry of Human Resource Development, Department of Education launched the scheme called Operation Black Board throughout the Country. It has been noticed that in the case of the North Eastern States, this scheme has not so far made any appreciable progress. At a recent review of the scheme conducted by the Secretary to the Govt of India in the Education Department; the representatives of almost all the States in the region pleaded for financial support to the extent of 25% of the cost of construction of School buildings under the scheme. Considering the importance of the scheme and limited financial assistance available under the respective State Plans, it is considered necessary by the Planning Commission to provide financial support to the N.E. States from the NEC Plan 1988-89. A provision of Rs. 7 00 lakhs as recommended by the Ministry of Education and the Planning Commission is being made in the revised Budget Estimate of the NEC Plan for 1988-89 and Rs. 160 lakhs are proposed for 1989-90.

(23) Establishment of a Regional Survey Training School in Tripura :

6.32 The North Eastern Region specially Tripura has been feeling shortage of trained personnel in Survey & Settlement Work.

Since the work of Survey & Settlement is highly technical, the Department, as such, cannot be manned properly for shortage of trained personnel in Tripura and also in the other North Eastern States.

6.33 In order to cater to the needs of Tripura as well as the neighbouring States of Manipur and Mizoram, it has been proposed to establish a Regional Survey Training School at Agartala in Tripura at an estimated cost of Rs. 36.75 lakhs. The main components of the cost are for (i) construction of administrative building & hostel (ii) purchase of equipments, vehicle, furniture etc and (iii) salaries of staff and contingency expenditure. The scheme was sent to the Planning Commission last year and was also proposed for inclusion in NEC 1988-89 Plan. The Planning Commission in the Working Group discussions on the 1988-89 Plan of the NEC suggested that the requirement of Tripura may be considered under Assam Survey School being funded under its 7th Plan. The issue was examined further and it was found that requirement of Tripura being substantially large, it is not possible to meet them under the Assam Survey School. The Government of Manipur, Tripura and Mizoram in the last Council Meeting held on the 7th June, 1988 stressed the need for taking up the Tripura Survey School Project in the NEC Plan. The Tripura proposal is, therefore, proposed for inclusion in NEC 1989-90 Plan and a token provision of Rs. 10.00 lakhs is requested.

(24) Project Handshake - North Eastern Hill University.

6.34 The North Eastern Hill University established in 1973, is one of the eight Central Universities in India. It has the exceptional merit of having campuses in three States viz. Meghalaya, Mizoram and Nagaland. In these States a large number of ethnically different people live speaking different languages, with strong family laws, and who are ready for extensive University education. The University has necessarily, therefore, to



develop some thrust areas other than the usual academic work normally identified with Universities. It has to have Public contact programme which aims to make the people of the area learn modern sciences, mathematics and the arts. The Vice Chancellor of the NEHU has prepared the detailed project known as the Project Handshake costing about Rs. 478.47 lakhs. The project also envisages Japanese aid for the project. The Vice Chancellor has sent his proposal to the Union Ministry of Human Resource Development for the concurrence. The project is being examined for part funding under NEC Plan in respect of core areas concerning Bio-Technology and Eco-System. Pending the final decision, a token provision of Rs. 5.00 lakhs is proposed for the project in NEC 1989-90 Plan.

6.35 The schemewise detailed expenditure outlay and proposed outlay are given in the Annexed Statement.

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DRAFT ANNUAL PLAN 1988-89

MANPOWER DEVELOPMENT

(Rs. in lakhs)  
(Ref. para 63)

Name of the Scheme	7th Plan Approved Outlay.	Actual Expenditure 1985-88	1988-89		Proposed outlay for 1989-90
			Approved outlay.	Anticipated expenditure	
1	2	3	4	5	6
1. Fellowship & Academic Programme	230.00	124.56	45.00	41.50	45.00
2. Linemen Training	25.00	25.56	9.00	9.00	9.50
3. Miscellaneous Training Programme	132.00	62.80	30.00	30.00	40.00
4. Regional Institute of Science & Technology.	1500.00	1400.00	500.00	50.00	200.00
5. Extension of Assam Survey School.	7.00	9.50	6.00	6.00	5.00
6. Financial Assistance to Assam Rifles Public School for improvement in the standard of Science & Mathematics Education.	25.77	18.73	5.00	5.00	5.00
7. Establishment of Regional Fishery Institute, Assam.	54.41	22.00	13.60	12.90	10.30
8. Regional Mining School, Nagaland	10.00	-	10.00	2.00	5.00

-6.17-

1	2	3	4	5	6
9. Regional Medical College, Imphal.	700.00	475.00	190.00	110.00	200.00
10. North Eastern Judicial Officers Training Institute, Guwahati.	20.00	9.04	4.00	4.00	4.00
11. North Eastern Police Academy	347.39	332.67	100.00	100.00	200.00
12. Regional Dental College, Guwahati.	40.00	35.88	-	5.00	10.00
13. Regional Nursing College, Guwahati.	60.00	25.00	60.00	60.00	1.00
14. Expansion of Regional Pharmacy Institute, Agartala.	30.00	10.00	7.00	7.00	10.00
15. Improvement of ITI, Aizawl.	15.00	20.00	5.00	5.00	2.00
16. Regional ITI for women, Tinsukia.	10.00	18.00	25.00	38.00	20.00
17. Modernisation of ITI, Imphal.	20.00	18.55	1.00	1.00	-
18. Regional Centre for Training of Trainers in Farm Management, (Rari), Assam.	-	55.00	15.00	19.00	20.00
19. Construction of Hostel accommodation in the Banasthali Vidyapith, Rajasthan for the students of North Eastern Region.	-	-	5.00	20.28	-
20. Construction of Hostel at Delhi for the students of North Eastern Region.	-	-	2.00	1.00	2.00
21. Institute of Urban Development, Assam.	-	-	-	-	10.00

1	2	3	4	5	6
22. Operation Black Board.	-	-	-	700.00	<del>160.00</del>
23. Tripura Survey school	-	-	-	-	10.00
24. Project Handshake, NEHU.	-	-	-	-	5.00
TOTAL				1032.60	1226.68
					973.80

-6.9-

CHAPTER - 7SOCIAL AND COMMUNITY SERVICES1. Artificial Limb Fitting-cum-Rehabilitation Centre, Meghalaya and Manipur :

7.01 The Seventh Plan outlay for the two centres one each at Shillong, Meghalaya and Imphal, Manipur under this scheme is Rs. 20.42 lakhs. Centre wise details are as follows :-

MEGHALAYA

7.02 This scheme was sanctioned by the Government of India in August '83 at an estimated cost of Rs. 10.60 lakhs of NEC's share was Rs. 9.63 lakhs. The balance was contributed by a voluntary organisation known as Talent Club, Raj Bhawan, Shillong. The project components consist of construction of buildings, project equipments and appointment of staff. Initially it was expected that the unit will function partly in existing buildings of the Civil Hospital and in a new accommodation of 2000 sq.ft. Later, accommodation was not available from the Civil Hospital and a 2 storey RCC building of 4000 sq.ft. was found necessary to accommodate the staff and equipments. An expenditure of Rs. 18.61 lakhs has already been incurred upto March, 1988. Due to increase in cost of construction necessity of separate accommodation, the cost of the scheme has been revised to Rs. 28.00 lakhs.

7.03 The Government of Meghalaya has completed the buildings required for the project. Equipments for the various sections of the Artificial Limb Fitting Centre have already been purchased. 40 patients are being treated daily in the centre. The approved outlay of Rs. 4.00 lakhs for 1988-89 will be utilised fully. An outlay of Rs. 6.00 lakhs is proposed for 1989-90.

MANIPUR

7.04 On the recommendation of experts in rehabilitation and representatives of the Ministry of Health and Social Welfare held at Shillong on 24-8-81 it was decided that a number of rehabilitation centres should be established in each State of the North Eastern Region to provide basic rehabilitation services to the physically handicapped. With this objective in view, a pilot project on comprehensive rehabilitation centre was approved in 1982-83 at an estimated cost of Rs. 43.00 lakhs at Imphal in Manipur. Due to various reasons implementation of the project could not be started till late 1984. During implementation of the scheme it was found that the staffing pattern and infrastructure was different from the requirements of the medical rehabilitation centre. On the advice of the Department of Rehabilitation, Medicine, Safdarjung Hospital, New Delhi and All India Institute of Physical Medicine and Rehabilitation, Bombay a minimum staffing pattern has been prescribed. The whole scheme was, therefore, revised to cost Rs. 54.13 lakhs taking into consideration their suggestions and keeping local requirements and State of development of infrastructure.

7.05 Upto March, 1988 an expenditure of Rs. 36.04 lakhs has been incurred on the scheme for construction programme, purchase of equipments, staff salary etc. The current year's outlay of Rs. 11.00 lakhs will be utilised fully. An outlay of Rs. 25.00 lakhs is proposed for completing the project in 1989-90.

2. Artificial Limb Fitting-cum-Rehabilitation Centre,  
Kohima, Nagaland :

7.06 This scheme was sanctioned by the North Eastern Council in December, 1986 at an estimated cost of Rs. 15.32 lakhs for providing artificial limbs, prevention, early detection and training of village level workers. The main components of the scheme are construction of building, equipment and furniture, hand tools and small tools, physiotherapy equipment,

salary, materials for prosthetic/orthotic and training. The Seventh Plan approved outlay for the scheme is Rs. 11.50 lakhs. During 1986-88 an amount of Rs. 7.00 lakhs was spent on construction works and purchase of equipments etc. In 1988-89 all construction works will be completed and equipment purchased. It is expected that the project will be fully operational by June, 1989. Anticipated expenditure in 1988-89 is Rs. 6.00 lakhs against the approved outlay of Rs. 5.00 lakhs. An outlay of Rs. 3.00 lakhs is proposed for 1989-90.

### 3. FOOD

#### 3. Food and Drug Laboratory, Shillong :

7.08 Prior to the creation of the States of Meghalaya which was under Assam a State Public Health Laboratory was sanctioned at Shillong. After the separation of Meghalaya from Assam the Laboratory alongwith 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 for establishment of a Food and Drug Laboratory at Shillong at an estimated cost of Rs. 35.05 lakhs has been sanctioned in March, 1987. The 7th Plan allocation for the scheme is Rs. 15.00 lakhs. The main components under the scheme are construction of RCC buildings (808.50 sq.ft.) \*purchase of instruments and apparatus, staff salary, chemical, furniture etc. An amount of Rs. 5.00 lakhs was spent for the scheme during the year 1986-88 for preparatory works. During the year 1988-89 an anticipated expenditure on the scheme is Rs. 10.00 lakhs for construction of buildings, purchase of equipments and apparatus, chemical and glass-ware, salary, furniture etc. An outlay of Rs. 9.00 lakhs is proposed for 1989-90..

#### 4. Food and Drug Laboratory, Gauhati

7.09 The objective 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. Keeping the above objective in view, a scheme for strengthening the laboratory services to control food adulteration at Gauhati has been sanctioned at an estimated cost of Rs. 30.34 lakhs in March, 1987. The 7th Plan Allocation for the scheme is Rs. 18.00 lakhs. The main components of the scheme are construction of Laboratory building (564 sq.m) purchase of instrument and apparatus, staff quarters, purchase of chemicals, furniture etc. An amount of Rs. 19.65 lakhs was released for the scheme during the year 1986-88 for construction works and purchase of Instruments and apparatus and appointment of staff. In the year 1988-89, the outlay of Rs. 6.00 lakhs will be utilised fully. An outlay of Rs. 4.70 lakhs is proposed for completing the scheme in 1989-90.

#### 5. Food and Drug Laboratory, Tripura

7.10 The Government 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 approved outlay



for the scheme in the 7th Plan is Rs. 20.00 lakhs. The scheme with an estimated cost of Rs. 31.22 lakhs has been approved in March, 1987. The main components of the scheme are construction of buildings for Laboratory, Staff and office (3950 sq.ft.), purchase of instruments and apparatus, chemicals and glass-ware, staff salary, furniture etc. During the year 1986-88 an amount of Rs. 7.00 lakhs was released for the scheme for construction programme for buildings, creation of posts and purchase of equipments etc. The approved outlay of Rs. 7.00 lakhs will be utilised fully in 1988-89. An outlay of Rs. 6.00 lakhs is proposed for 1989-90.

#### 6. Orthopaedic and Traumatology Centre, Shillong, Meghalaya

7.11 In view of the large increase in vehicular traffic and other transportation activities in the North Eastern Region particularly on highway No. 40 which is one of the main life lines of communications for the States of Meghalaya, Mizoram, Tripura and a portion of Assam and Manipur, the Government of Meghalaya has proposed to start an Orthopaedic & Traumatology Centre at Shillong to take care of highway accident cases at an estimated cost of Rs. 25.16 lakhs during the 7th Plan. The scheme envisages an accident care service in the Civil Hospital, Shillong, casualty service unit in Public Health Centres and Sub-Centres on the national highway and to raise a volunteer corps in the villages situated on the highway. The main components of the proposal which has been finalised in consultation with Medical Officer M/O Health and Family Welfare, Government of India consist of construction of buildings, capital equipments, staff salary recurring expenditure etc. Implementation of the scheme has been taken up only from 1988-89 and basic infrastructural works initiated. Anticipated expenditure on the project in 1988-89 is Rs. 5.00 lakhs against the approved outlay of Rs. 6.00 lakhs. An outlay of Rs. 8.00 lakhs is proposed for 1989-90.

7. Establishment of Regional Blood Bank, Shillong, Meghalaya:

7.12            Though a blood bank was set up before independence under Pasteur Institute at Shillong primarily for blood transfusion of wounded soldiers brought to Shillong from the places of war and it functioned only as a stop gap arrangement. At present it functions for blood grouping, cross matching and laboratory tapping without any facilities for storage etc. In order to improve conditions for supply of blood to patients it is proposed to provide better facilities at the existing institution under the scheme sanctioned for Rs. 18.74 lakhs in June, 1987 as an expansion programme of the blood bank. The main components of the scheme are as follows:

a) Construction of building	-	Rs. 5.19 lakhs
b) Equipments	-	Rs. 4.99 lakhs
c) Vehicles	-	Rs. 5.00 lakhs
d) Salary	-	Rs. 3.18 lakhs
e) Publicity	-	Rs. 0.07 lakhs
f) Stationery, tiffin for donors, contingencies, chemicals and drugs, transfusion set and blood bottles	-	Rs. 0.15 lakh
g) Training	-	Rs. 0.16 lakh
		-----
	Total	- Rs. 18.74 lakhs
		-----

During the year 1987-88 an amount of Rs.13.00 lakhs was spent on the project for construction works, purchase of equipments and vehicle. Anticipated expenditure during 1988-89 is Rs. 3.00 lakhs against the approved provision of Rs. 4.00 lakhs. An outlay of Rs. 3.00 lakhs is proposed for 1989-90.

8. Forensic Science Laboratory at Gauhati, Assam:

7.13 Under the NEC Sixth Plan, NEC's support was provided to the Forensic Science Laboratory at Gauhati for improvement of some 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 conference of Police official of the region. The Government of Assam has submitted a revised scheme for Rs. 146.24 lakhs which has been sent to Ministry of Home Affairs for technical clearance. The concurrence of the Ministry is awaited. Pending the concurrence of the Ministry, the <sup>revised</sup> estimate of expenditure for 1988-89 is Rs. 10.00 lakhs. An outlay of Rs. 20.00 lakhs is proposed for 1989-90.

9. Upgradation of Dr. B. Barooah Cancer Institute, Gauhati, Assam.

7.14 High incidence of certain types of cancer in the region has been causing anxiety to the Health Authorities of the different States 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. Barooah 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 the NE Region. This scheme was proposed as supplementary scheme to the Planning Commission for inclusion in NEC

Annual Plan 1987-88. The Working Group of the Planning Commission during Annual Plan discussion accepted in principle inclusion of this scheme and recommended that the scheme may be taken up during the 8th Plan. However, after a second review the Planning Commission has agreed to make a provision of Rs. 10 lakhs in 1988-89 Plan of the NEC for taking up preliminary works. A Group comprising representatives from the Deptt. of Atomic Energy, Planning Commission, Tata Memorial Centre, Bombay, ICMF, NEC and the Govt of Assam was constituted to work out the modalities of funding and preparation of a project report. They have recommended that the Institute should be developed in three phases as it is difficult to jump immediately to full fledged cancer institute. The detailed project report for action during the first phase during 1989-91 is being finalised. Due to delay in finalisation, an anticipated expenditure on the project is Rs. 1.00 lakh against the approved provision of Rs. 10.00 lakhs. An outlay of Rs. 100.00 lakhs is proposed for 1989-90.

10. Establishment of Virology Centre for Diagnosis and Control of Japanese Encephalitis in the NE:

7.15 Reports have been received that Japanese Encephalitis is rampant in Assam and in the NE States. The mortality rate is also reported to be very high for those affected with this disease, resulting from lack of diagnostic facilities in the region. The issue was discussed at a meeting of the Central Council for Health and Family Welfare convened by the Union Ministry of Health and Family Welfare, New Delhi between 15-17 February 1988 wherein it was decided that urgent steps should be taken to counter-act the disease. Accordingly, a scheme prepared by the Govt of Assam for the control and diagnosis of the Japanese encephalitis at a cost of Rs. 40 lakhs has been sent to the Ministry of Health and Family Welfare for their views and technical clearance. As the clearance of the proposal is expected soon, a provision of Rs. 2.00 lakhs is kept in the revised budget estimate of 1988-89. An outlay of Rs. 5.00 lakhs is proposed for 1989-90.

7.16 The scheme-wise detailed expenditure, outlay and proposed outlay is given in the annexed statement.

NEC has proposed funding pattern for non-recurring expenditure to the tune of two third by the Deptt of Atomic Energy and one-third by NEC. Regarding the non-recurring expenditure, it is proposed to be shared equally by NEC, Deptt of Atomic Energy and Govt of Assam.

DRIFT ANNUAL PLAN 1989-90

(As. in lakhs)

(Ref. para 7.16)

SOCIAL & COMMUNITY SERVICES

Name of the scheme	Approved	Actual	1988-89		Proposed
	7th Plan Outlay	Expendi- ture 1985-88	Approved Outlay	Actual Expendr.	Outlay for 1989-90
1	2	3	4	5	6
1. Artificial Limb Fitting-cum-Rehabilitation Centre, Shillong/Imphal.	20.42	30.38	4.00 11.00	4.00 11.00	6.00 25.00 - Shillong - Imphal
2. Artificial Limb Fitting -cum-Rehabilitation Centre, Nagaland.	11.50	7.00	5.00	6.00	3.00
3. Food & Drug Laboratory, Shillong.	15.00	5.00	10.00	10.00	9.00
4. Food & Drug Laboratory, Gauhati.	18.00	19.65	6.00	6.00	4.70
5. Food & Drug Laboratory, Tripura.	20.00	7.00	7.00	7.00	6.00
6. Orthopaedic & Traumatology Centre, Shillong.	10.00	-	6.00	5.00	8.00
7. Regional Blood Bank attached to Pasteur Institute, Meghalaya.	-	13.00	4.00	3.00	3.00
8. Forensic Science Laboratory	-	-	10.00	10.00	20.00
9. Upgradation of Dr. B. Barooah Cancer Institute, Gauhati ( Preliminary works)	-	-	10.00	1.00	100.00
10. Establishment of Virology Centre for Diagnosis and Control of Japanese Encephalitis in NER.	-	-	-	2.00	5.00
T O T A L			73.00	65.00	139.70

7.9

7. Establishment of Regional Blood Bank, Shillong, Meghalaya:

7.12 Though a blood bank was set up before independence under Pasteur Institute at Shillong primarily for blood transfusion of wounded soldiers brought to Shillong from the places of war and it functioned only as a stop gap arrangement. At present it functions for blood grouping, cross matching and laboratory tapping without any facilities for storage etc. In order to improve conditions for supply of blood to patients it is proposed to provide better facilities at the existing institution under the scheme sanctioned for Rs. 18.74 lakhs in June, 1987 as an expansion programme of the blood bank. The main components of the scheme are as follows:

a) Construction of building	-	Rs. 5.19 lakhs
b) Equipments	-	Rs. 4.99 lakhs
c) Vehicles	-	Rs. 5.00 lakhs
d) Salary	-	Rs. 3.18 lakhs
e) Publicity	-	Rs. 0.07 lakhs
f) Stationery, tiffin for donors, contingencies, chemicals and drugs, transfusion set and blood bottles	-	Rs. 0.15 lakh
g) Training	-	Rs. 0.16 lakh
		-----
	Total	- Rs. 18.74 lakhs
		-----

During the year 1987-88 an amount of Rs.13.00 lakhs was spent on the project for construction works, purchase of equipments and vehicle. Anticipated expenditure during 1988-89 is Rs. 3.00 lakhs against the approved provision of Rs. 4.00 lakhs. An outlay of Rs. 3.00 lakhs is proposed for 1989-90.

### 8. Forensic Science Laboratory at Gauhati, Assam

7.13 Under the NEC Sixth Plan, NEC's support was provided to the Forensic Science Laboratory at Gauhati for improvement of some 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 conference of Police official of the region. The Government of Assam has submitted a revised scheme for Rs. 146.24 lakhs which has been sent to Ministry of Home Affairs for technical clearance. The concurrence of the Ministry is awaited. Pending the concurrence of the Ministry, the <sup>revised</sup> estimate of expenditure for 1988-89 is Rs. 10.00 lakhs. An outlay of Rs. 20.00 lakhs is proposed for 1989-90.

### 9. Upgradation of Dr. B. Baruah Cancer Institute, Gauhati, Assam.

7.14 High incidence of certain types of cancer in the region has been causing anxiety to the Health Authorities of the different States 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 the NE Region. This scheme was proposed as supplementary scheme to the Planning Commission for inclusion in NEC

Annual Plan 1987-88. The Working Group of the Planning Commission during Annual Plan discussion accepted in principle inclusion of this scheme and recommended that the scheme may be taken up during the 8th Plan. However, after a second review the Planning Commission has agreed to make a provision of Rs. 10 lakhs in 1988-89 Plan of the NEC for taking up preliminary works. A Group comprising representatives from the Deptt. of Atomic Energy, Planning Commission, Tata Memorial Centre, Bombay, ICMF, NEC and the Govt of Assam was constituted to work out the modalities of funding and preparation of a project report. They have recommended that the Institute should be developed in three phases as it is difficult to jump immediately to full fledged cancer institute. The detailed project report for action during the first phase during 1989-91 is being finalised. Due to delay in finalisation, an anticipated expenditure on the project is Rs. 1.00 lakh against the approved provision of Rs. 10.00 lakhs. An outlay of Rs. 100.00 lakhs is proposed for 1989-90.

10. Establishment of Virology Centre for Diagnosis and Control of Japanese Encephalitis in the NEI:

7.15 Reports have been received that Japanese Encephalitis is rampant in Assam and in the NE States. The mortality rate is also reported to be very high for those affected with this disease, resulting from lack of diagnostic facilities in the region. The issue was discussed at a meeting of the Central Council for Health and Family Welfare convened by the Union Ministry of Health and Family Welfare, New Delhi between 15-17 February 1988 wherein it was decided that urgent steps should be taken to counter-act the disease. Accordingly, a scheme prepared by the Govt of Assam for the control and diagnosis of the Japanese encephalitis at a cost of Rs. 40 lakhs has been sent to the Ministry of Health and Family Welfare for their views and technical clearance. As the clearance of the proposal is expected soon, a provision of Rs. 2.00 lakhs is kept in the revised budget estimate of 1988-89. An outlay of Rs. 5.00 lakhs is proposed for 1989-90.

7.16 The scheme-wise detailed expenditure, outlay and proposed outlay is given in the annexed statement.

NEC has proposed funding pattern for non-recurring expenditure to the tune of two third by the Deptt of Atomic Energy and one-third by NEC. Regarding the non-recurring expenditure, it is proposed to be shared equally by NEC, Deptt of Atomic Energy and Govt of Assam.



## DRAFT ANNUAL PLAN 1989-90

(Rs. in lakhs)

(Ref. para 7.16)

SOCIAL & COMMUNITY SERVICES

Name of the scheme	Approved 7th Plan Outlay	Actual Expendi- ture 1985-88	1988-89		Proposed outlay for 1989-90
			Approved Outlay	Actual Expendr.	
1	2	3	4	5	6
1. Artificial Limb Fitting-cum-Rehabilitation Centre, Shillong/Imphal.	20.42	30.38	4.00 11.00	4.00 11.00	6.00 - Shillong 25.00 - Imphal
2. Artificial Limb Fitting -cum-Rehabilitation Centre, Nagaland.	11.50	7.00	5.00	6.00	3.00
3. Food & Drug Laboratory, Shillong.	15.00	5.00	10.00	10.00	9.00
4. Food & Drug Laboratory, Gauhati.	18.00	19.65	6.00	6.00	4.70
5. Food & Drug Laboratory, Tripura.	20.00	7.00	7.00	7.00	6.00
6. Orthopaedic & Traumatology Centre, Shillong.	10.00	-	6.00	5.00	8.00
7. Regional Blood Bank attached to Pasteur Institute, Meghalaya.	-	13.00	4.00	3.00	3.00
8. Forensic Science Laboratory	-	-	10.00	10.00	20.00
9. Upgradation of Dr. B. Barbooh Cancer Institute, Gauhati ( Preliminary works)	-	-	10.00	1.00	100.00
10. Establishment of Virology Centre for Diagnosis and Control of Japanese Encephalitis in NER.	-	-	-	2.00	5.00
TOTAL			73.00	65.00	189.70

CHAPTER - 8

GENERAL SERVICES

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

North Eastern Region. The major objectives 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 Govt. of India, States and the North Eastern Council. The centre has developed a collection of more than 15,000 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 envisaged in Seventh Plan are :-

- 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 The Centre has also started 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 contain summaries of important documents concerning the individual sectors and extracts from special publications reports and technical journals: . . . . .

8.05 The Seventh Plan outlay for the scheme is Rs.50.00 lakhs, Rs. 25.20 lakhs were spent during 1985-88. Against the approved outlay of Rs. 10.00 lakhs for 1988-89 the anticipated expenditure is assessed at Rs. 13.00 lakhs. An amount of Rs.18.00 lakhs is proposed for 1989-90.

2. Natural Hazard Reduction Programme:

- (1) Setting up an Earthquake Risk Evaluation Cell in North Eastern Council Secretariat:

8.06 On the recommendation of ERE Council, the ERE Centre was established in 1980 to augment and co-ordinate the Earthquake Prediction related research in the North East India. A nucleus has already been created in NEC with five Senior Technical Assistants (trained in Seismology and Computer Programming), an Extension Officer, Statistician, headed by a Director

(Science & Technology). This small working team of ERE Centre so far has completed analysis of Seismograms generated during the period 1963 to 1980 by the World Wide Standardised Seismic Network Station (WWSSN) located in the Central Seismological Observatory at Upper Shillong. Moreover, staff attached to the ERE Centre have also analysed the seismograms from different stations of IMD located in the NE Region.

8.07 This centre is also recording the Kopili Reservoir level data with a view to study the reservoir induced seismicity. A mini computer has been installed at the Centre in 1983 for processing of the earthquake and other geophysical data. A programme called Hypo-71 originally developed by US Geological Society in a big computer has been truncated and designed so as to accommodate it in this mini computer. This programme is now regularly used by the Department of Environment, Gauhati University for locating earthquakes. Moreover, the (analysed) data of WWSSN from Central Seismological Observatory, Shillong and other Stations is being stored in the computer in a definite format so as to utilise the same as and when required.

8.08 The Centre, in collaboration with National Geophysical Research Institute, Hyderabad has so far established three seismic observatories and the preliminary survey work for establishment of another two has also been completed.

8.09 The approved outlay for the Sixth Plan was Rs.40.00 lakhs out of which, Rs. 24.00 lakhs were spent. An amount of Rs.40.00 lakhs has been provided in the Seventh Plan and Rs.19.38 lakhs were spent during 1985-88. An outlay of Rs.7.00 lakhs for 1988-89 will be utilised fully. An outlay of Rs.8.00 lakhs is proposed for 1989-90.

2.(ii) Scheme for Earthquake Risk Evaluation in North Eastern Region-Establishment and Operation of a Network of Short Period Seismic Stations in North Eastern Region.

8.10 This is a new scheme formulated by the amalgamation of the two earlier approved schemes for Earthquake Risk

Evaluation viz; (a) Setting up of 10 Seismological Stations and (b) Telemetered Seismic Network in North Eastern Region. The approved outlay for the scheme at (a) was Rs. 10.00 lakhs while that for the scheme at (b) was Rs. 25.00 lakhs for the Seventh Plan period.

8.11 A provision of Rs. 84.90 lakhs was made for the establishment of 10 Seismological Station in the Sixth Plan. Only Rs. 10.6 lakhs were spent out of this for purchase of 5 sets of instruments during the Sixth Plan. The scheme was allowed to continue in the Seventh Plan with an approved outlay of Rs. 15.00 lakhs.

8.12 The new scheme which replaces these two schemes will be implemented at a cost of Rs. 60.21 lakhs by the National Geophysical Research Institute, Hyderabad. An amount of Rs. 10.00 lakhs was released to NGRI during 1987-88 for implementation of the scheme. Under the scheme 3 stations namely at Umrangshu, Dawki and Nongstoin have so far been set up. Survey work in regard to establishment of telemetered seismic net work has been carried out and on the basis of this Tezpur has been finally selected as the central base station and the other centres will be set up with in a radial distance of about 100 km around Tezpur. An anticipated expenditure during 1988-89 is Rs. 35.00 lakhs against the approved outlay of Rs. 20.00 lakhs. An outlay of Rs. 10.00 lakhs is proposed for 1989-90.

### 3. Research and Development Projects:

#### (i) Repetitive Geodetic Survey for Monitoring Land Deformation Precursor of Earthquake:

8.13 The Geodetic and Research Branch of Survey of India is carrying out a study of land deformation in the North Eastern India as a precursor of earthquake. It is an NEC sponsored scheme implemented by the Survey of India. Out of the approved outlay of Rs. 14.91 lakhs in the Sixth Plan an expenditure of Rs. 9.70 lakhs has been incurred for purchasing instruments to carry out this survey. The scheme is continuing in the Seventh Plan period with an approved outlay of Rs. 4.00 lakhs. No expenditure was incurred during 1985-88. The approved outlay of Rs. 5.00 lakhs for 1988-89 will <sup>not</sup> be utilised. A provision of Rs. 1.00 lakh is proposed for 1989-90.

(ii) Radon Emission Study for Identifying Earthquake Precursor:

8.14 The scheme started in the year 1982 by Atomic Minerals Division, Shillong of the Department of Atomic Energy, Govt. of India. The scheme was originally sanctioned at an estimated cost of Rs. 4.60 lakhs, but no expenditure was made as AMD did not take any fund from NEC and implemented the scheme at their own cost. From February, 1984 onwards the scheme is being implemented jointly by WRE Centre of NEC and AMD, Shillong, the man-power and vehicle support being provided by NEC. An outlay of Rs. 10.00 lakhs has been approved for the scheme in Seventh Plan. An anticipated in 1988-89 is Rs. 2.00 lakhs against the provision of Rs. 4.00 lakhs. The scheme is being revised and a provision of Rs. 6.00 lakhs is proposed for 1989-90.

(iii) In-Situ Stress Measurements:

8.15 The main objectives of the scheme are (1) to measure In-Situ Stress in the North Eastern Region (Shillong, Mikir Hills, Mishmi Hills and some of the inselvergs north of Brahmaputra); (2) to know whether the seismic gaps are in highly stressed condition or not. This study forms a valuable complement to the earthquake related research programme in the North Eastern Region. The scheme will be implemented by the National Geophysical Research Institute, Hyderabad. The NEC's share will be Rs. 15.00 lakhs mainly towards drilling of the bore wells only and the rest will be borne by the implementing agency i.e. NGRI, Hyderabad. The Planning Commission has approved an outlay of Rs. 5.00 lakhs for the Seventh Five Year Plan for the scheme. An amount of Rs. 2.00 lakhs is likely to be spent in 1988-89 and an outlay of Rs. 5.00 lakhs is proposed for 1989-90.

4. Science and Technology

(i) Regional Science and Technology Council:

8.16 The North Eastern Council had established a North Eastern Regional Committee of Science and Technology (NERCOST) in March, 1981 to co-ordinate the work of State Science Councils and to assist the NEC in formulating S&T programmes of the North Eastern Region. The committee has held three meetings

- 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.

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8.07 This centre is also recording the Kopili Reservoir level data with a view to study the reservoir induced seismicity. A mini computer has been installed at the Centre in 1983 for processing of the earthquake and other geophysical data. A programme called Hypo-71 originally developed by US Geological Society in a big computer has been truncated and designed so as to accommodate it in this mini computer. This programme is now regularly used by the Department of Environment, Gauhati University for locating earthquakes. Moreover, the (analysed) data of WWSSN from Central Seismological Observatory, Shillong and other Stations is being stored in the computer in a definite format so as to utilise the same as and when required.

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8.09 The approved outlay for the Sixth Plan was Rs.40.00 lakhs out of which, Rs. 24.00 lakhs were spent. An amount of Rs.40.00 lakhs has been provided in the Seventh Plan and Rs.19.38 lakhs were spent during 1985-88. An outlay of Rs.7.00 lakhs for 1988-89 will be utilised fully. An outlay of Rs.8.00 lakhs is proposed for 1989-90.

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8.11 A provision of Rs. 84.90 lakhs was made for the establishment of 10 Seismological Station in the Sixth Plan. Only Rs.10.6 lakhs were spent out of this for purchase of 5 sets of instruments during the Sixth Plan. The scheme was allowed to continue in the Seventh Plan with an approved outlay of Rs.15.00 lakhs.

8.12 The new scheme which replaces these two schemes will be implemented at a cost of Rs. 60.21 lakhs by the National Geophysical Research Institute, Hyderabad. An amount of Rs. 10.00 lakhs was released to NGRI during 1987-88 for implementation of the scheme. Under the scheme 3 stations namely at Umrangshu, Dawki and Nongstoin have so far been set up. Survey work in regard to establishment of telemetered seismic net work has been carried out and on the basis of this Tezpur has been finally selected as the central base station and the other centres will be set up within a radial distance of about 100 km around Tezpur. An anticipated expenditure during 1988-89 is Rs.35.00 lakhs against the approved outlay of Rs. 20.00 lakhs. An outlay of Rs. 10.00 lakhs is proposed for 1989-90.

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(iii) In-Situ Stress Measurements:

8.15 The main objectives of the scheme are (1) to measure In-Situ Stress in the North Eastern Region (Shillong, Mikir Hills, Mishal Hills and some of the inselbergs north of Brahmaputra); (2) to know whether the seismic gaps are in highly stressed condition or not. This study forms a valuable complement to the earthquake related research programme in the North Eastern Region. The scheme will be implemented by the National Geophysical Research Institute, Hyderabad. The NEC's share will be Rs. 15.00 lakhs mainly towards drilling of the bore wells only and the rest will be borne by the implementing agency i.e. NGRI, Hyderabad. The Planning Commission has approved an outlay of Rs. 5.00 lakhs for the Seventh Five Year Plan for the scheme. An amount of Rs. 2.00 lakhs is likely to be spent in 1988-89 and an outlay of Rs. 5.00 lakhs is proposed for 1989-90.

4. Science and Technology

(i) Regional Science and Technology Council:

8.16 The North Eastern Council had established a North Eastern Regional Committee of Science and Technology (NERCST) in March, 1981 to co-ordinate the work of State Science Councils and to assist the NEC in formulating S&T programmes of the North Eastern Region. The committee has held three meetings

so far. It is, represented by eminent scientists and academicians engaged in Science and Technology activities in the North Eastern Region. An outlay of Rs. 5.00 lakhs has been approved for the Seventh Plan. An anticipated expenditure during 1988-89 is Rs. 0.50 lakh. An outlay of Rs.1.00 lakh is proposed for 1989-90.

(ii) Other programmes:

8.17 In addition to the existing projects, the NEROST is expected to consider and recommend a number of small R&D Projects in various fields related to the development needs of the region. The Committee has so far financed three projects namely (a) Study of Uranium contents in water (b) Mutation by Gamma Radiation on Banana and (c) Data collection on Metallic and Non-Metallic Ore minerals in Ultramafites belt of Indo-Burma Region. Out of these (a) and (c) have been already completed and the reports submitted. The report in respect of (c) has been forwarded to the Govt. of Manipur and Mineral Exploration Corporation for further action.

8.18 An outlay of Rs. 5.00 lakhs is approved for the scheme in Seventh Plan. An amount of Rs. 0.89 lakhs has been spent on these studies till March, 1988. Against the approved outlay of Rs. 3.00 lakhs for 1988-89 an anticipated expenditure is Rs. 0.50 lakh. An outlay of Rs. 1.00 lakh is proposed for 1989-90.

(iii) Science Museum

8.19 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 five Sub-regional Science Museums/Centres in the NE Region with support of the National Council of Science Museum. An outlay of Rs. 131.00 lakhs has been approved for the scheme in the Seventh Plan. The Regional Science Museum at Gauhati is being set up by NCSM at an estimated cost of Rs. 135.00 lakhs. The NEC's share in the project is of the order of Rs. 41.25 lakhs. The whole amount has since been made available to the NCSM. The current years outlay of Rs.25.00 lakhs will not be utilised as the proposal for sub-centres

under NEC plan has been dropped. The main museum at Gauhati is nearing completion. A token provision of Rs. 1.00 lakh is kept for 1989-90.

5. Regional Centre for Resource Evaluation Documentation and Information System:

8.20 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 approved in the NEC Plan at an estimated cost of Rs. 165.52 lakhs in 1986-87. Keeping in view the developments that the National Informatics Centre, Deptt. of Electronics, Govt. of India is setting up computer based information networks in NER, the Ministry of Home Affairs have suggested that NEC Secretariat may operate the scheme in consultation with the NIC so as to avoid duplication. Accordingly, Secretary, NEC had series of discussions with the representatives of the NIC and it has been agreed that NIC will take care of the requirements of NEC in their comprehensive scheme. Modalities of merging the scheme with the NIC project are being worked out. So far an expenditure of Rs. 2.84 lakhs has been incurred upto March, 1988. Anticipated expenditure for 1988-89 is assessed at Rs.3.00 lakhs against the outlay of Rs. 10.00 lakhs. An amount of Rs. 10.00 lakhs is proposed for 1989-90.

6. Documentation of Tribal Culture

8.21 The North Eastern Region has a large concentration of tribal population which consist of more than 100 tribes and sub-tribes. Each tribe has a distinct identity and way of life, social customs, dances and music, fairs and festivals, rites and rituals. They present a scene of fantastic diversity and a unique cultural mosaic. They have very rich cultural heritage which the people of the region are proud of. This cultural heritage is in danger of extinction due to variety of complex factors and call for immediate measures to preserve and protect these traditional arts, culture and craft of the family of the north east. In the 7th Plan of NEC, therefore, a comprehensive scheme for documentation of traditional culture of the major tribal groups of the region was included and a token provision of Rs. 15.00 lakhs was provided.

8.22 Schemes for Arunachal Pradesh (estimated cost Rs. 2.542 lakhs) Assam (estimated cost Rs. 2.156 lakhs) and Manipur (estimated cost Rs. 1.00 lakh) have been sanctioned in August, 1987. Schemes for other States of the region are being prepared in consultation with concerned State Governments. The original Seventh Plan scheme also provides for setting up of regional cultural Documentation Centre for scientific display of the documented material, their project and preservation. Such a centre is to provide an institutionalised base for promotion and preservation of tribal performing arts and research on tribal culture. For this purpose need for a modern archive was felt and it being established with the help of the North Eastern Hill University at Shillong.

8.23 An anticipated expenditure for the projects in 1988-89 is Rs. 9.00 lakhs against the approved provision of Rs. 5.00 lakhs. An outlay of Rs. 20.00 lakhs has been proposed on the scheme in 1989-90.

7. Chairman's Survey & Consultancy:

8.24 A number of surveys, studies/investigations 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 region's resources and enabling taking up of appropriate projects. Occasionally experts are required to be engaged for undertaking such and other activities. An outlay of Rs. 250.00 lakhs has been provided in the Seventh Plan for the purpose. During 1985-88 an amount of Rs. 87.32 lakhs has been spent on such activities and an amount of Rs. 70.00 lakhs is anticipated during 1988-89 against the provision of Rs. 50.00 lakhs. An amount of Rs. 75.00 lakhs is proposed for 1989-90.

8. Environment Studies:

8.25 The proposal has been discussed with 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 organisations to take up specific study to find out the actual needs of the people and how the needs could be met from local resources.

8.26 After receiving the reports from the teams NEC will take up pilot demonstration projects. So far till March, 1987 an expenditure of Rs. 0.07 lakh has been made. For the current financial year 1988-89 no expenditure will be incurred against the approved outlay of Rs. 1.00 lakh. For 1989-90 an outlay of Rs. 1.00 lakh is proposed.

9. Housing for NEC Staff:

8.27 Provision of residential accommodation for NEC Advisers and staff has been of constant concern of the Council Secretariat because of various obvious reasons. A scheme for providing housing facilities was therefore, included in the Seventh Plan of NEC and the Planning Commission provided an outlay of Rs. 72.00 lakhs. So far a type-IV complex (10 units) has been completed and construction work for the other complex of type-III & type -II quarters is at the advance stage. As the NEC does not have a guest house it has been decided to convert the 2 type -IV units as the guest house. For making the guest house operational some ancillary support is necessary and the same is proposed to be met from out of the provision of the existing scheme. The current year's provision of Rs. 20.00 lakhs will be utilised fully and an outlay of Rs. 35.00 lakhs is proposed for 1989-90.

10. Youth Activities:

8.28 For promoting youth activities in the region in the Seventh Plan, there is an approved outlay of Rs. 5.00 lakhs. The outlay is so meagre to take up any worthwhile programme in the field of sports and youth affairs. In the year 1988-89 Rs. 2.00 lakhs will be utilised against the approved outlay of <sup>Rs. 1.00 lakh.</sup> An outlay of Rs. 3.00 lakhs is proposed in the NEC 1989-90.

11. Establishment of a Film Studio-cum-Production Centre of Jyoti Chitran, Gauhati, Assam.

8.29 Over the years the Audio-Visual medium has assumed a great importance in the field of knowledge, information, understanding, education, culture, communication etc. In the coming years, its role is sure to assume greater importance. The NER has to keep pace with the development and equip itself with the necessary facilities.

8.30 The Jyoti Chitraban(Film Studio) Society with existing facilities of shooting floor, sound studio, black and white laboratory editing etc. has been catering to some of the needs of the film makers, artists and technicians of the region. But in view of the growing needs, improvement in the existing facilities of Jyoti Chitraban has become necessary. The improvement in the existing facilities, will help the society in playing an effective role in the development of audio-visual system of the entire region. A proposal for development of Jyoti-Chitraban was sent to the Planning Commission and it was agreed in principle that the project needs support under NEC Plan. On the recommendation of the Planning Commission the NEC has taken up preparation of detailed project report for the establishment of the Film Studio-cum-Production Centre through the Consultant. The consultant M/S Jagot Murare Production has submitted the draft project report costing about Rs. 55 crores. The report is being examined. Since the project preparation is being funded under Chairman's consultancy programme the provision of Rs. 10.00 lakh for the preliminary works has been scaled down to Rs. 1.00 lakh in the current financial year.

only. An outlay of Rs. 20.00 lakh is proposed for 1989-90.

12. Integrated Multi-Channel Police Tele-Communication for NER :

8.31 As per the present policy of Govt. of India, Multi-Channel Tele-Communication system in the Microwave Frequency Range from 2.3 to 2.5 GHz is available to the Police. In view of this major policy M/S B.E.L. was requested by the Assam Govt. to prepare a scheme consisting of Micro-wave systems for the NER in general and the Assam Police in particular. The scheme prepared by B.E.L. is to cost about Rs. 13.00 crores based on present prices. The Non-recurring expenditure is of the order of Rs. 12.46 crores and the recurring expenditure is of the order of 0.46 crores. The proposal has been sent to the Ministry of Home Affairs for consideration. Keeping in view the importance of the scheme for maintenance of law and order, it was proposed to include the scheme in NEC Plan from 1988-89. The Planning Commission has however, suggested that the preparatory works of the the project may be funded from Chairman's Survey and Consultancy. For taking up the implementation of the project a token outlay of Rs. 1.00 lakh is proposed for 1989-90.

8.32 The scheme-wise detailed expenditure outlay and proposed outlay are given in the annexed statement.

DRAFT ANNUAL PLAN 1989-90

GENERAL SERVICES

(Rs. in Lakhs) (Ref. para. 8.32)

Name of scheme	Approved 7th Plan outlay	Actual Expenditure 1985-88	1988-89		Proposed outlay for 1989-90
			Approved outlay	Anticipated expenditure	
1	2	3	4	5	6
<u>Continuing schemes</u>					
1. Regional Information & Documentation Centre.	50.00	25.20	10.00	13.00	18.00
2. Natural Hazards Reduction Programme:					
i) Earthquake Risk Evaluation Cell.	40.00	19.38	7.00	7.00	8.00
ii) Earthquake Risk-Evaluation in NER-Establishment and operation of network of short period Seismic Station in NER	40.00	10.00	20.00	35.00	10.00
3. <u>R&amp;D Projects:</u>					
i) Repetitive Geodetic Surveys for monitoring land deformation precursor of earthquake.	4.00	-	5.00		1.00
ii) Radon Emission Studies for Identifying Earthquake Precursors.	10.00	-	4.00	2.00	6.00
iii) In-situ Stress Measurements	5.00	-	2.00	2.00	5.00
4. <u>Science &amp; Technology:</u>					
i) Regional Science & Technology Council	5.00	-	1.00	0.50	1.00
ii) Other Programmes	5.00	0.89	3.00	0.50	1.00
iii) Science Museum/Science Centre.	131.00	41.25	25.00	-	1.00
5. Regional Centre for Resource Evaluation, Documentation & Information System.	45.00	2.84	10.00	3.00	10.00

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Sub. National Systems Unit,  
 National Institute of Educational  
 Planning and Administration  
 17-A, Jawahar Road, Madurai, Tamil Nadu 625 006  
 DOC. No. ....  
 Date: 12/11/82

	1	2	3	4	5	6
6. Documentation of Traditional Culture	15.00	-	5.00	9.00	20.00	
7. Chairman's Survey & Consultancy	250.00	87.32	50.00	70.00	75.00	
8. Environmental Studies	15.00	0.07	1.00	-	1.00	
9. Housing for NEC Staff	72.00	38.00	20.00	20.00	35.00	
10. Youth Activities	5.00	0.42	1.00	2.00	3.00	
11. Establishment of Film Studio-cum-Production Centre-Jyoti Chitroban, Assam (for preliminary works)	-	-	10.00	1.00	20.00	
12. Integrated Multi-Channel Police Tele-Communications for NE region.	-	-	To be funded from Chairman Survey & consultancy.		1.00	
<b>Total :</b>			174.00	165.00	216.00	

