



GOVERNMENT OF INDIA  
MINISTRY OF WATER RESOURCES

**FIVE YEAR PLAN (1990-95)  
CENTRAL SECTOR SCHEMES  
RELATING TO  
IRRIGATION, FLOOD CONTROL  
AND FARAKKA BARRAGE PROJECT**

**Volume III**

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NEW DELHI  
SEPTEMBER  
1990

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MINISTRY OF WATER RESOURCES

FIVE YEAR PLAN (1990-95)

CENTRAL SECTOR SCHEMES

RELATING TO

IRRIGATION , FLOOD CONTROL AND

FARAKKA BARRAGE PROJECT

(VOL.III)



NEW DELHI

SEPTEMBER, 1990

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Gratis.

VIII FIVE YEAR PLAN PROPOSALS(1990-95) -  
C.A.D. PROGRAMME

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The Centrally Sponsored CAD Programme initiated in 1974-75 with the basic objectives of improving the utilisation of created irrigation potential of selected major/medium irrigation commands and consequently its productivity presently covers around 131 projects in 20 states and 2 Union Territories covering a Culturable Command Area (CCA) 18.5 M.ha.

FINANCIAL ACHIEVEMENT:

Upto the end of <sup>VI</sup> VIII Plan a sum of Rs.1140 crores have been spent on this programme in the state and Central sectors. The VII Plan outlay for the programme was Rs.1671 crores consisting of Rs.500 crores in the Central sector and 1171 crores in the state sector. The anticipated achievement in the state sector in the VII Plan is around Rs.960 crores and that in the Central sector Rs.497 crores. The budgetted outlay for 1990-91 is around Rs.110 crores as against a demand made initially for Rs.145 crores.

PHYSICAL ACHIEVEMENT:-

As against a VII Plan target of 6.81 M.ha. under field channels, 8.94 M.ha. under warabandi and 1.82 M.ha. under land levelling. the anticipated achievement in the VII Plan would be of the order of 3.24 M.ha. under field channels, 4.33 M.ha. under warabandi and 0.42 M.ha. under land levelling. Therefore, the anticipated achievement would be only around 48% in case of field channels, 54% in case of warabandi and 23% in case of land levelling.

VIII PLAN PROPOSALS:

The Working Group constituted for preparation of strategy during the VIII Plan has since submitted his report. The report indicates that the core items in the CAD Programme should be to ensure reliability of irrigation water supply through unified control

and adoption of management approach and intensification of software components such as adaptive trials, farmers participation, training and communication. The focus of the programme has been proposed to be on better water management. Certain modifications in the financing pattern have been suggested to improve the pace of implementation of CAD Activities. These include construction of field channels purely on grant basis from the centre and the state without any liability on the farmers, 100% Central assistance for warabandi in case the same is implemented through an organised farmers association, assistance for field drains on the same pattern as for field channels, establishment of monitoring cell at project level through 100% Central assistance etc. An outlay of 2500 crores consisting of 800 crores in the Central Sector and 1700 crores in the State sector have been suggested. The provision of Rs. 10 crores out of the Rs. 800 crores has been made to meet the expenses to be incurred on the salary, TA/DA of the staff for monitoring of CAD Programme which would be done by CWC by establishing the monitoring cell and the other items such as evaluation studies of the CAD Projects, seminar, training programmes crop cutting experiments etc. The bifurcation of Rs. 10 crores will be as Rs. 6 crores for the salary etc of the staff and Rs. 4 Crores for other items. So there will be a total outlay of Rs. 790 crores instead of Rs. 800 crores, for Central assistance to be extended to the State Governments. The copies of the Annexure I showing the statewise outlay for the VIII Five Year Plan (1990-95) reducing the 10 crores from the outlay of Uttar Pradesh <sup>and</sup> making the provision for monitoring cell and other items, Annexure II for targets fixed for VIII Five Year Plan and the suggestions made for the Revised Financing Pattern are enclosed. The possible coverage in the VIII plan has been

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proposed as 4.5 M.ha. for field channels, 0.6 M.ha for land levelling, 6.M.ha for warabandi and 0.11 M.ha for field drains.

The EFC Memo. is under preparation which basically encompasses the suggestions made by the Working Group and opening of independent Monitoring cells. It is anticipated that around 180 crores would be needed in 1991-92 under the programme.

Since X in the CAD programme, the funding is on matching basis with the state, it is not possible to carry out a zero based analysis since the actual expenditure from the state is normally not available at the time of making Central release for a given year and the release is based on anticipated expenditure. 44 new projects have been approved for inclusion during the Inter-Ministerial Sanctioning Committee meeting held in February 1990.

No foreign exchange component is involved in the Centrally Sponsored CAD Programme.

Financial Outlays: Eighth Plan

Major Head CAD Program Ministry Water Resources  
 Sub-Head \_\_\_\_\_ Department \_\_\_\_\_

(Rs. crores)

Central Centrally Sponsored Total

1	2	3	4
Seventh Plan 1985-90			
1988-89 (Actuals)	-	134.39	134.39
1989-90 (Actuals)	-	106.17	106.17
1985-90 (Actuals)	-	496.87	496.87
1990-91 (Outlays as Budgetted)	-	110.00	110.00
1990-91 (Anticipated)	-	110.00	110.00
Eighth Plan (Proposed)			
1991-92 (Proposed)	-	800.00	800.00
	-	180.00	180.00

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.5.1990.

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Financial Outlays: Eighth Plan

Major Head: 2705 - CAD - Other Expend. under CADP  
 Ministry: Water Resources  
 Department: -----

Sub-Head: -----

(Rs. crores)

Central Centrally Sponsored Total

1 2 3 4

Seventh Plan 1985-90

1988-89 (Actuals) 0.1416 0.1416  
 1989-90 (Actuals) 0.168 0.168  
 1985-90 (Actuals) 0.3661 0.3661

1990-91 (Outlays as Budgetted) 0.2 0.2  
 1990-91 (Anticipated) 0.2 0.2

Eighth Plan (Proposed)

1991-92 (Proposed) -----

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. Letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

Financial Outlays: Eighth Plan

Major Head - "3601" Ministry - Water Resources  
 Sub-Head - Grants to States under CAD Program Department -

(Rs. Crores)

Central Centrally Sponsored Total

1 2 3 4

Seventh Plan 1985-90				
1988-89 (Actuals)	-	127,3541		127,3541
1989-90 (Actuals)	-	98,4602		98,4602
1985-90 (Actuals)	-	411,1925		411,1925
1990-91 (Outlays as Budgetted)	-	77,80		77,80
1990-91 (Anticipated)	-	104,80		104,80
Eighth Plan (Proposed)				
1991-92 (Proposed)				

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

Financial Outlays: Eighth Plan

Major Head 3692<sup>\*</sup> Ministry Water Resources  
 Grants to UTs under Department  
 Sub-Head CAS Programme

(Rs. crores)

Central Centrally Total  
 Sponsored \*

1 2 3 4

Seventh Plan 1985-90

1988-89 (Actuals)

1989-90 (Actuals)

1985-90 (Actuals)

1990-91 (Outlays as Budgetted)

1990-91 (Anticipated)

Eighth Plan (Proposed)

1991-92 (Proposed)

2.784 2.784

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

Financial Outlays: Eighth Plan

Major Head --- "6705" --- Ministry --- Water Resources  
 Sub-Head --- Loans to States under C.A.D. Programme - Contribution to S.L.A. --- Department ---  
 (Rs. crores)

Central Centrally Sponsored Total

1 2 3 4

Seventh Plan 1985-90

1988-89 (Actuals)	-	-	-	-
1989-90 (Actuals)	+	1.55	1.55	1.55
1985-90 (Actuals)	-	9.55	9.55	9.55
1990-91 (Outlays as Budgetted)	-	2.00	2.00	2.00
1990-91 (Anticipated)	-	2.00	2.00	2.00

Eighth Plan (Proposed)

1991-92 (Proposed)

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. Letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

Financial Outlays: Eighth Plan

Major Head --- "7601" --- Ministry --- *Water* --- Reserves  
 Sub-Head --- *Loans to State Govts* --- Department ---  
                   *under CAP Programme* --- (Rs. crores)

Central Centrally Sponsored \*

	1	2	3	4
Seventh Plan 1985-90				
1988-89 (Actuals)			6,8916	6,8916
1989-90 (Actuals)			5,9938	5,9938
1985-90 (Actuals)			71,5694	71,5694
1990-91 (Outlays as Budgetted)			30,000	30,000
1990-91 (Anticipated)			3,000	3,000
Eighth Plan (Proposed)				
1991-92 (Proposed)				

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

Financial Outlays: Eighth Plan

Major Head '7602' Ministry Water Resources

Sub-Head Loans to UTs with CAD Programme

Department

(Rs. crores)

Central Centrally Sponsored Total

1 2 3 4

Seventh Plan 1985-90

1988-89 (Actuals)

1989-90 (Actuals)

1985-90 (Actuals)

1990-91 (Outlays as Budgetted)

1990-91 (Anticipated)

Eighth Plan (Proposed)

1991-92 (Proposed)

1.4137 1.4137

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

RURAL COMPONENT

DEVELOPMENT HEAD & SUB-HEAD	OUTLAY				RURAL COMPONENT					
	SEVENTH PLAN 1985-90 (Actual)	1989-90 (Actual)	Eighth Plan Proposals (Anticipated)	1990-91 Proposals (Anticipated)	1991-92 Proposals (Proposals)	SEVENTH PLAN 1985-90 (Actual)	1989-90 (Actual)	Eighth Plan Proposals (Anticipated)	1990-91 Proposals (Anticipated)	1991-92 Proposals (Proposals)
IDENTIFIABLE RURAL OUTLAYS (IN AND BENEFIT)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. (1) TO (4)	496.87	106.17	98.00	118.00	150.00	496.87	106.17	80.00	110.00	180.00
2. Electrification (RE) Industries										
3. Panchayat & Village Industries Extension										
4. Health & Allied Activities Development										
5. Extension & Flood Control (CAD)										
6. (5) TO (12)										

SUBJECT TO APPORTIONMENT TO RURAL BY LOCATION AND/OR BENEFIT

- 7. (other than RE)
- 8. Petroleum
- 9. Coal & Lignite
- 10. Non-Conventional Sources of Energy
- 11. Iron & Minerals
- 12. Small Scale Industries & Powerhouses
- 13. Other Industries

(46)

12.  
392

(Rs. Crores)

Sl. Demand No. No.	Head of Development	EIGHTH PLAN			1991-92		
		Budget Support	IEBR	Total Outlay	Budget Support	IEBR	Total Outlay
	11 Cooperation			12425			
D2							
	12 Other Agricultural Programmes			12435			
D4							
II.	RURAL DEVELOPMENT						
	1 Special Programme for Rural Development			12501			
D4							
D62							
	2 Rural Employment			12505			
D4							
	3 Land Reforms			12506			
D4							
	4 Other Programmes of Rural Devt.			12515			
D4							
III.	<u>IRRIGATION &amp; FLOOD CONTROL</u>						
	1 Major & Medium Irrigation			12701			
D78							
	2 Minor Irrigation			12702			
D78							
	3 Command Area Development			12705	800	800	180 - 180
D78							
	4 Flood Control and Drainage			12711			
D78							

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(Rs. Crores)

Ministries/Dep'tts.	Head of Dev.	EIGHTH PLAN			1991-92		
		Budget Support	IEBR	Outlay	Budget Support	IEBR	Outlay
<b>MINISTRY OF URBAN DEVELOPMENT</b>							
Urban Development and Housing							
a) Water Supply & Sanitation	22215						
b) Housing	22216						
c) Urban Development	22217						
d) Secretariat-General Services	32052						
e) Other General Economic Services	13475						
Public Works							
a) Public Works	32059						
Stationery & Printing							
a) Stationery & Printing	32058						
<b>MINISTRY OF WATER RESOURCES</b>							
Ministry of Water Resources							
a) Secretariat Economic Services	13451						
b) Major & Medium Irrigation	12701						
c) Minor Irrigation	12702						
d) Command Area Development	12705	800	-	800	180	-	180
e) Flood Control	12711						
f) Other Transport Services	13075						
<b>MINISTRY OF WELFARE</b>							
Ministry of Welfare							
a) Secretariat-Social Services	22251						
b) Welfare of SC, ST and Other Backward Classes	22225						
c) Social Security & Welfare	22235						
d) Other Industries	12875						
<b>DEPT. OF ATOMIC ENERGY</b>							
Atomic Energy							
a) Telecommunication & Electronic Industries	12859						
b) Atomic Energy Industries	12861						
c) Atomic Energy Research	13401						
Nuclear Power Schemes							
a) Power	12801						

Statewise Estimate Outlays During the VIII Plan (1990-95)

S.No.	State	State Sector Outlay (Crores)	Central Sector (Crores)
1.	Andhra Pradesh	56.00	36.00
2.	Assam	16.00	10.7
3.	Bihar	75.00	40.6
4.	Goa	8.00	3.5
5.	Gujarat	85.00	68.00
6.	Haryana	63.00	38.00
7.	Himachal Pradesh	4.00	2.00
8.	Jammu & Kashmir	9.00	4.00
9.	Karnataka	75.00	50.60
10.	Kerala	30.00	18.00
11.	Madhya Pradesh	215.00	65.30
12.	Maharashtra	360.00	60.00
13.	Meghalaya	1.00	0.30
14.	Manipur	6.00	4.70
15.	Orissa	38.00	28.00
16.	Rajasthan	270.00	108.00
17.	Tamil Nadu	80.00	40.00
18.	Tripura	5.00	3.00
19.	Uttar Pradesh	310.00	<b>190.00</b>
20.	West Bengal	10.00	8.00
21.	Daman & Diu	1	0.60
22.	Dadar & Nagar Haveli	1	0.70
23.	Provisions for monitoring cells		10.00
24.	Other Exp. by MOWR(CADP)		
<b>Total</b>		<b>1700.00</b>	<b>800.00</b>

## ANNEXURE - II.

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395STATEWISE PHYSICAL TARGET (ESTIMATED) OF O.F.D. WORKS 1990-95.

(000 ha)

S.No.	Name of State/ U.T.,	Physical Targets of O.F.D. Works			
		Field Channels	Warabandi	Land Levelling	Field Drains
1.	Andhra Pradesh	154	649	140	10
2.	Assam	47	56	-	4
3.	Bihar	302	40	-	6
4.	Goa	9	6	1	-
5.	Gujarat	445	656	7	10
6.	Haryana	102	216	17	4
7.	Himachal Pradesh	7	10	-	2
8.	Jammu & Kashmir	24	42	15	2
9.	Karnataka	248	241	250	11
10.	Kerala	87	77	-	-
11.	Madhya Pradesh	389	680	10	10
12.	Maharashtra	362	373	110	13
13.	Manipur	27	20	4	1
14.	Meghalaya	2	-	-	-
15.	Orissa	182	230	21	2
16.	Rajasthan	280	257	20	10
17.	Tamil Nadu	285	80	-	1
18.	Tripura	2	-	-	-
19.	Uttar Pradesh	1488	2347	1	12
20.	West Bengal	56	20	3	2
21.	Daman & Diu	1	-	-	-
22.	Dadra & Nagar Haveli	1	-	-	-
Total		4500	6000	600	100
Total (in M.ha)		4.5	6.0	0.6	0.1

Financing pattern

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6.7 The Financing pattern could essentially remain the same with the following changes:

(a) The entire cost of construction of field channels from outlets to 5-8 ha. block and within 5-8 ha. block should be provided as grant to be shared equally by the Centre and the State.

(b) The central assistance for field drains would be same as that suggested for field channels at (a) above.

(c) The Central assistance for the lining of field channels should be for vulnerable reaches and other important junction points/structures subject to a ceiling of 50% of length of kuchha channels involved.

(d) 100% grant should be provided from Centre for warabandi in case farmers associations have been formed and are engaged in distribution of water.

(e) 100% Central assistance in case of audio-visual and other publicity items.

(f) Expenditure on establishment needed for crop cutting experiments should be borne by Centre and State on matching basis.

(g) For conjunctive use, subsidy on tubewells on matching basis should be given to the extent of (Centre & State) 50% in case of small and marginal farmers and 25% for large farmers.

(h) 100% Central assistance should be provided for evaluation studies.

(i) 100% Central assistance should be made available on setting up monitoring Cells in CAD Projects.

(j) 100% Central subsidy should be provided for provision of personal computer at CADA' headquarter for data storage, compilation analysis and monitoring.

(k) Even though a unified control of irrigation water management from headworks to farmgate is envisaged, the expenditure over personnel, system deficiencies etc. of the main system up to the outlets would continue to come from

the state's resources. Such resources, would, however be  
placed by the state at the disposal of CADAs.

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(1) Establishment of monitoring cell at Centre under  
Central Water Commission and expenses will be borne  
by the Ministry of Water Resources.

NOTE

The Budget Provision during the year 1990-91 is Rs.110 crores. Keeping in view the overall outlay of Rs.800 crores for the VIII Plan, the estimated provision for the year 1991 - 92, has been taken as Rs.180 crores. Its head wise and item-wise breakup is given below:-

	(Rs. in crores)
1. Major Head '2705'	0.50
2. Major Head '3601'	174.00
3. Major Head '6705'	2.00
4. Major Head '7601'	2.00
5. CWC New Head of A/C.	1.50
Total	Rs. 180.00 crores

The concurrent monitoring of CAD Projects is proposed to be carried out by the field units of CWC and so a provision of Rs. 1.50 crores has been kept for establishment and maintenance of monitoring cell in CWC. Due to proposed modifications in the financing pattern the provision under loan is slightly reduced.

\*\*\*\*\*

Draft 8th Plan of the Brahmaputra Board

The Brahmaputra Board proposes to take up the following activities during the 8th Five Year Plan.

1. Activities to be funded by Ministry of Water Resources:-
  - i) Investigation of multipurpose projects.
  - ii) Survey and investigation for preparation of Master Plan.
  - iii) Survey and investigation of specific drainage schemes including environmental studies.
  - iv) Geomorphological studies of the Brahmaputra.
  - v) (a) Construction of NEHARI.  
(b) Physical model studies of some reaches of the Brahmaputra.
  - vi) Repair and maintenance of assets created by the Board during investigation.

It may be indicated here that items (i), (ii), (iii), (v) and (vi) are continuing activities and only item (iv) is a new activity.

2. Activities proposed to be funded by the N.E.C./sources other than Ministry of Water Resources:-
  - i) Construction of drainage schemes.
  - ii) Construction of Pagladiya dam project.
  - iii) Pre-construction of Tipaimukh project.

Brief description of each of these activities are as follows:-

- (1) Activities to be funded by the Ministry of Water Resources:
  - (i) Investigation of multipurpose projects:
  - (a) Investigation of Paqladiya project:

At present surveys and investigation for preparation of environmental report and survey for watershed treatment

contd...

and command area survey are being continued. Socio-economic survey for preparation of rehabilitation master plan for the ultimate stage have also been taken up. The CWC has suggested continuation of Hydrometeorological observation, detailed geological investigation, monitoring of ground water level, contour mapping of the command area, etc. These surveys will be taken up during 1990-91 and 1991-92.

(b) Investigation of Tipaimukh dam project:

47 Nos. of special studies are being carried out by the Board in association with the Central Government Organisations like CWC, CSMRS, GSI, NCAER, WAPCOS, etc. It is proposed to continue these investigations/studies during the first two years of the 8th Plan. It is also proposed to complete the survey and preparation of report for environmental clearance and rehabilitation master plan. Hydrometeorological data collection and seismic studies will continue throughout the 8th Plan.

(c) Investigation of Subansiri dam project:

It is proposed to continue investigation of routine nature viz. collection of hydrometeorological data, seismological data and maintenance of assets created during investigation. It is also proposed to take up survey and investigation for environmental clearance and rehabilitation master plan of oustees subject to concurrence by the Arunachal Pradesh Govt. Reservoir simulation studies for optimization of benefit has also been taken up by the Board in association with the CWC.

contd....

(d) Investigation of Dihang (Siang) dam project

It is proposed to continue the investigation of routine nature viz. collection of hydrometeorological data, seismological and maintenance of assets created during the investigation are to be carried out. It is also proposed to take up survey and investigation on environmental aspect subject to concurrence by the Arunachal Pradesh Government.

(e) Investigation of Lohit dam project

Detailed investigation of the project has been completed. It is proposed to continue the routine investigation viz. collection of hydrometeorological data, seismological data and maintenance of assets. Feasibility report is proposed to be completed during 1990-91 and 1991-92.

(ii) Survey and investigation for preparation of Master Plan

Master Plan Part-I prepared by the Brahmaputra Board was considered by the CWC after receipt of comments from the various appraising agencies. It has been decided that the Master Plan Part-I is to be updated and also integrated with the tributary Master Plans. It is proposed to take up these works during the 8th Plan period. During the 7th Plan, under Part-III of Master Plan, master plans of 6(six) tributaries of the Brahmaputra have been completed. During the 8th Plan period it is proposed to take up survey and investigations for preparing master plans of the balance 40(forty) numbers of tributaries of the Brahmaputra and rivers of Tripura (under Master Plan Part-III).

contd...

(iii) Survey and investigation of specific drainage schemes in the Brahmaputra and Barak valleys

It is proposed to complete survey and investigation of the balance of 27 (twentyseven) numbers of drainage congested pockets in the Brahmaputra valley, Barak valley and in Tripura during the 8th Plan. It is also proposed to prepare DPRS of 15 numbers of drainage schemes during the 8th Plan period. It is proposed to take up environmental studies in respect of these proposed schemes during the 8th Plan. This work is proposed to be done by the Board through local scientific institutions/universities. The Board will also have a small environmental cell of its own.

(iv) Geomorphological studies of the Brahmaputra

For evolving appropriate measures for the control of bank erosion in the Brahmaputra valley it is felt that geomorphological studies are taken up in a systematic manner. The Brahmaputra Board has, therefore, proposed to open a Geomorphological Cell and take up geomorphological studies during the 8th Plan. Detailed programme will be chalked out in consultation with the GSI.

(v) (a) Construction of North Eastern Hydraulic & Allied Research Institute (NEHARI)

For attending to the complex problems of flood, bank erosion and drainage congestion along with integrated development of the water resources of the N.E. Region it was felt a Research Institute of specialised nature was necessary in the N.E. Region. The Board, therefore, approved construction of

contd....

such an institute and it is being set up at North Guwahati. The institute will provide for research and testing facilities in the fields of hydraulics, soil mechanics, rock mechanics, concrete testing, etc. The hydraulic laboratory will have 5 model trays and one flume which will enable the Board to set up river models of the reaches having chronic bank erosion problem and also other tests connected with the design of spillway, tunnel approaches, etc. There is sufficient land to expand the activities of the institute in future. The estimated cost of the institute is Rs. 4.70 crores at 1985-86 rates. The project report was prepared in consultation with the CWFRS and CSMRS in 1986. The project was sanctioned in December, 1988. The estimate is being revised and the revised estimated cost is Rs. 9.21 crores at 1990 price.

The Government of Assam had helped the Board to acquire 47 hectare of land in the North Guwahati. Construction of the institute was taken up in 1988-89 and approximately 15% of the work has been completed. It is proposed to complete the balance 85% works during 1990-91 and 1991-92. The major items of works are construction of (1) hydraulic laboratory and water conductor system, (2) administrative-cum-laboratory buildings, (3) water supply, electrification, approach roads, etc., (4) procurement of equipment, (5) training of personnel, (6) ancillary works, etc.

(b) Physical model studies

There are number of reaches in the Brahmaputra which have

contd....

chronic bank erosion problem. To evolve appropriate measures for controlling bank erosion it is necessary to take up laboratory tests in physical models to be set up from a nodal point to nodal point basins. It is proposed to set up two models in the NEHARI during the 8th Plan.

(vi) Repair and maintenance of assets created by the Board

The Brahmaputra Board has a building complex at Basistha comprising the office blocks and residential buildings. There are also other small building complexes at North Lakhimpur, Gerukamukh, Pasighat, Routung, Tezu, Miao, etc. The Board has also a large number of vehicles including trucks. For repair and maintenance of these assets, an amount of Rs. 165 lakhs have been provided for in the 8th Plan.

(vii) Establishment

Total sanctioned strength of various categories of staff of the Board is 738 and the number in position on 31.7.90 is 686 Nos. Category-wise position is furnished as follows:-

<u>Category</u>	<u>Sanctioned strength</u>	<u>Number in position</u>	<u>Number of vacant posts</u>
Statutory	7	4	3
Group 'A'	82	69	13
Group 'B'	47	40	7
Group 'C'	445	417	28
Group 'D'	157	156	1
Total	738	686	52

The staff in position comprises 255 nos. of technical

contd...

staff (Degree holder 94 nos., Diploma holders 161 nos.), 87 nos. of semi technical staff, 316 nos. of general and clerical staff and 29 nos. of Accounts staff. Action has been initiated to fill up the balance essential posts. An amount of Rs.1,769 lakhs has been provided for the item for the 8th Plan.

2. Items to be funded by NEC/sources other than Ministry of Water Resources

It is proposed to take up the following activities under this programme.

(i) Construction of 10(ten) nos. of drainage schemes:

The Board has already prepared the detailed project report of the Harrang drainage scheme and it is in the process of sanction. The Board has also completed detailed investigation of 2(two) drainage schemes viz. Barbhag and Demow. The detail project reports of these schemes have also been completed in June, 1990 and submitted to Govt. of India for sanction. In addition to these three, the Board has proposed to complete the detailed project reports of 7 (seven) more schemes during the 8th Plan period and take up construction. An amount of Rs. 50 crores have been provided under this item.

(ii) Pagladiya dam project:

The detailed project report of the ultimate phase of Pagladiya dam project incorporating the irrigation component has been completed and submitted to the Government of India in May, 1990. The estimated cost of the project will be Rs.288 crores. It is proposed to take up the construction

contd...

of the project from 1991-92. Proposed outlay during the 8th Plan is Rs. 240 crores against this project.

(iii) Tipaimukh dam project (pre-construction):

The estimate for pre-construction of Tipaimukh project amounting to Rs.16 crores had been submitted to the Government of India for sanction. It is proposed to start the pre-construction works of the project from 1991-92. An amount of Rs.16 crores is provided in the 8th Plan.

An abstract showing the various activities with proposed outlay during the 8th Plan and in Annual Plan 1990-91 is as follows:-

Activities	(Rs. in lakh)	
	Proposed outlay Total 8th Plan	1990-91
1	2	3
1. Activity to be funded by MOWR:		
<u>Physical</u>		
i) Investigation of multipurpose projects (Pagladiya, Tipaimukh, Subansiri, Dihang and Lohit)	1665	294
ii) Survey and investigation for preparation of Master Plan (updating and firming up Master Plan Part-I, Part-II and preparation of Master Plan Part-III balance 40 tributaries)	380	35
iii) Survey and investigation of specific drainage schemes (balance 27 nos.)	400	40
iv) Geomorphological studies	100	10
v) (a) Construction of NEHARI	921	131
(b) Physical model studies	200	-
vi) Repair and maintenance of assets created by the Brahmaputra Board	165	25
Total for survey and investigation	3,831	575

contd...

1	2	3
vii) Establishment and Training	1,769	300
<b>TOTAL</b>	<b>5,600</b>	<b>875</b>
2. Activity to be funded by NEC/other agencies.		
I) Drainage schemes		
a) Construction of Harrang drainage scheme	5,000	100
II) Construction of multipurpose projects		
a) Pagladiya	24,000	200*
b) Tipaimukh(pre-construction)	1,600	200*
<b>GRAND TOTAL</b>	<b>36,200</b>	<b>1,375</b>
	Rs.362 crores	Rs.13.75 crores

\* Token provision

## DRAFT VIII PLAN (1990-95) - PROPOSALS FOR PROGRAMMES, PROJECTS

NAME OF UNDERTAKING/DEPARTMENT/: Brahmaputra Board,  
 Ministry of Water Resources  
 (Outlay/expenditure in Rs.  
 crores and physical targets/  
 benefits in relevant units  
 of measurement) (Rs. in lakh)

Particulars	Code No.	Nature and Location of the scheme	Comment year	Estimated cost	Cumulative expenditure upto end of 7th Plan	Upto the end of 7th Plan	Eight Plan (1990-95) Proposed outlay		
								Origin	Revised
	2	3	4	5	6	7	8	9	10

B.1 Completed schemes as on 31.3.90 (Spill over liability)

B.2 Critical ongoing schemes as on 1.4.1990.

i. Invtn. of multi-purpose projects (Pagladiya, Tipaimukh, Subansiri, Dehang, Lohit, etc.)

1665

ii. Survey and investigation for preparation of Master Plan, Updated and firming up master plan Part-I, Part-II and prepn of Master Plan Part-III-balance 40 tributaries.

## DRAFT VIII PLAN (1990-95) - PROPOSALS FOR PROGRAMMES, PROJECTS

NAME OF UNDERTAKING/DEPARTMENT/: Brahmaputra Board, (Outlay/expenditure in Rs. crores and physical targets/benefits in relevant units of measurement) (Rs. in lakh)

MINISTRY: Ministry of Water Resources

Particulars	Code No.	Nature and Location of the scheme	Comment year	Estimated cost	Origin al	Cumulative expenditure upto end of 7th Plan	Upto the end of 7th Plan	Eight Plan (1990-95) Proposed outlay
	2	3	4	5	6	7	8	9
B.1 Completed schemes as on 31.3.90 (Spill over liability)								
B.2 Critical ongoing schemes as on 1.4.1990.								
1. Invtn. of multi-purpose projects (Pagladiya, Tipaimukh, Subansiri, Dehang, Lohit, etc.)								1665
11. Survey and investigation for preparation of Master Plan, Updated and firming up master plan Part-I, Part-II and prepn of Master Plan Part-III-balance 40 arbitrates.								380

	Annual Plan 1990-91		Annual Plan 1991-92				Anticipated Benefits (in Units)			Reports. (Specifically Environmental Measures/Costs)
	Appd. outlay	Anticipated outlay	Proposed outlay	Eight Plan	1990-91	1991-92	Beyond eight plan	17	18	
11	12	13	14	15	16	17	18			
-	-	-	-	-	-	-	-			
294		400								
35		40								

e-1600

1	2	3	4	5	6	7	8	9	10
Activities to be funded by the NEC									
1. Drainage schemes									
a) Construction of Harrang drainage scheme				490					
b) Construction of Demow drainage scheme				493					5000
c) Construction of Barbhag drainage scheme				411					
d) Other drainage schemes 7 Nos.				3605					
II) Construction of Multipurpose projects									
a) Pagladiya				24000					24000
b) Tipaimukh									
i) Pre-construction				1600					1600
Total				36200					36200

11 12 13 14 15 16 17 18

100

600

200

5500

200

1400

500

7500



	12	13	14	15	16	17	18
		45					
		10					
		160					
		-					
		30					
		705					
		320					
		1025					
		390					

The figure given under column 10 is the revised estimated figure

ANNEXURE III 'C'  
DRAFT EIGHT PLAN (1990-95) PROPOSALS FOR PROJECTS/PROGRAMMES

NAME OF UNDERTAKING/DEPARTMENT/MINISTRY, BR.HM.PUTRA BOARD/MINISTRY  
OF WATER RESOURCES

(Outlay/Expenditure in Rs.Cr. and physical  
targets/benefit in relevant units of  
measurement)

Particulars	Code No.	Nature of Location of the Schemes	Com- pen- ce- ment Year	Estima- ted cost	Eighth Plan (1990- 95)	Annual Plan (1990- 91)	Appd. Anti- Out- lay	Anti- Out- lay	Propo- sed outlay	Annual Plan 1991- 92	Propo- sed outlay	Anticipated Re			
												benefits (in units)	ks	mar	ks
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
<b>New Scheme:</b>															
Schemes to be funded by the NEC:															
<b>1. Drainage Scheme</b>															
a) Harang				490 )											
b) Dimow				493 )											
c) Barbhag				411 )	5000	100			600						
d) Another 7 Nos.				3605 )											
<b>II. Construction of multipurpose Projects</b>															
a) Pagladiya				24000	24000	200			5500						
b) Tipaimukh				1600	1600	200			1400						
<b>(i) Pre-construction</b>															
Total					36200	500			7500						

ANNEXURE III 'D'

SUMMARY STATEMENT

DRAFT VIII PLAN (1990-95) - PROPOSAL FOR PROGRAMMES/PROJECT

NAME OF UNDERTAKING/DEPARTMENT/MINISTRY: Brahmaputra Board,  
Ministry of Water Resources  
(Rs. Crores)

PARTICULARS	CODE NO. MAJOR HEAD/MINOR HEAD	ESTIMATED COST	CUMULATIVE EXPENDITURE UPTO END OF 7TH PLAN OUTLAY	EIGHTH PLAN (1990-95)		ANNUAL PLAN 1990-91		ANNUAL PLAN 1991-92	
				PROPOSED	SED	APPRO. ANTI-OUTLAY	OUTLAY	PROPOSED	OUTLAY
1	2	3	4	5	6	7	8	9	10
1. SCHEMES AIMED AT MAXIMISING BENEFITS FROM THE EXISTING CAPACITY AS ON 31.3.1990									
2. COMPLETED SCHEMES AS ON 31.3.1990 (SPILL-OVER LIABILITY)									
3. CRITICAL ONGOING SCHEMES		81.65	49.58	56.00	8.75				10.25
4. SCHEMES SANCTIONED/COMMITTED IN 1990-91 (to be funded by NEC)		4.90	-	4.90	1.00				3.90
5. NEW SCHEMES (to be funded by NEC)		357.10	-	357.10	4.00				71.10
Total		443.65	49.58	418.00	13.75				85.25

ANNEXURE - IV

Statement showing Employment (scheme wise) in the Seventh/  
Eighth Plan with the corresponding figures of Expenditure/Outlays

Ministry.....

Department.....

Sl No.	Head of Development	Estimated continuing (Regular) Employment (Persons)						Estimated Employment (in persons days) generated in the construction phase			
		March 1985	March 1990	March 1995	March 1991	March 1992	March 1992	1985-90 (Actual)	1990-95 (Target)	1990-91 (Anti)	1991-92
1	2	3	4	5	6	7	8	9	10	11	
1.	Irrigation & Flood Control	1037	572	1450	738	925	13.3 lakh	313 lakh	33 lakh	65 lakh	

Should be arrived at by adding the employment (in persons days) generated/to be generated in each year of the construction phase.

<u>Expenditure Outlay (in Rs. crores)</u>								
1985-90		1990-95			1990-91		1991-92	
Total	Of which capital content	Total	Of which Capital content	Total	Of which Capital content	Total	Of which capital content	
12	13	14	15	16	17	18	19	
31.36	4.48	418	280	13.75	2.70	85.25	39.00	

STATEMENT IEighth Five Year PlanPLAN OUTLAYS BY HEADS OF DEVELOPMENT - CENTRE

Demand No.	Head of Deve.	Eighth Plan				1991-92	
		Budget support	IEBR	Total Out-lay	Budget Support	IEBR	Total Out-lay
III	Irrigation & Flood Control						
D 78	4 Flood Control and Drainage	12711		56.00			8.75

STATEMENT IIEighth Five Year Plan

## PLAN OUTLAYS BY MINISTRIES/DEPARTMENTS - CENTRE

(Rs. crores)

Demand No.	Ministries/ Deptts.	Head of Dev.	Eighth Plan 1991-92					
			Bud- get supp- ort	IEBR	Out- lay	Bud- get supp- ort	IEBR	Out- lay
	Ministry of Water Resour- ces							
	Flood Control	12711			56. 00			8.75

C-1600

Review of activities of Brahmaputra  
Board during the 7th Plan Period(1985-90)

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Brief details of the works done during the 7th Plan period are as follows:-

1. Preparation of Master Plan

Due to enormity of the task of preparation of the Master Plan, the work was divided into three parts, viz. Part-I dealing with the main stem of Brahmaputra; Part-II dealing with the Barak and its tributaries and Part-III dealing with the tributaries of the Brahmaputra and rivers of Tripura. The Board completed the Master Plan Part-I pertaining to the main stem of Brahmaputra and submitted to Government of India in December, 1986.

The Board also completed the Master Plan Part-II dealing with the river Barak and its tributaries during the 7th Plan period and submitted the same to the Ministry of Water Resources in May, 1988. After completion of Part-I and Part-II the Board took up the preparation of Master Plan Part-III. There are 38 tributaries in the Brahmaputra valley and 8 nos. of rivers in Tripura. During the 7th Plan period, particularly during 1989-90, the target was to complete Master Plan of 5 tributaries of the Brahmaputra. The target was, however, exceeded and the Board has completed preparation of Master Plan of 6 sub-basins.

2. Investigation of Multipurpose projects

The Board continued the investigation of Dihang, Subansiri and Lohit projects and also took up investigation of Pagladiya Project and Tipaimukh project.

contd...

- 2 -

Projectwise brief description of this activity is as follows:-

### 2.1 Pagladiya dam project

The river Pagladiya, a medium sized north bank tributary of the Brahmaputra, creates severe floods in the middle and lower reaches of the Pagladiya sub basin and adjoining sub basins. To tackle this flood problem, the Brahmaputra Board had taken up surveys and investigations to prepare a project. The project also would incorporate substantial irrigation benefit.

Detailed project report incorporating both flood control and irrigation components has been prepared by the Board and submitted to Government of India for sanction. The estimated cost of the project is Rs.288 crores. It envisaged construction of 28.75 m high (maximum height) and 24.3 km long homogeneous earthfill dam at Thaikuchi just below the confluence of the river Matunga with Pagladiya. Construction of this project will go a long way in stabilising the road and railway communication to the north-east with the rest of the country. It will take 7 years to complete the project.

### 2.2 Tipaimukh dam project

The Master Plan Part-II prepared by the Brahmaputra Board dealing with the Barak sub basin has identified that a storage reservoir at Tipaimukh is an important component for flood and drainage congestion problem of the Barak valley. The project report for this project was earlier prepared by the CWC in 1984 for an estimated cost of

contd....

Rs. 1078 crores. The investigation was funded by NEC. Subsequently, the NEC requested the Brahmaputra Board to process the project report for sanction. The updated cost of the project at 1988 price level is Rs.1300 crores.

The project envisages construction of a 161 m high rockfill dam across river Barak at Tipaimukh which is situated on the border of Manipur, Mizoram and Assam. It will provide an effective live storage of 0.90 m ha m which will ensure absorption of peak floods of Barak and thereby moderate the flood downstream in the Silchar, Karimganj and Hailakandi districts of Assam. The project will also generate bulk hydel power. The installed capacity is 1500 MW.

As desired by the Planning Commission and Ministry of Water Resources, 47 nos. of studies have been taken up by the Brahmaputra Board in association with the CWC, CSMRS, CWPRS, GSI, WAPCOS, School of Earthquake Engineering, etc. for firming up the various proposals in the project report. The studies also include the socio-economic surveys, rehabilitation proposals, flora and fauna of the area for meeting the requirements for environmental clearance. It has been proposed to complete all the first priority studies by October, 1991.

### 2.3 Subansiri dam project

Detailed investigation of the project was completed by the Brahmaputra Board and project report submitted to Government of India in July, 1983.

contd....

Based on the requirements of the appraising agencies, some investigations were continued during the 7th Plan. Also investigations of routine nature viz. collection of hydro-meteorological data, seismological data and maintenance of assets created during investigation were carried out during the 7th Plan. The estimate was also updated at 1988 price level.

The project envisages construction of a 257 m high rockfill dam at Gerukamukh near Assam - Arunachal border. The reservoir will have a spread of 193 sq km. Besides flood mitigation, mostly in its own basin, the project will also provide huge block of hydropower. Installed capacity of the project is 4800 MW. The estimated cost of the project at 1988 price level is Rs. 4200 crores.

#### 2.4 Dihang (Siang) dam project

Detailed investigation of this project was completed by the Brahmaputra Board and project report submitted to Govt. of India in July, 1983.

Based on the requirements of the appraising agencies, some investigation were continued during the 7th Plan. Also investigation of routine nature viz. collection of hydro-meteorological data, seismological data and maintenance of assets created during investigation were carried out during the 7th Plan.

The project envisages construction of a 296 m high rockfill dam at Rowtung village near Pasighat in Arunachal pradesh. The reservoir will have a spread of 490 sq km.

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area. The project is a multipurpose one and would provide large benefit of flood mitigation, generation of hydropower, irrigation, navigation, etc. It would produce a huge block of hydro-electric power. The total installed capacity is 20,000 MW. The estimated cost of the project is Rs.12,170 crores at 1988 price level. The cost of generation works out to 27 paise per unit at 1988 price.

### 2.5 Lohit dam project

Preliminary investigation of this project was taken up during 1984. But detailed investigation work was done during 7th Plan period. The investigation for this project has since been completed in March, 1990 and feasibility report is under preparation.

The project envisages construction of a 292 m high rockfill dam near Hayuliang village in Arunachal Pradesh. Besides flood moderation in its own basin the project has an installed capacity of 3300 MW of hydel power.

### 3. Survey and investigation for preparing specific drainage schemes

In the Master Plan prepared by the Board for the Brahmaputra and Barak basins, 20 Nos. of drainage pockets have been identified in the Brahmaputra valley, 8 nos. in the Barak valley and 2 nos. in Tripura. Surveys and investigation of these were taken up during the 7th Plan. The Board had prepared one specific drainage scheme for improvement of drainage system in Harang sub basin in the Barak valley at an estimated cost of Rs. 4.90 crores. Sanction

contd...

to the project is awaited. It is proposed to take up construction of the project during 1990-91.

The Board also completed detailed investigation of 2 drainage schemes in drainage congested areas of Barbhag and Demow during the 7th Plan period (March, 1990). Detailed project report of these schemes have also been completed and submitted to Government of India in June, 1990 for sanction.

4. Setting up of North Eastern Hydraulic & Allied Research Institute

For attending to the complex problem of flood, bank erosion and drainage congestion along with integrated development of the water resources of the N.E. region it was felt that a Research Institute of specialised nature was necessary in the N.E. region. The Board, therefore, approved construction of such an institute and it is being set up at North Guwahati in a 47 hectare plot of land. The institute will provide for research and testing facilities in the fields of hydraulics, soil mechanics, rock mechanics, concrete testing, etc. The hydraulic laboratory will have 5 model trays and one flume which will enable the Board to set up river models of the reaches having chronic bank erosion problem and also other tests connected with the design of spillway, tunnel approaches, etc. The estimated cost of the institute is Rs. 4.70 crores. The project was sanctioned in December, 1988. Construction of the insti-

contd...

tute was taken up in 1988-89 and approximately 15% of the work has been completed. It is expected to make it operational by 1991-92.

5. Finance

The amount of grants-in-aid received from the Ministry of water resources during the 7th Plan period and the expenditure yearwise are as follows:-

<u>Year</u>	<u>Allocation</u>	<u>Expenditure</u>
1985-86	8.00 crores	8.65 crores
1986-87	7.00 crores	6.65 crores
1987-88	5.75 crores	5.70 crores
1988-89	5.00 crores	5.18 crores
1989-90	6.65 crores	5.27 crores
	<u>32.40 crores</u>	<u>Rs.31.36 crores</u>

Activity wise break up of the expenditure is as follows:-

1. Survey & Investigation for Master Plan.	Rs. 10.72 crores
2. Investigation of Multipurpose project	Rs. 6.74 crores
3. Establishment	Rs. 13.90 crores
Total : -	<u>Rs. 31.36 crores</u>

Coastal protection works in Kerala.

Kerala State has a coast line of about 560 km. of which about 320 km. length was identified as vulnerable to erosive activity of the sea and requiring protection. The Kerala State with its high density of population has maximum concentration in the coastal zone due to numerous industrial activities in the area. The narrow alluvial coastal zone accommodates important residential areas, six districts headquarters, more than 15 ports, fishing harbours and extensively cultivated land. In addition, out of 110 km. of highways, 85 km. run close to the coastal areas. Moreover, the coastline is the national boundary. Thus considering the acute problem of sea-erosion in the State and as a special case, Central loan assistance is being provided to the State Government for these works since 1972-73.

2. The programme of coastal protection works in vulnerable reaches was taken up by the State even earlier (1964). A total length of 308.85 km. out of the 320 km. identified as vulnerable has been protected by March, 1989. Strengthening of sea walls constructed as per earlier design and requiring to be brought to the present day standards was also required for a length of about 70 km. of which 40.18 km. have been completed by March, 1989.

3. The Central loan assistance provided to the State Government till the end of 6th Plan was Rs.34.82 crores. During the 7th Plan, an outlay of Rs.12.50 crores was approved for this programme. The release were Rs.2.31 crores in 1985-86, Rs.2.50 crores each during 1986-87, 1987-88, 1988-89 and <sup>Rs. 2.38 crores in</sup> 1989-90. During the current year, the budget provision is Rs.3.50 crores.

4. Out of the proposed new sea walls of length 320 km. and 70 km. of the strengthening of the old sea walls, about 11 km. of new sea walls and about 30 km. of strengthening of old sea walls will spillover to the VIII Plan considering the above as Phase-I programme.

Contd.....2/-

- 2 -

5. A detailed project report has been submitted by the Government of Kerala which is under techno-economical appraisal in the Central Water Commission. After due consideration, Ministry of Water Resources has made a provision of Rs.10.00 crores for the Phase-I and Rs.25.00 crores for phase-II of the programme of coastal protection works in Kerala for Eighth Plan.

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Coastal protection works in Karnataka.

Karnataka Government prepared a Master Plan for protection of coastal areas. The works envisaged under the Master plan are estimated to cost about Rs.145 crores. Government of Karnataka has proposed to execute works estimated to cost Rs.40 crores in the priority reaches during the 8th plan. This proposal was considered in the 17th meeting of Beach Erosion Board of the Ministry of Water Resources. The Beach Erosion Board has recommended Central loan assistance for these works. A provision of Rs.0.50 crores has been made for the current year 1990-91.

Keeping in view the physical constraints and the likely provision to be made by the State Government on the scheme a provision of Rs.45.0 crores has been made for the VIII Plan.

Coastal Protection works in other Coastal States.

In other coastal States, severe problems have arisen in localised pockets affecting important places near the river mouths and near the sea-ports. The problem of erosion in the port areas is being taken care of by the Port Authorities concerned. The States claim that their resources are meagre to meet the requirements of funds for protecting the coastal areas. A provision of Rs.10.00 crore is proposed for the VIII Five Year Plan.

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## MINISTRY OF WATER RESOURCES

## B.M. SECTION

DRAFT EIGHTH PLAN AND ANNUAL PLAN 1991-92,  
CENTRAL SECTOR - OUTLAYS & EXPENDITURE

## STATEMENT - I

( Rs. in Crores )

Sl. No.	Name of Scheme	Cost.		Expenditure to and of Sixth Plan.	Seventh Plan Expd.		1990-91		1991-92		Eighth Plan outlay proposed.
		Appro- ved.	Intest		Outlay	Expdt.	Outlay	Anted Expdt.	Outlay	Proposed.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
<u>CONTINUING SCHEMES:</u>											
1.	Assistance for Anti-Sea erosion works in Kerala.	-	-	-	12.50	12.18	3.50	3.50	4.00	10.00	
<u>NEW SCHEMES:</u>											
1.	Assistance for Anti-Sea erosion works to Kerala Phase-II.	-	-	-	-	-	-	-	3.00	25.00	
2.	Assistance for Anti-Sea erosion works in Karnataka.	-	-	-	-	-	0.50	-	3.00	15.00	
3.	Assistance for Anti-Sea erosion works to other States.	-	-	-	-	-	-	-	2.00	10.00	

PROPOSALS FOR THE 8TH FIVE YEAR PLAN 1990-95  
 ASSISTANCE TO STRATEGIC FLOOD PROOFING MEASURES  
 IN GANGA FLOOD BASIN STATES

In view of the severe recurring flood damages in the Ganga sub-basin and inadequacy of the flood management measures in the basin, Ministry of Water Resources attempted an Approach Paper with a view to bring out strategies and their financial implications for consideration. Considering the traditional developments and activities already included in the current plans, the new thrust suggested by the Ministry was for the flood proofing measures which were considered essential for giving physical relief to the chronically affected population. These items had not received enough attention in the past.

The outlay proposed for the 8th plan is Rs.30 crores. The approved outlay for the current year i.e. 1990-91 is Rs. 9 crores. The tentative outlays for other years during Eight plan are as follows:-

<u>Year</u>	<u>Outlay ( Rs. crores)</u>
1990-91 ( Approved)	9
1991-92	5
1992-93	5
1992-94	5
1994-95	6
	<hr/>
Total for 8th Plan.	<u>30</u>

PROPOSALS FOR THE 8TH FIVE YEAR PLAN - 1990-95

Assistance to Flood Control Measures in the Brahmaputra Valley

Considering the complexity and magnitude of flood management problem in the Brahmaputra River System, Central Loan Assistance outside the state plan is being provided to Govt. of Assam since 1974-75 for flood management works in the Brahmaputra Valley. Loan assistance of Rs. 202.6 crores has been provided to State Govt. upto the end of the 7th Plan (March, 1990) to undertake flood control works in the Brahmaputra Valley. The works undertaken so far have provided reasonable protection to an area of 1.6 m.ha. out of the total flood prone areas of 2.9 m.ha. in the Brahmaputra Valley in Assam. The actual expenditure during 7th Plan was Rs. 90.45 crores as against the plan outlay of Rs. 70 crores.

The outlay proposed for the 8th plan is Rs. 110 crores. The outlay has been increased in view of the persistent demands from the Govt. of Assam for taking up large number of pending flood control schemes. The approved outlay for the current year i.e. 1990-91 is Rs. 20 crores. The tentative outlays for other years during eighth plan are as follows :-

<u>Year</u>	<u>Outlay (Rs. crores)</u>
1990-91 (Approved)	20
1991-92	20
1992-93	23
1993-94	23
1994-95	24
<u>Total for 8th Plan</u>	<u>110</u>

DRAFT VIIIITH PLAN (1990-95) - PROPOSALS FOR  
PROGRAMMES / PROJECTS

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ANNEXURE III-B

NAME OF UNDERTAKING/  
DEPARTMENT/MINISTRY

(Outlay/Expenditure in Rs. crores  
and Physical Targets/Benefits in  
relevant units of measurement)

PARTICULARS	CODE NO. MAJOR HEAD/ MINOR HEAD	NATURE AND LOCATION OF THE SCHEMES	COMMENCE- MENT YEAR	ESTIMATED COST	
				ORIGINAL	REVISED
(1)	(2)	(3)	(4)	(5)	(6)
2. Criti- cal Ongoing Schemes as on 1.4.1990					
Flood Control in Brahmaputra Valley	6701 FF2(1) (1)	Flood Cont- rol Schemes in Assam	1974-75	Continuing Scheme	
CUMULATIVE EXPENDITURE UPTO END OF EIGHTH PLAN	UPTO THE CAPACITY CREATION	END OF SEVENTH PLAN UTILISATION	EIGHTH PLAN (1990-95) PROPOSED OUTLAY	ANNUAL PLAN 1990-91 APPD. OUTLAY	
(7)	(8)	(9)	(10)	(11)	(12)
202.6	-	-	110	20	20
ANNUAL PLAN 1991-92 PROPOSED OUTLAY	ANTICIPATED BENEFITS (in Units)				REMARKS
(13)	EIGHTH PLAN	1990-91	1991-92	BEYOND EIGHTH PLAN	(Specifically Environmental Measures / Costs)
(13)	(14)	(15)	(16)	(17)	(18)

8TH FIVE YEAR PLAN 1990-95) PROPOSALS IN RESPECT OF  
GANGA FLOOD CONTROL COMMISSION, PATNA

1. In order to ensure close co-operation of the Govt. of India in formulation and implementation of an integrated plan to tackle the flood problems of the river Ganga and its tributaries, the Ganga Flood Control Board (headed by the then Union Minister of Irrigation and including inter-alia the Chief Ministers of the seven co-basin States and Lt. Governor of U.T. of Delhi) was set up by Govt. of India in April, 1972. As per clause 5 of the Resolution for setting up the Ganga Flood Control Board, the Ganga Flood Control Commission was also set up as its Secretariat and executive arm in fulfilment of the aforesaid objectives.

2.1 The Ganga Flood Control Commission, during the 7th Five Year Plan made appreciable progress on several functions assigned to it. The desired progress could not be achieved on some of the functions mainly on account of poor availability of data or inadequate response from the States inspite of repeated discussions in GFCB and GFCC meetings and discussions between officials of this Commission and State Governments. To some extent, works also suffered due to shortage of officers/ Staff at various levels. Many of the functions assigned to GFCC such as technical examination of flood management schemes, updating of Comprehensive Plans for various river systems in the Ganga sub-basin, monitoring of important flood management schemes, to make assessment of adequacy of waterways under existing rail and road bridges, to assess performance of completed flood management schemes and other special studies are of continuing nature. These activities need to be continued in the 8th Five Year Plan also.

In addition it is proposed to take up new works during the 8th Plan as given hereunder:-

- (1) River morphology studies including river survey in various river systems of Ganga sub-basin.

-: 2 :-

- (ii) System study on flood moderation aspects of the existing and proposed reservoirs in Ganga sub-basin.
- (iii) Preparation of flood risk maps for some of the flood prone areas of Ganga sub-basin.

In the annexure 5 the detailed financial proposals separately for (a) Continuing works and (b) new proposed works have been given. It shall be seen from the said annexure that the total financial outlay for the 8th Plan Period works out to Rs.624.29 lakhs out of which Rs.470.19 lakhs is estimated for the continuing works and Rs.145.10 lakhs for new proposed works during the 8th Plan period.

This may be mentioned here that a revised proposal for conversion of the establishment component for the existing sanctioned setup during the 8th Plan period from Plan to Non-Plan was sent by this Commission to the Ministry under letter No.GFCC/Acctt (8)/89/1265 dated 2nd March,1990 keeping in view the observation of the finance desk of the Ministry. The same has not yet been approved. While the matter is being taken up separately, in case the proposal for conversion of the establishment charges of the existing sanctioned setup of GFCC from Plan to Non-Plan is approved by the Ministry, the financial proposal for the 8th Plan period shall stand modified as follows:

I. Proposed financial outlay for 8th Plan

A) Continuing works:-

1) Establishment Charges - Rs.350.75 lakhs (Rs.291.65 lakhs for four yrs. from 1991-92 to 1994-95)

ii) Works

- Rs.128.44 lakhs

Total:

Rs.479.19 lakhs

B) Proposed new works:

Rs.145.10 lakhs

Rs.624.29 lakhs

Annexure-IPROGRAMME OF WORKS TO BE CARRIED OUT BY  
GANGA FLOOD CONTROL COMMISSION DURING 5TH PLAN.

- | <u>S.No.</u>                 | <u>Description of work</u>  |
|------------------------------|---|
| A) <u>Continuing Works</u>   |   |
| 1.                           | Updating of Comprehensive Plan  |
| 2.                           | Monitoring of important flood management schemes  |
| 3.                           | To make assessment of adequacy of waterways under existing rail and road bridges  |
| 4.                           | To assess performance of completed flood management works   |
| 5.                           | User's Cell for remote sensing for preparation of flood plain maps for Ganga sub-basin from Satellite Imageries in co-ordination with NRSA, Hyderabad |
| B) <u>New Works Proposed</u> |   |
| 6.                           | River morphology studies including river survey in various river systems of Ganga sub-basin   |
| 7.                           | System study on flood moderation aspects of the existing and proposed reservoirs in Ganga sub-basin   |
| 8.                           | Preparation of flood risk maps for some of the flood prone areas of Ganga sub-basin   |

## Financial Outlays : Eighth Plan

Major Head 12711Ministry: WATER RESOURCESSub-Head: E-1(5) - Ganga Flood Control CommissionDepartment: Ganga Flood Control Commission

(in Crores)

	Central	Centrally Sponsored	Total
1	2	3	4
Seventh Plan 1985-90			
1988-89 (Actuals) --	0.4544	-	0.4544
1989-90 (Actuals)	0.5315	-	0.5315
1985-90 (Actuals)	1.9788	-	1.9788
1990-91 (Outlays as Budgetted)	0.7100	-	0.7100
1990-91 (Anticipated)	0.7889	-	0.7889
<u>Eighth Plan (Proposed) (1990-95)</u>	6.2429	-	6.2429
1991-92 (Proposed)	1.2703	-	1.2703

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement-I, listing the Heads of Development and Statement-II, listing the Ministries/Departments governing them are enclosed for ready reference).

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No.11016/3/90-FC from Secretary (FC), dated 4.6.1990.

/BSR/

DRAFT VIITH PLAN (1990-95) - PROGRAMS FOR PROGRAMS/PROJECTS

NAME OF UNDERTAKING/DEPT/MENT/AGENCY

Particulars	Code No.	Nature & Major Head/ location of the Minor Head.	Commencement year.	Estimated Cost.	Existing Capacity (in Units)	Targetted Capacity (in Units)	Utilisa- tion.
	1.	2.	3.	4.	5.	6.	7.
SCHEMES AINED AT MAXIMISING BENEFITS FROM THE EXISTING CAPACITY AS ON 31-3-1990							
1)							
11)							
111)							
Total:							

NOT APPLICABLE

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Annexure III 'A'

(Outlay/Expenditure in Rs. crores and physical targets/benefits in relevant units of measurement)

Sl. No.	Highth Plan (1990-95) Proposed Outlay	Annual Plan 1990-91		Annual Plan 1991-92		Anticipated benefits (in units)		Remarks (specifically environmental measures/costs)
		APPO. Outlay	Actual. Outlay	Proposed Outlay.	Proposed Outlay.	8th Plan.	Beyond 8th Plan.	
10.	11.	12.	13.	14.	15.	16.	17.	18.

Annexure III 'B'  
DRAFT VIIITH PLAN (1990-95) - PROPOSALS FOR PROGRAMME PROJECTS

NAME OF UNDERTAKING/DEPARTMENT/MINISTRY: Ganga Flood Control Commission

Particulars	Code No. Major Head/ Minor Head.	Nature & Location of the Schemes.	Commencement Year.	Estimated Cost Original. Revised.	Cumulative expenditure upto end of 7th Plan Creation	upto the end of Seventh Plan. Capacity Utilisa- tion.
1.	2.	3.	4.	5.	6.	7.
<b>B-1. Completed Schemes</b>						
as on 31.3.1990						
(Spill over liability)						
1)				N I L		
ii)						
<b>Total (B-1)</b>						
<b>B-2 Critical Ongoing</b>						
Schemes as on						
1.4.1990	12711	GFCC, Patna	Continuing		1.9788	
(As per S.Nos.1,2,3,4 and 5 of Annexure-1) and technical examination of flood measurement schemes						
<b>B-3 Sanctioned Schemes/ Committed to 1990-91</b>						
1)				N I L		
ii)						
iii)						
<b>Total (B-3)</b>						
u						

(Outlay/Expenditure in Rs. crores and Physical Targets/Benefits in relevant units of measurement)

Eight Plan (1990-95) Proposed Outlay	Annual Plan 1990-91		Annual Plan 1991-92		Anticipated Benefits (in units) Eight Plan 1990-91		Beyond eight Plan. 1991-92		Remarks (Specifically Environmental Measure/costs).
	Appd. Outlay	Ant. Outlay	Proposed Outlay	Ant. Outlay	1990-91	1991-92	1991-92	1991-92	
10.	11.	12.	13.	14.	15.	16.	17.	18.	
				NIL					

E-1.

B-2. 0.7100 0.7098 0.9135

B-3

NIL



DRAFT EIGHTH PLAN (1990-95) PROPOSALS FOR PROJECTS/PROGRAMMES

NAME OF UNDERTAKING/DEPARTMENT/MINISTRY      Ganga Flood Control Commission.

PARTICULARS	Code No. Major Head/ Minor Head.	Nature & location of the Schemes.	Commencement Year.	Estimated Cost.	Eighth Plan (1990-95) Proposed Outlay.	Annual Plan		
						1990-91	1991-92	
1.	2.	3.	4.	5.	6.	7.	8.	9.
						Appd. Outlay	Antl. Outlay	Proposed Outlay.

New Schemes - II

G.F.C.C. (As Per S.Nos. 6, 7 & 8 of Annexure-1)	12711	GFCC Fe'na	1991-92	1.4510	1.4510	NIL	NIL	0.3565
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- II. 1) The proposals for new schemes may be listed after exhausting schemes: (a) covered under Annexure III 'A', viz., those designed to maximise benefits from existing capacity, and Annexure III 'B', viz., critical ongoing schemes as well as sanctioned/committed schemes
- 2) Stages of consideration of schemes and whether cleared by Planning Commission and other concerned authorities may be indicated in the Remarks column.

Annexure III 'C'

(Outlay/Expenditure in Rs. crores and Physical Targets/Benefits in relevant units of measurement)

ANTICIPATED BENEFITS (In Units)			Beyond 8th Plan	R E M A R K S (Specifically environmental Measures/costs)
Eight Plan	1990-91	1991-92		
10	11	12	13	14
-	-	-	-	-

SUMMARY STATEMENT

Annexure III 'D'

DRAFT VIIITH PLAN (1990-95) - PROPOSALS FOR PROGRAMMES/PROJECTS

NAME OF UNDERLYING/DEPARTMENT/MINISTRY PARTICULARS	Code.No. Major Head/ Minor Head.	Estimated Cost.	Cumulative Expenditure upto end of 7th Plan.	Eighth Plan (1990-95) Proposed Outlay.	Annual Plan 1990-91		Annual Plan 1991-92		(Rs. Crores)
					Appd. Outlay	Anti. Outlay	Appd. Outlay	Proposed Outlay.	
1. SCHEMES AIMED AT MAXIMISING BENEFITS FROM THE EXISTING CAPACITY AC ON 31.3.1990.									
2. COMPLETED SCHEMES AS ON 31.3.1990 (SPILL-OVER LIABILITY)									
3. CRITICAL ONGOING SCHEMES	12711	4.7919	1.9788	4.7919	0.7100	0.7889	0.9138		
4. SCHEMES SANCTIONED/ COMPLETED IN 1990-91									
5. NEW SCHEMES	12711	1.4510	NIL	1.4510	NIL	NIL	0.3565		

TECHNICAL NOTE ON THE PROPOSALS FOR VIII FIVE YEAR PLAN -  
1990 CENTRAL SECTOR (IRRIGATION FOR FARAKKA BARRAGE PROJECT)

.....

1.0 GENERAL

The Farakka Barrage Project which is essentially a project in the Transport Sector has the primary objective of preservation and maintenance of the Calcutta Port and the regime and navigability of the Bhagirathi - Hooghly system. The increased upland supplies from Ganga at Farakka into Bhagirathi will also reduce salinity in the system and will ensure sweet water supply to Calcutta and surrounding areas. The rail-cum-road bridge provides through communication across the Ganga to the North-eastern States. The Bridge was originally approved for Rs.68.59 crores in the year 1962 and the first revised estimate was approved subsequently in the year 1969 for Rs.156.29 crores. The Second revised estimate as sanctioned during 1987 is for Rs.267.45 crores.

All the principal works in the project including navigation lock at Farakka have been completed, ancillary works such as Bridges, anti erosion works, scour protection works, etc., necessary for the safety and smooth operation of the barrage are in progress.

2.0 PLAN OUTLAY

The total VII Plan outlay provided for Farakka Barrage Project was Rs.49.30 crores. The actual expenditure during VII Plan (1985-90) is as under:-

<u>Year</u>	<u>Actual Expenditure</u>
1985-86	7.22 crores
1986-87	6.12 crores
1987-88	5.18 crores
1988-89	8.05 crores
1989-90	9.09 crores
1985-90 Total Expenditure	35.66 crores

- 2 -

Approved outlay for the VIII Plan will be as under :-

The total outlay

1990-91 (Outlay as budgeted)	Rs.8.00 crores
1990-91 (Anticipated)	Rs.10.54 crores

Expenditure during the VII Plan has been less due to fact that second revised project estimate was sanctioned only in June, 1987 whereas the VII Plan started from the year 1985 itself. The spill over works from VII Plan are expected to be completed by March, 1992, when the project will be closed. In the interest of the safety and smooth operation of Farakka Barrage Project Complex, it is necessary to take up some replacement works and special protection works in the vicinity of Farakka Barrage Complex for which necessary provision has been made in the proposed outlay for the VIII Plan.

An outlay of Rs.57.15 crores has been proposed for the VIII Plan. The break-up of this outlay is as follows:-

- a) Continuing works (spillover from VII Plan) = Rs.22.75 crores  
(as per details at Annexure II)
- b) Replacement/special protection works = Rs.34.40 crores  
(as per details given in Annexure II).

The above outlay has been proposed considering the working capacity of the Farakka Barrage Project. Though the actual performance during VII Plan indicates an average expenditure to the tune of Rs.7 crores only per year, it is proposed to step up the working capacity considerably and complete the works envisaged in the VIII Plan. to

### 3.0 TECHNICAL JUSTIFICATION OF WORKS

#### 3.1 Continuing works from VII Plan spilling over to VIII Plan

The following works provided in 2nd Revised project estimate could not be completed during VII Plan and hence have spilled over to VIII Plan. The details of these works are indicated in the Annexure 'I'. The actual execution of special protection works will be subject to the actual river behaviour every year and requirement of the work will be reviewed and advised by Technical Advisory Committee (TAC) of the Project.

#### 3.2 REPLACEMENT/SPECIAL PROTECTION WORKS

In the interest of safety and smooth operation of the Farakka Barrage Complex certain special protection works in the vicinity of the barrage are required to be carried out depending on the river behaviour every year, as per recommendations of the Technical Advisory Committee of the

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project. As the project estimate is proposed to be closed by March, 1992, fresh sanction from EFC/PIB is required to be taken before execution of these works. The proposed works and required outlay are indicated in Annex II.

The technical justification of the works is given below:

(a) Special repairs of barrage aprons and protection to Barrage Structure

Farakka Barrage is one of the largest barrages consisting of 109 Bays, 18.29 m each, constructed across Ganga, one of the major rivers of India. During post-construction stage there has been significant morphological changes in the behaviour of this mighty river with the result that after the commissioning of the Farakka Barrage more and more discharge concentrated on the right bank bays, keeping the left bank bays practically inoperative. Subsequently, there has been a heavy siltation in the last 20 bays towards the left bank both on the upstream and downstream of the Barrage, due to non-uniform distribution of flow through the barrage.

Severe bed erosion takes place on the upstream and downstream of the barrage almost every year, sometimes resulting in formation of deep scour pockets. The nature of the damage due to annual floods depends on the intensity of flood passing through the barrage, pattern of flow etc. These damages are being assessed every year by post-flood survey and the special repairs are being taken up every year on the advice of Technical Advisory Committee. Besides this, due to increased concentration of flow through the Central and right bank bays of Farakka Barrage, it had become necessary to redesign the flexible apron for the protection of the barrage. This is being done in a phased manner and is under constant review by the Technical Advisory Committee.

Special repairs/replacement are required to gates, hoists, roller tracks, bogey wheels etc., of Farakka Barrage for its proper maintenance, as the barrage is functioning for the last 18 years.

Necessary provision has been made in the VIII Plan for the above works.

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b) Protection works against the river bank erosion on the right bank of river Ganga, d/s of Farakka Barrage.

As explained earlier, due to concentration of river flow on the right bank, about 6 km length of right bank of river Ganga immediately d/s of Farakka Barrage is subjected to severe erosion resulting in thickly populated villages and valuable orchards of mangoes and litchies getting washed away. The Technical Advisory Committee of the Project as well as Farakka Barrage Control Board decided that the river bank protection works on the right bank of river Ganga in the affected reach of 6 km length should be carried out in a phased manner by the Project authorities. This work has been included in the second revised project estimate. The actual execution of work is being taken up every year in the critical reaches as per the recommendations of the TAC depending on the river behaviour. It is expected that the protection works will be completed in a length of 3 km upto 1991-92. The balance work in further 1.5 km reach is expected to be taken up during the remaining 3 years of the VIII Five Year Plan.

c) Protection works against bank erosion of river Ganga from ch.0 to ch.535 along left afflux bund of Jangipur barrage.

The river Ganga d/s of Hooghly bifurcation point which is d/s of Jangipur barrage is causing severe erosion along its bank parallel to left afflux bund of the Jangipur Barrage. If the erosion is left unchecked, it would result in danger to the left afflux bund of the Jangipur barrage which is separating the Ganga and the Bhagirathi. Any breach of this embankment will be disastrous to the area near and below Raghunathgang and Berhampore along the Bhagirathi. Vast area will get submerged if the flows in Ganga during monsoon get diverted into the Bhagirathi. It is, therefore, necessary to protect the river bank parallel to left afflux bund of Jangipur barrage from ch.0 to ch.535 (16.3 km.). This work was approved by the TAC as well as Farakka Barrage Control Board and is included in the second revised estimate. The work is actually executed in a phased manner depending on the river behaviour as per the advice of TAC.

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- : 5 : -

out of 16 Km length 3.00 km are expected to be covered by 1992. Provision for further works of 2.5 km has been made in the VIII Plan.

d) Long term river training measures u/s of Farakka Barrage to improve flow conditions in Ganga near Farakka Barrage.

As already indicated earlier, due to morphological changes in river Ganga, the river flow is concentrated in the Central and right bank bays of the Farakka Barrage leaving a number of left bank bays practically inoperative. This behaviour of the river is causing a lot of erosion and scour problems in the vicinity of the barrage both u/s and d/s. Model studies are being carried out in CWRS, Pune, to evolve suitable long term measures with a view to streamline the river flow so that there is uniform distribution of flow through Farakka Barrage as envisaged in the original design. CWRS, Pune, have finalised the recommendations and the formal report is expected to be made available shortly. As per the tentative estimate based on the recommendations, provision has been made in the VIII Plan for the river training works which consists of;

1. Bandelling across Ganga near Bhutni-diara island;
2. Two spurs near Rajmahal;
3. Dredging of the islands formed between Rajmahal and Farakka.

e) special repairs and protection works to feeder canal and its structures.

The feeder canal was commissioned in 1975. In certain reached of the feeder canal, bank slips and deep bed scours have been observed. A study group has gone into the details of the problem and has already submitted its recommendations to TAC for remedical measures/special repairs. The priorities of execution of these works have also been indicated in the Study Group's Report. These works are proposed to be taken up in a phased manner.

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- : 6 : -

- f) i) Construction of permanent type buildings at Farakka  
ii) special repairs to residential and non-residential buildings in Farakka Barrage Project Complex.

All the present residential and non-residential buildings were constructed about 25 years ago as temporary structures and most of the buildings are showing signs of distress; some of these buildings need replacement and provision has been made in the VIII Plan.

- g) i) special repairs to water supply system, drainage conservancy system, roads etc., at the various townships of Farakka Barrage Project Complex and construction of new Pump house for water supply to Farakka township.

The water supply system, drainage and conservancy system, roads etc., had been constructed about 25 years back and are in need of special repairs at various critical places. The present pump house is inadequate to cater to the increased demand of drinking water to Farakka township. It is proposed to construct an additional pump house with the pipe line system. Necessary provision has been made in the VIII Plan.

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Statement of plan works  
Parakka Barrage Project

upto 1991-92

Annex, I  
(Rupees in Lakhs)

S1. No. of activity. Item/Name of activity. Provision of 2nd Revised estimate. Expenditure upto Match, 1989. Balance amount of fund as per estimate. Break-up of financial years upto 1991-92. R E M A R K S

1.	2.	3.	4.	5.	6.	7.	8.	9.
ZALAKKA BARRAGE(UNIT:1)								
a. Continuing works (From VI Plan)								
1.	Main Barrage	696.0	641.0	55.0	Nil	20.50	34.50	
1)	Warraging span of Head Regulator	-	-	-	-	5.00		
11)	Replacement of air-conditioner for control room.	-	-	-	-	2.50		
111)	Installation of automatic gauge for Barrage.	-	-	-	-	1.00		
11v)	Installation of Micro processing Unit.	-	-	-	-	10.00		
v)	Auxiliary arrangement of gates (Crane by electric power).	-	-	-	-	2.00 20.50		
2.	Left Afflux Bund of Parakka Barrage including Kalindri Regulator.	679.5	664.4	55.1	27.85	61.00	39.00	
3.	Kalindri Lock	350.0	272.9	77.1	5.00	10.00	62.10	

Provision for 1991-92 kept for payment of claim of RSPL (Rs. 24.50 lakhs) for additional gates and stop logs already completed and balance claims of NPCO (for civil works on lock and barrage with Regulator claim amount Rs. 1.305 crores). The claim of NPCO is under arbitration. The excess fund if required for award, if any will have to be met from Savings of overall project estimate.

Provision kept for construction of inspection road over Left Afflux Bund, balance of 0.6 k.m. Rev - remodeling 7 k.m. Excess amount of 72.75 lakhs will be met from provision for spur between 4A & 5.

Provision for erection of gates and additional protection work and balance payment of civil works.

1407

1.	2.	3.	4.	5.	6.	7.	8.	9.
(11) Restoration of 8th Marginal Embankment (breached portion)					76.84	45.00	120.00 (11/17/58)	
(11) Re-building of nose of spur no. 3 u/s of F.B. at Left Bank.					23.59	-		Fund kept for drainage culverts, inspection road, slope protection including earth work in retired embankment in breached portion. Show against extension of Left Guide Fund.

4. Construction of new spur in between spur 4 & 5 of left marginal embankment u/s of Farake barrage.

Fund utilised for the purpose of Ch. 406 of Left Guide Fund and inspection road, wall, fur gap & culverts, Kalindri regulator etc.

FEEDER CANAL (VI PLAN)

4. CONTINUING WORKS (FROM VI PLAN)

1. Cross drainage works along Feeder Canal including siphon/inlets etc.	597.0	540.90	56.50	18.80	5.00	-		Fund for construction of causeway structure (right bank) at RD: 7 of Feeder Canal. Wing walls to existing culverts not required.
2. Navigation facilities (1) Dry Dock	1150.21	844.4	305.81	7.33	20.00	75.00		Provision kept for Dry dock/slipway and approaches to d/s Jetty and protection.
(ii) Approach road to d/s Jetty & protection.								Guide Bund at Fegla & Bansloi Ref. -
3. Development work in P-Gla and Bansloi river basin.	567.0	458.7	108.3	25.00	58.30	25		Labor work continued to VIII Plan with additional fund provision.
4. Bridge on Feeder Canal at RD 29.50	718.0	619.3	98.7	5.00	20.00	73.70		

	1.	2.	3.	4.	5.	6.	7.	8.	9.
4. Improvement of work relating to Building, Roads, Sanitation & water supply in colonies.			455.0	439.2	15.8	18.00	1.00	-	Balance payments for special repairs to Buildings, Type-I & II quarters new construction, 2 MGD water treatment plant and Jawahar NCC water supply in colonies. Access to be met from overall savings.
5. Repair to u/s and d/s apron of Farakka Barrage.			407.0	434.93	-	-	-	-	Work already completed. Access variation within 10% limit.
6. Special T & P in the form of new vehicle and machineries.			225.0	94.0	131.0	10.0	45.5	32.00	Provision for purchase of new Jeeps, trucks, road roller and ambulance, Patrolling launch and repair of cutter suction dredgers and L. dredgers.
<b>B. New works (from VII Plan)</b>									
1. Extension of protection works to the flexible apron u/s and d/s of Farakka Barrage.			308.0	95.1	212.9	47.56	30.00	30.00	Provision for apron protection as per TAC advice. continued to VIII Plan with additional fund requirement.
2. Protection works on the Right Bank of river Ganga d/s of Farakka Barrage			728.0	236.0	492.0	197.20	225	70.00	1.7 k.m. completed. Provision for further 1.3 k.m. kept to be done by 1991-92. Work continued to VIII Plan with additional fund requirement beyond 1991-92.
3. Extension of Left Guide Bundh of Farakka Barrage.			1474.0	193.0	1281.0	112.43	50.00	189.70	The fund is utilised for protection work of 8th Marginal Embankment & model study for Hydraulic power station at Farakka. Provision includes expenditure already incurred connection with retired cabanker in the alignment of extension of Left Guide Bundh (work done upto 1988-85).

(un. for os. sec.)

	1.	2.	3.	4.	5.	6.	7.	8.	9.
5. Balance works relating to Jangipur Barrage and adjoining lock.			596.0	496.0	100.0	6.33	22.00	-	Minor works of fixtures mooring bits etc. and balance civil works.
<b>B. New crks (From VII Plan)</b>									
1. Bridge across river Pajla between Khidirpur & Zaliaghata.			80.0	Nil	80.0	15.00	35.00	30.00	work under execution.
<b>JANGIPUR BARRAGE (UNIT: III)</b>									
<b>A. New works (From VII Plan)</b>									
1. Protection works against erosion of river Ganga from Ch.O.O to 535.0 along left afflux bundh of Jangipur Barrage.			1696.0	326.8	1367.2	95.50	200.00	200.00	1.45 k.m. completed. Provision for further 2.4 k.m. kept to be done by 1991-92. work continued to VIII Plan with additional fund requirement (beyond 1991-92).
Total :			10807.71	6356.23	4517.41	587.00	842.33	981.00	
add. cost. (As per attached)			-	-	-	58.70	212.00	240.00	
GRAND TOTAL :			10807.71	6350.23	4475.11	645.70	1054.33	1221.00	

NEW PLAN SCHEMES PROPOSED TO BE TAKEN UP IN VIII PLAN FOR THE PERIOD 1992-95 (FOR WHICH APPROVAL OF NEW EPC/PIB MEMO REQUIRED).

Amount in Lakhs

Sl. No.	Name of Scheme/Programme	Year					Total	Remarks
		1992-93	1993-94	1994-95	1995-96	1996-97		
1.	Protection works on the R/S of River Ganga D/S of Farakka Barrage.	100	100	100	300		Provision for barrage works of 3 km as per original scheme.	
2.	Protection works against bank erosion of River Ganga from Ch.1 to Ch.535 along left afflux bund of Jangipur Barrage.	220	250	250	720		Provision for further works of-6 km in VIII plan. As per original scheme, total protection length in 15 km out of which 3.95 km provide up to 1991-92.	
3.	Spl. repair to barrage aprons etc. & protection to barrage structure.	50	50	50	150		New scheme to attempt to special repair of Barrage apron.	
4.	Long term measures in u/s of Barrage to improve flow conditions recommended by EPC, Fine.	100	100	100	300		Fund will be available from savings from extension of left guide bund in Farakka. Savings will be 11.6 crores.	
5.	Restoration of bed and slope of Feeder Canal as per recommendation of Study group & accepted by TAC.	100	100	100	300		As per recommendation of study group & accepted by TAC	
6.	Construction of road bridge at RD 81.20	-	50	50	100		Provision for bridges in the of 3 nos. ferries at RD 77, RD 81.2 & RD 85.50.	
7.	(a) Construction of permanent type building at Farakka.	50	50	50	150		Provision for new buildings in place of old temporary buildings.	
	(b) Special repairs to residential & non-residential buildings at Farakka & Khejuriaghata township.	45	45	25	115			

	2	3	4	5	6	7
8. Pumphouse at feeder Canal offtake for water supply to P.B. Township.		10	15			25
9. special repairs to water supply system, Drainage & conservancy system and roads etc. at Farakka & Khejuriaghat Township.		25	30	25		80
10. (a) Construction of permanent buildings & special repairs to residential & Non-residential buildings at Arifren (J.B. Colony) .		20	20	10		50
(b) Special repairs to water supply system, drainage and renovation of roads etc. at Jangipur Barrage Colony.		10	15	5		30
11. Protection of aprons & slope to guide bundh and afflux bundh of Farakka Barrage.		10	10	10		30
12. Special repairs to Barrage gates hoist painting etc., repair to roller track in Head-Regulator.		50	50	50		150
	830		915	655		2600
Estt.	260		280	300		840
Total	1080		1195	1155		3440

Present Ganga pumphouse is inadequate to cater the need of water supply after the construction of 2nd overhead water tank. This will provide trouble free intake facility.

Provision for replacing old pipe lines re-construction of drains & conservancy system at the colony etc.

Provision to provide new buildings in lieu of old temporary buildings constructed in 1964-65 has also renovation of water supply drainage etc. at J.B. Colony (Arifren) .

New scheme to attend special repairs to guide bundh and afflux bundh.

For replacement of gates bogey wheels rubber seals roller path of head Regulator painting etc.

Central Public Enterprises/ Undertakings

Financing of Plan Projects

Eight Five Year Plan

Annexure - I

in crore of

Sl. No. Name of the Undertaking	Outlay estimated / proposed	Of which component covered by External Dis	Estimate of Internal Resources										Estimate of External Resources		Budgetary Support
			Gross Internal Resources (Profit + Depreciation)	Of which want raised by Internal Resources (change in price, etc.)	Of which want raised by other sources (change in value of loan capital)	Provision creation for capital spending	Net Internal Capital Resources available for Plan outlay	Bond/ ECI/SE Debenture	Inter-Company Transfers	Other	External	Other			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
[Empty rows for data entry]															

Not applicable in Marketing/Project

Barriage

Total for all undertakings  
 Seventh Plan (1975-80) - Actual  
 Total for all undertakings  
 Eighth Plan (proposed)

## Annexure - II

## Financial Outlays: Eighth Plan

Major Head-----	Ministry-----	Department-----	(Rs. crores)	
Sub-Head-----		Parakka Barrage Project.	Central Centrally Sponsored	Total
			1	2
			3	4
Seventh Plan 1985-90				
1988-89 (Actuals)			8.05	8.05
1989-90 (Actuals)			9.09	9.09
1985-90 (Actuals)			35.66	35.66
Eighth Plan (Proposed)				
1990-91 (Outlays as Budgetted)			8.00	8.00
1990-91 (Anticipated)			10.54	10.54
Eighth Plan (Proposed)				
1991-92 (Proposed)			57.15	57.15
			12.21	12.21

Memo Items: All major heads and sub-heads should be grouped under the relevant Plan Heads of Development as per Budget Documents.

(Statement I, listing the Heads of Development and Statement II, listing the Ministries/ Departments governing them are enclosed for ready reference.)

\* - Special attention is invited to paragraph (d) on "Zero-based Analysis" of the D.O. letter No. 11016/3/90-FC from Secretary, (FC) dated 4.6.1990.

SWIFT VILLAGE (IN AREA 03) - PROPOSAL FOR IMPROVEMENTS, 1962

LIST OF UNDERTAKING/DEVELOPMENT/REVISIONS

NO.	DESCRIPTION	ESTIMATED COST	EXISTING	PROPOSED	DATE	REMARKS
1	PARAKKA BARRAGE	267.45	-	-	1962	1) Preservation & Maintenance of Calcutta Port
2	PARAKKA BARRAGE PROJECT	57.15	-	-	1962	2) Communication to North-Eastern Sta Calcutta city.
3	SWEET WATER SUPPLY	84.40	-	-	1962	3) Sweet water supply Calcutta city.
4	INLAND NAVIGATION	29.75	-	-	1962	4) Inland Navigation
TOTAL		438.75				

SCHEMES ARISED AT MINIMISING COSTS FROM THE EXISTING CAPACITY AS ON 31.12.1960

Parakka Barrage Project  
TOTAL

\* 29.75 Soillover  
84.40 New works in III Plan

TOTAL: 57.15

- 1) Preservation & Maintenance of Calcutta Port
- 2) Communication to North-Eastern Sta Calcutta city.
- 3) Sweet water supply Calcutta city.
- 4) Inland Navigation



SWIFT EIGHTH PLAN (1962-65) - PROPOSALS FOR PROJECTS / PROGRAMS

NAME OF UNDER-TAKING/DEPARTMENT/ MINISTRY

(Detail Expenditure in Rs. crore and Physical Targets/ Benefits in relevant units of measurement)

SCALE (in '000)

5

PARTICULARS	CODE NO. MAJOR HEAD/ MINOR HEAD/ SCHEMES	NATURE AND LOCATION OF THE SCHEMES	YEAR	ESTIMATED COST	EIGHTH PLAN (1962-65) PROPOSED		NINTH PLAN (1962-65) ANTICIPATED		TENTH PLAN (1962-65) ANTICIPATED		REMARKS
					AMT.	OUTLAY	AMT.	OUTLAY	AMT.	OUTLAY	
			1								
			2								
			3								
			4								
			5								
			6								
			7								
			8								
			9								
			10								
			11								
			12								
			13								
			14								

THE SCHEMES ARE

Farakka Barrage Project.

Farakka 1962 267.45 57.15 8.01 1.54 13.21

- 1) Preservation & Maintenance of Calcutta Port.
- 2) Communication to North-Eastern States.
- 3) Sweet water supply to Calcutta city.
- 4) Improved Navigation

TOTAL

ii - (1) The proposals for new schemes may be listed after exhausting schemes : (a) covered under Annexure III 'C' ; (ii) those designed to maximize benefits from existing capacity, and Annexure III 'B' ; (iii) critical ongoing schemes as well as sanctioned/ committed schemes.

(2) Stage of consideration of schemes and whether cleared by Planning Commission and other concerned authorities may be indicated in the Remarks column.

22.75 Spillover  
34.40 New works in VIII Plan

TOTAL: 57.15

Summary Statement

DAEFT VIIIITH PLAN (1990-95) - PROPOSALS FOR PROGRAMMES/ PROJECTS

NAME OF UNDERTAKING/DEPARTMENT/ MINISTRY

(Rs. Crores)

PARTICULARS	CODE NO.	ESTIMATED COST	CUMULATIVE EXPENDITURE UPTO END OF 7TH PLAN	EIGHTH PLAN (1990-95)		ANNUAL PLAN 1990-91		ANNUAL PLAN 1991-92	
				PROPOSED OUTLAY	APPD. OUTLAY	PROPOSED OUTLAY	APPD. OUTLAY	PROPOSED OUTLAY	APPD. OUTLAY
1									
2									
3									
4									
5									
6									
7									
8									
9									

1. SCHEMES AIDED AT MAXIMISING BENEFITS FROM THE EXISTING CAPACITY AS ON 31.3.1990

2. COMPLETED SCHEMES AS ON 31.3.1990 (SPILL-OVER LIABILITY)

3. CRITICAL ONGOING SCHEMES  
 Parashurama Sarghage Project 267.45 244.70 57.19 9.0 10.54 12.21

4. SCHEMES SANCTIONED/ COMMITTED IN 1990-91

5. NEW SCHEMES

Total : 57.15

\* 22.75 30111over  
 34.40 1st 4 words in VIII plan

INTRODUCTION:

National Projects Construction Corporation was set up in January, 1957 to undertake and to execute the works of construction of river valley projects, dams, barrages, canals, power houses, structures, tunnels, bridges and other industrial structures and allied works.

Over the years, NPCC has developed into a professionally managed organisation and has become one of the premier construction company of the country. In its 33 years of existence, it has successfully completed more than 100 projects of national importance in every nook and corner of the country in most remote and hazardous location.

NPCC today is actively engaged in the construction of about 60 prestigious, multi dimension projects which includes in the Thermal sector, Hydel Electric Sector, Irrigation Sector, Dam, Barrages and Industrial/heavy Civil Construction works.

The Corporation has been able to provide healthy competition with private agencies by quoting realistic rates for execution of the works so as to restrict the tender value within reasonable limits and its existence has been responsible to ensure as a price deterrent to the private contractors particularly in the works at hazardous and remote places where private sector agencies were executing the works at exorbitant rates.

NPCC has a team of about 2000 experienced managers, professional staff and more than 3000 skilled workmen supported with sophisticated plants and equipments.

Having successfully tackled numerous challenging structural and geological problems on various projects, the Corporation is fully geared up to diversify and to discharge its assignments during the 8th Plan.

PERFORMANCE DURING 7TH PLAN :

During the 7th Plan period, the turnover of the Corporation had been Rs.560 crores and the value of work in hand as on March, 1990 were of the value of Rs.380 crores. The turnover during 7th Plan period has increased tremendously inspite of the fact that NPCC was facing inadequate order book position due to cut-throat competition with the private construction companies which take works on exceptionally low rates. Even than the existance of the Corporation has proved a price deterrent to the private sector thereby saving crores of rupees to the Government on award of works. In the 7th Plan period, NPCC has saved the Government exchequer of about Rs.30 crores (in works of Rs.275 crores) by being lowest in the tenders. The difference in prices between NPCC and the second lowest was to this extent.

The Corporation has been taking decision to execute the works through its work-force and piece rate workers. It has further been decided that all the plants and equipments belonging to the Organisation, shall be operated, repaired and maintained by officers, staff and workmen of the Corporation. The Corporation maintains plants and machineries, vehicles and works equipment of the original value of Rs. 60 crores approximately, depreciated value being approximately Rs.25 crores. This was Rs.46 crores original value and depreciated value Rs.22 crores at the beginning of the 7th Plan period.

BUDGETARY SUPPORT:

During 7th Plan period, the Corporation was provided with budgetary support of Rs.25 crores. The budgetary support received was Rs.12.5 crores in the shape of equity shares and Rs.12.5 crores in the shape of loan. During the same period, the Corporation repaid to the Government Rs.9.36 crores out of the loan received and also Rs.3.90 crores towards interest charges during the same period.

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OUTSTANDINGS:

One of the important bottlenecks in the working of the Corporation has been the abnormal delay in settling the payments due to the Corporation from the Clients. The clients are Public Sector Undertakings, State Governments, State Electricity Boards etc. As a result of delay in settlement of the claims and the payments due to the Corporation by the clients, the Corporation has to resort to borrowings from the banks at very high commercial interest rates. It is the experience of the Corporation that inspite of the protracted discussions with various clients from time to time, they are reluctant to settle the payments due to the Corporation for one reason or another. As a result thereof, the outstandings have increased considerably during the 7th Plan period. The outstandings which were approximately Rs.35 Crores at the beginning of the 7th Plan, has gone upto about Rs.60 Crores at the end of the 7th Plan period. The outstandings in the normal circumstances, should not be more than three months turnover i.e., Rs.35 to Rs.40 Crores approximately.

The Corporation faced severe financial constraints due to abnormal increase in the outstandings coupled with inability of our clients even to pay our running bills due to funds being not available with them. The problem which has gradually developed and has become threateningly serious in most of our works particularly where the clients are Electricity Boards in Bihar, in West Bengal as well as in States of Tripura, Manipur and Uttar Pradesh.

The Corporation has been requesting the Ministry to allot works on negotiations/discussions basis from Corporations like NTPC, NHPC, DVC, NCL and other similar organisations where sufficient quantum of civil works are available. If the Corporation is constantly awarded the works of approx. Rs.150 Crores to Rs.200 Crores annually, the financial performance of the Corporation will improve tremendously.

8TH PLAN

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After 33 years of its existance, the Corporation today is fully geared up to execute the civil works especially of Thermal,Hydel, River Valley and Irrigation Projects. The number of projects in hand are about 60. However, the Corporation is passing through a critical crisis mainly on account of delayed payments by the clients which has further aggravated on account of the reason that the clients themselves do not have sufficient funds available with them even to make monthly payments for on account bills. As a result thereof, the Corporation is finding it difficult to execute the works allotted to it and consequently losses are mounting up again on account of idle manpower and infrastructure expenses.

The Corporation has fixed annual expenditure of Rs.32.00 Crores consisting of the following:-

1)	Workers wages and benefits.	Rs. 7 Crores
2)	Depreciation	Rs. 4 Crores
3)	Personnel Cost	Rs. 9 Crores
4)	Fixed Admn.Overheads	Rs. 3 Crores
5)	Interest charges	Rs. 9 Crores
		<hr/>
		Rs.32 Crores

The expenditure at Sl.No.1 and 2 viz.workers wages and depreciation are included in the prime cost of the works and should in the normal course be covered by provision made in the estimate of works if the Corporation is able to execute works of at least Rs.120 Crores in a year. While submitting the tenders the Corporation provides for overheads of 20% to cover the personnel cost, other administrative overheads and interest charges. The liability on account of interest charges is very heavy due to non receipt of payment from project authorities due to one reason or the other. This can considerably be reduced if part of loan given by the Govt. of India is converted into capital and the Corporation is able to realise the dues from the project authorities.

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The amount of interest charges in that case can be reduced to about Rs.5,00 Crores. If it is agreed the fixed overheads to be covered in the works to be executed will be of the order of Rs.17 Crores which worksout to 14% on works of Rs.120 Crores and will, therefore, be covered by provision of overheads made while submitting the tenders. However, after taking into consideration variable overheads, the Corporation may break even if it is in a position to execute the works of Rs.120 Crores and provided margin is available on execution of works.

The Corporation is planning to execute the works as under during 8th Plan:-

1990-91	Rs.120 Crores
1991-92	Rs.140 Crores
1992-93	Rs.160 Crores
1993-94	Rs.180 Crores
1994-95	Rs.200 Crores

The achievements of the above targets will be possible if we get sufficient works to the extent of Rs.150 Crores to Rs.200 Crores annually either by tendering or by negotiations. Steps are being taken to diversify in specialised activities in new areas of construction to ensure improved performance of the Corporation in the 8th Plan.

There has been more and more emphasis on the public sector construction agencies to be commercially oriented and show profits but this is becoming extremely difficult due to cut-throat competition in the field of civil construction works and almost all the public sector undertakings are suffering from losses either on account of the reason that the public sector construction companies are starved for works resulting in heavy losses on account of overheads not recouped or on account of the reason of quoting low rates.

BUDGETARY SUPPORT:

Budgetary support in the 8th Plan have been proposed keeping the above factors in view which are:-

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- 1) Fixed annual expenditure of the Corporation which is about Rs.32 crores annually. 469
- ii) To increase turnover from Rs.100 crores from the beginning of the 8th Plan to Rs.200 crores by the end of the Plan period.
- iii) To diversify in the high specialised areas of construction supported by sophisticated equipments.
- iv) To enter to do departmentally works of deep well and well-point dewatering as well as bore piling to cut down the cost of execution of the works, to develop infrastructure for slip-form system and also for drilling and grouting.
- v) To replenishment of equipment which has become beyond economical repairs.

WORKING CAPITAL:

The Corporation has exhausted all its resources available with it on account of heavy outstandings with clients coupled with sufficient funds being not available with the clients even for releasing monthly on account bills. The position has further aggravated on account of the reason that the works executed by the Corporation were not enough to recover the overheads expenditure. While efforts are being made to settle the outstandings with various clients with the help of the Ministry, it is necessary that the Corporation may be provided with the additional working capital of Rs.19 crores during the 8th Plan period. The increase in working capital is necessary to ensure that the Corporation is able to achieve the necessary turnover. In case Corporation is not in a position to ensure minimum turnover of Rs.200 crores by the end of VIIIth Plan, it will continue to run into losses as it will not be possible, in view of cut-throat competition in construction activities, for the Corporation to beg works with sufficient margin to recover the enormous overheads fully unless the turnover is substantially increased.

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CONCLUSION:

It is very necessary for Corporation to run on sound footing that all out efforts are made to revamp the organisation, and also to ensure specialisation in field of construction. The turnover is to increase proportionately. This can only be achieved if planned course of action i.e. Departmental execution of certain works to utilise the man power to maximum and diversify into specialised field of construction activities. This will require necessary inputs in purchase of equipments and also additional working capital. If the Corporation is provided with financial assistance of Rs.60 Crores during the 8th Plan, it will turn the corner and start making profit from 1993-94.

NATIONAL PROJECTS CONSTRUCTION CORPORATION LTD.  
(A GOVT. OF INDIA ENTERPRISE)

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(Amount in Crores of Rs)

Particulars	1989-90	VII. th Plan	1990-91	1991-92
<u>Proposed Outlay</u>				
a) Total	3.00	24.90	7.00	7.00
b) Of which covered by external aid	-	-	-	-
<u>Gross internal Resources</u>				
a) Profit + Depren.	(-)10.00	2.03	(-) 2.50	0.75
b) Of which received by change of price				
i) Gross yield	Nil	Nil	Nil	Nil
ii) Net yield	Nil	Nil	Nil	Nil
c) Repayment of loan/ Inter Corporate Deposit	2.00	9.36	-	5.00
d) Accretia to working capital	5.00	21.67	5.50	8.75
e) Non Plan Capital works	-	-	-	-
f) Net Internal resources available	(-) 17.00	(-)29.00	(-)8.00	(-)13.00
<u>Extra budgetary Resources</u>				
a) Bonds/Debentures	-	-	-	-
b) ECB/SC	-	-	-	-
c) Inter Corp. Transfer	-	10.00	-	-
d) Others	-	-	-	-
<u>Budgetary Support</u>	7.90	24.90	15.00	20.00

Financial Outlays : Eighth Plan

Major Head \_\_\_\_\_

Ministry of Water Resources

Sub-Head \_\_\_\_\_

NATIONAL PROJECTS CONSTRUCTION CORPORATION LTD.

(Rs Crores)

		Central Sponsored	Centrally Sponsored	Total
1	2	3	4	4
<u>Seventh Plan 1985-90</u>				
1988-89 (Actuals)	5.60	-	-	5.60
1989-90 (Actuals)	7.90	-	-	7.90
1985-90 (Actuals)	24.90	-	-	24.90
1990-91 (Outlays as Budgetted)	6.00	-	-	6.00
1990-91 (Anticipated)	15.00	-	-	15.00
<u>Eighth Plan (Proposed)</u>	60.00	-	-	60.00
1991-92 (Proposed)	20.00	-	-	20.00

