INSTITUTIONAL DEVELOPMENT PROGRAM

REPORT NO. 2

Volume II : Annexures

STUDY FOR FPCO BY PANEL OF EXPERTS

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List of Annexures

Supplementary Annexures

Annexure-1

STATEMENT SHOWING CATEGORYWISE SANCTIONED STAFF STRENGTH & EXISTING NUMBERS

Sl. No.	Name of Post	No.of Sanctioned Post	Existing No. of Employees	No. of Vacant/Surplus Post	
				Vacant	Surplus
01.	Chairman	1	1	-	-
02.	Member	5	5	-	-
03.	CE/DG	7	7	-	-
04.	Addl. CE	11	11	-	-
05.	Controller	1	1	-	-
06.	Director, Agriculture (Land & Water Use)	1	1	-	-
07.	Secretary	1	1	-	-
08.	Director (Non-Technical)	12	10	2	-
09.	Director (Professional)	3	3	-	-
10.	SE/Director (Engineer)	57	54	-	-
11.	Addl. Director	2	2	-	-
12.	Chief Soil & Agril. Survey Officer/CSSO/Chief Agronomist/ Chief Exth. Officer & Equivalents	18	18	-	-
13.	Dy. Chief Agronomist/DCS & SO/ DCS Officer & Equivalent	39	39	-	-
14.	Executive Engineer/Dy. Director/ (Engineer/Technical)	228	228	-	-
15.	Dy. Secretary/Dy. Director (Non-Technical)	56	56	-	-
16.	Senior Medical Officer	1	1	-	-
17.	Senior Agril. Planning Officer/ Senior Resi. Officer	1	1	-	-

Sl. No.	Name of Post	No.of Sanctioned Post	Existing No. of Employees	No. of Vacant/Surplus Post	
				Vacant	Surplus
18.	Agronomist/Extension Officer & Equivalent	48	48	-	-
19.	Dy. Director (Absorbed)	115	115	-	-
20.	Economist	5	5	-	-
21.	Asstt. Engineer (Civil)	146	121	25	-
22.	SDE (Civil)	426	426	-	-
23.	Asstt. Enginer (Mech./Elec.)	17	21	-	4
24.	SDE (Mech./Elec.)	82	72	10	-
25.	Asstt. Director (Security)	6	3	3	-
26.	Asstt. Director/Section Officer	111	69	42	-
27.	Medical Officer/Asstt. Editor	2	2	-	-
28.	Accounts Officer/Audit Officer	73	69	4	-
29.	Asstt. Director (Welfare)	2	2	-	-
30.	Geologist	26	26	-	-
31.	Asstt. Director (Revenue)	4	4	-	-
32.	Asstt. Extn. Officer/Asstt. Agronomist & Equivalent	31	20	11	-
33.	Junior Economist	10	10	-	-
34.	Zonal Labour Welfare Officer	5	4	1	-
35.	Drilling Superintendent	2	1	1	-
36.	Asstt. Director (Absorbed)	78	78	-	-
		1633	1535	102	4
	Class-II	100	54	46	-
	Class-III	10094	9272	1022	-
	Class-IV	5857	5380	477	-
	Total:	17684	16341	1647	4

Source: BWDB

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Bangladesh Water Development Board
Current Composition of Manpower

A. Non-Technical Posts		B. Engineers Posts	
Post	No.	Posts	No.
Director	10	Chairman/Members	6
Deputy Director	171	CE/DG	7
Addl. Director	2	Addl. CE	11
Asstt. Director	78	SE/Director	54
Controller	1	Executive Engineer	228
Asstt. Director (Security)	3	SDE	498
Asstt.Director (Section Officer)	69	Asstt. Engineer	142
Account Officer	69	Sub-Total of B	946
Asstt. Director (Welfare)	2		
Asstt. Director (Revenue)	4		
Zonal Labour Welfare Officer	4		
Drilling Superintendent	1		
Secretary	1		
Sub-Total of (A)	415		

C Posts of Economist		D. Other Professional Posts	
Posts	No.	Posts	No.
Economist	5	Director, Agri. (Land & Water use)	1
Junior Economist	10	Chief Agronomist	18
Sub-Total (C)	15	Dy. Chief Agronomist	39
		Sr. Agri. Planning Officer	1
		Agronomist	48
		Asstt. Agronomist & Equivalent	20
		Director (Professional)	3
		Sr. Medical Officer	1
		Medical Officer	2
		Geologist	26
		Sub-Total of (D)	159

Grand Total (A+B+C+D) = 1535

Source : BWDB

BANGLADESH WATER DEVELOPMENT BOARD
INFORMATION ABOUT COMPLETED PROJECTS
(Since 1944-45)

(Taka in lakh)

Serial No.	Name of the Project	Start Year	Compl Year	Estimated cost	Expdr	Type	Benifited Area(ha) Irrign.	Drainage	Fl.Cont.	DR-FC	Embkt (km)	Dr.Chanal (km)	Ir.Canal (km)	Prot. Work (km)	Stru. (no)	Pump House (no)	Sluice (no)	Bridge Culvert (no)	Power House (no)	Irrign Pump (no)	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Batch-A01																					
1	Re-excav. of Brahmandia khal	43-44	44-45	0.14	0.14	DR		809.71		809.71		8.00									
2	Re-excav.of Kaladaha khal	44-45	44-45	0.78	0.74	DR		809.71		809.71		6.40									
3	Re-ex.ofNabagram Kachabalia kh	43-44	44-45	0.47	0.47	DR		267.20		267.20											
4	Re-ex.of Basail Khal	43-44	44-45	0.66	0.65	DR		236.84		236.84		4.80									
5	Re-ex.of Biskhali	44-45	45-46	0.64	0.64	DR		275.30		275.30		4.80							3		
6	Re-ex.of Natullabad khal	44-45	45-46	0.24	0.24	DR		850.20		850.20		3.20									
7	Re-ex.of Pansaharan khal	44-45	45-46	0.29	0.29	DR		267.20		267.20		3.20									
8	Re-ex.ofHashendia-Mutukchar kh	45-46	46-47	2.11	0.01	DR		4297.00		4397.00		12.00									
9	Re-ex.of Narayanpur khal	45-46	46-47	0.28	0.28	DR		416.21		418.21		6.40									
10	Kaolar Beel Project	49-50	43-50	0.77		DR		283.40		283.40		3.03									
11	Nuruler Beel Project	45-46	49-50	0.82	0.99	DR		789.47		789.47		5.28									
12	Kashadaha Beel Project	48-49	50-51	0.63		DR		1417.00		1417.00		3.76		1.00							
13	Bapnara Loknath Mitra Project	51-52	53-54	2.19	1.88	DR		7490.00		7490.00		28.80									
14	Emb.along Hangarbhanga-Dattapr	54-55	54-55	2.20	1.57	FC			1620.00	1620.00	11.20										
15	Anup Nagar Beel Dr. Project	54-55		3.00	3.00	DR		810.00		810.00		2.40									
16	Re-ex.of Chatra Nadi	51-52	55-56	4.00	3.21	DR		2160.32		2160.32		16.00									
17	Raisa Beel Drainage Project	55-56				DR		344.12		344.12		3.20			1						
18	Banatkhali Khal under G.K.Area	55-56		2.50	2.50	DR		506.07		506.07		4.80			1						
19	Bishkhali Khal Drainage Proj.	56-57		8.95	8.95	DR		607.28		607.28		24.00									
20	Con.of sluice at Kanchikata kh	54-55	56-57	0.40	0.33	DR		6016.00		6016.00					1						
21	Bulli bundh Irrign.Proj.Ph-1		56-57	3.70	3.70	IR	2331.90						7.67		3						
22	Buri bundh Irrigation Project		56-57	100.57	100.57	IR	1720.64						11.57		37						
23	Re-ex.of Niamatkhali khal	56-57	57-58	2.27	2.26	DR		810.00		810.00		11.20	33.33								
24	Dr.sc.ofRatanpur Kaderpur Beel	56-57	57-58	0.58	0.57	FCDR		405.00	405.00	405.00		4.00			1						
25	Dr.sc.of Bhutiar Beel(Dutch)	49-50	57-58	3.79		FCDR		3239.00	6073.00	6073.00	2.40				3						Br.carpetting-0.31km
26	Protection of Feni River bank	56-57	57-58	0.57	0.57																
27	Re-ex.ofKuchiamara KathiarBeel	58-57	58-59	3.27	1.95	DR		1166.00		1166.00		8.00									
28	Re-ex.of Chinidanga SatoilBeel	53-54	58-59	2.54	2.57	DR		2423.00		2423.00		22.48									
29	Re-ex.of Fallibara khal	56-57	58-59	2.47	0.59	DR		2008.00		2008.00		11.20									
30	Embankment along Sutki River	56-57	58-59	22.02	21.13	FC			12146.00	12146.00	15.20										
31	Re-ex.of Tamakpatti Khal	55-56	58-59	0.56	0.53	DR		847.70		847.70		3.20									
32	Constn. of Ghoramara Sluice	57-58	58-59	0.26	0.26	FC			567.00	567.00											
33	Loop cutting of Ghagat River		58-59	0.20	0.20							0.32									
	Sub-Total:			173.16	166.82		4052.54	39453.73	20311.00	59826.7	48.80	306.08	52.57	1.00	48				3		
Batch-A02																					
1	Re-excav.of Kumarkhali Canal	57-58	59-60	1.41	1.71	DR		1620.00		1620.00		8.60									
2	Pathraj Embkt. Irrign. Project	54-55	59-60	7.79	7.42	IR	3525.31						3.17		1						
3	Drainage of Saradagiri Beel	56-57	59-60	3.76	1.25	DR		2868.00		2868.00		9.08			3						
4	Dr.of Deolia Dudhkhoa Beel		59-60			DR		2332.00		2332.00		24.00			3						
5	Regulator overKinu Sarker Jola	57-58	59-60	3.30	2.79	DR		1620.00		1620.00	2.16	2.21			1						
6	Kumarnai Embkt. Project		60-61	2.56	2.56						7.20				1						
7	Bridge& Reg.over Kumirdaha	57-58	60-61	0.84		FCDR		259.00	259.00	259.00		2.02			1						
8	Re-ex.of Ghugudaha & Baragram	53-54	60-61	2.22	2.63	DR		1674.00		1674.00		16.70									

BANGLADESH WATER DEVELOPMENT BOARD

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
9	Re-ex. from Taltala to Kumar R	59-60	60-61	2.96	1.73	DR		2332.00		2332.00		20.80									
10	Yarpur Danra Project	56-57	61-62	2.03	3.15	DRFC		2591.00	2591.00	2591.00		16.85			1						
11	Reclamation of Nimaichara Beel	53-54	61-62	11.71	16.76	DR		3240.00		3240.00	0.30	34.61									
12	Re-ex.of Fatiker khal	56-57	61-62	2.87	1.14	DR		2526.00		2526.00		16.00									
13	Umakhali Rajarkul Dr. Scheme	56-57	62-63	4.46	4.48	IRDR	1554.65	485.82		485.82		10.40									
14	Bhatia Beel Drainage Project	53-54	62-63	6.10	5.34	DRFC		2332.00	2332.00	2332.00		27.26			2						
15	Lamargari Baniakhola Dr.scheme	56-57	62-63	3.23	4.71	DRFC		1620.00	1215.00	1620.00		10.40			2						
16	Re-excav.of Jafar Khal	59-60	62-63	13.86	6.70	NA						12.80									
17	Strengthen.of R&L bank, Guati R	56-57	62-63	32.61	37.62	FC			46.64	46.64	72.00										
18	Re-ex.of Dikshi Beel Project	59-60	62-63	3.33	3.36	DR		810.00		810.00	0.61	8.34			1						
19	Dhurang Irrigation Project	53-54	62-63	14.96	14.64	IR	1012.14						21.60		13						
20	GW Dev.& Low Lift Pump	60-61	62-63	37.51	37.51	IR	2368.42						45.60						113		
21	Re-ex.ofGhungurShalda&Burinadi	57-58	63-64	68.38	52.30	IRDR	2307.69	2307.69		2307.69	8.05	72.00			1						
22	Golabari Irr.& Navigation Proj		63-64			IR	202.00						2.40		1						
23	Re-ex.of Chakal Tanmaria Laxmi	58-59	63-64	3.53	2.12	DRFC		1088.00	1088.00	1088.00		13.25			3						
24	Improvement of Nalia River	51-52	63-64	5.40	8.61	DR		4048.00		4048.00		26.80			2						
25	Re-ex.of Beduria khal	52-53	64-65	3.39	3.21	DR		223.00		223.00		14.40									
26	Sonapatalia Beel Drainage	59-60	64-65	0.74	0.36	DR		223.00		223.00											
27	Lock cum Reg. over Salna River	56-57	64-65	2.72	2.22	DRFC		1620.00	1620.00	1620.00		9.60			4						
28	10 nos LLP in Rangpur&Kurigram	61-62	64-65	203.75	203.75	IR	4339.27						43.58								
29	LLP in Bogra,Dinajpur,Joypurht	62-63	64-65	30.24	30.24	IR	3670.85						43.10			16					
30	Polder No.63/1A		64-65	268.22	268.22	FCDR		324.00	324.00	324.00	43.60				19						
31	Polder-4		64-65	148.59	148.59	FCDR		7287.00	10324.00	10324.00	70.00				22						
32	Polder-1		64-65	542.90	542.90	FCDR		21143.00	26429.00	26429.00	100.80				27						
33	Polder 7/1		64-65	162.37	162.37	FCDR		8097.00	14372.00	14372.00	62.00				19						
34	Polder-23		64-65	56.39	56.39	FCDR		4182.00	4923.00	4923.00	35.80				10						
35	Polder-34/1		64-65	45.18	45.18	FCDR		1943.00	2429.00	2429.00	8.54				3						
36	Re-ex.of Kodaldaha Canal	55-56	65-66	0.76	0.54	DR		721.00		721.00		9.20									
37	Re-ex.of Pinglakati Canal	55-56	65-66	1.63	1.15	DR		876.00		876.00		15.20									
38	Dredging of Guati River	55-56	65-66	115.13	165.70	DR		138865.00		138865.00		120.00									
39	Polder-27/1		65-66	103.60	103.60	FCDR		3193.00	3765.00	3765.00	36.24				5						
40	Polder-15		65-66	65.64	65.64	FCDR		2656.00	3330.00	3330.00	182.77				5						
41	Polder-14/1		65-66	73.36	73.36	FC			2551.00	2551.00	27.40				4						
42	Polder-47/1		65-66	62.30	62.30	FCDR		2065.00	2065.00	2065.00	21.83	1.30			3						
43	Polder-47/2		65-66	30.65	30.65	FCDR		850.00	850.00	850.00	17.00	0.40			1						
44	Polder-41/7		65-66	10.48	10.48	FCDR		1741.00	1741.00	1741.00	18.40	1.60			11						
45	Polder-41/5		65-66	63.24	63.24	FCDR		2105.00	2105.00	2105.00	43.36	2.40			18						
46	Polder-42		65-66	43.46	43.46	FCDR		2734.00	2734.00	2734.00	27.34	2.80			7						
47	Polder-40/1		65-66	31.77	31.77	FCDR		2105.00	2105.00	2105.00	22.80	1.60			3						
48	Polder-40/2		65-66	114.87	114.87	FCDR		2834.00	2834.00	2834.00	35.10	2.80			15						
49	Polder-41/2		65-66	134.49	134.49	FCDR		3644.00	3644.00	3644.00	23.74	2.40			5						
50	Polder-41/3		65-66	20.03	20.03	FCDR		1053.00	1053.00	1053.00	13.70	1.20			4						
51	Polder-69		65-66	33.75	33.75	FCDR		607.00	607.00	607.00	15.30				4						
52	Polder-70		65-66	101.29	101.29	FCDR		405.00	405.00	405.00	31.40	4.80			11						

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
53	Polder-71		65-66	104.23	104.23	FCDR		310.00	810.00	810.00	49.60				10						
54	Polder-32		65-66	131.05	131.05	FCDR		6475.00	10405.00	10405.00	59.84				11						
55	Polder-47/3		65-66	41.83	41.83	FC			1660.00	1660.00	19.60	1.20			5						
56	Polder-47/5		65-66	84.95	84.95	FCDR		2429.00	2429.00	2429.00	23.83	2.40			5						
57	Polder-47/4		65-66	134.14	134.11	FCDR		5789.00	5739.00	5789.00	56.70	3.20			3						
58	Polder-46		65-66	113.42	119.42	FCDR		4696.00	4696.00	4696.00	38.69	3.20			9						
59	Polder-64/2B		65-66	153.88	153.38	FCDR		2105.00	2105.00	2105.00	93.60	6.40			29						
60	Polder-65(Dutch)		65-66	77.34	77.34	FCDR		3441.00	3441.00	3441.00	46.40	4.80			18						
61	Compre.Dr.sc.for Faridpur-Dist	56-57	66-67	435.00	413.73	DR		151822.00		151822.00		100.00			7						
62	Re-ex.of Gabbaria canal	60-61	66-67	0.45	0.56	DR		306.00		306.00		3.20									
63	Re-ex.of Sachia-Mithakur canal	55-56	66-67	2.40	1.66	DR		1053.00		1053.00		6.40									
64	Re-ex.of Chakhar-Chaulakathi	57-58	66-67	1.58	1.59	DR		486.00		486.00		9.60									
65	Re-ex.of Baarail Canal	57-58	66-67	1.40	1.46	DR		1579.00		1579.00		7.20									
66	Re-ex.of Katipara Kowklia canl	55-56	66-67	0.61	0.73	DR		890.00		890.00		5.60									
67	Re-ex.of Rakudia canal	59-60	66-67	0.42	0.68	DR		510.00		510.00		2.72									
68	Re-ex.of Chatrakanda canal	59-60	66-67	1.19	1.76	DR		445.00		445.00	7.34	8.00									
69	Re-ex.of Chatalbari canal	59-60	66-67	0.49	0.39	DR		291.00		291.00		2.72									
70	Re-ex.of Manpasha Latimshar	55-56	66-67	3.57	4.21	DR		890.00		890.00		3.20									
71	Re-ex.of Doarika canal	59-60	66-67	2.69	1.37	DR		1275.00		1275.00		13.60									
72	Re-ex.of Rajapur Gopalpur canl	56-57	66-67	0.99	1.13	DR		648.00		648.00		7.54			3						
73	Re-ex.of Charauddin canal	57-58	66-67	1.23	1.05	DR		356.00		356.00		7.60			1						
74	Polder-3		66-67	233.73	233.73	FCDR		14964.00	13704.00	18704.00	64.00				30						
75	Polder-64/1A		66-67	345.73	345.73	FCDR		486.00	486.00	486.00	67.20	1.60			15						
76	Polder-64/1B		66-67	253.77	253.77	FCDR		810.00	810.00	810.00	113.30	4.80			27						
77	Polder-64/1C		66-67	111.66	111.66	FCDR		1389.00	1389.00	1389.00	22.40	3.20			7						
78	Polder-16		66-67	113.90	113.90	FCDR		7385.00	10445.00	10445.00	45.02				12						
79	Polder-64/2A		66-67	100.00	100.00	FCDR		931.00	931.00	931.00	34.10	3.20			15						
80	Polder-45		66-67	80.36	80.85	FCDR		4089.00	4089.00	4089.00	25.60	1.30									
81	Polder-48		66-67	134.14	134.14	FCDR		5385.00	5385.00	5385.00	37.36				3						
82	Polder-35/1		66-67	507.13	507.19	FCDR		15385.00	13451.00	13451.00	64.00				52						
83	Polder-41/1		66-67	59.70	59.70	FCDR		4043.00	4043.00	4043.00	33.60	3.20			5						
84	GWD & LLP in Northern District	60-61	67-68	1346.33	1623.50	IR	24475.70						106.45								
85	Improv.of Gazaria Ichamati Riv	61-62	67-68	43.13	39.37	IRDR	310.00	6680.00		6680.00		[illegible]			3						
86	Imp.of Old Dakatia&Little Feni	57-58	67-68	337.00	318.52	IRDR	2024.00	65263.00		65263.00	4.80	32.00			5						
87	D-N-D Irrigation Project	61-62	67-68	229.21	276.38	FCDRIR	1119.00	3040.00	5870.00	3040.00		45.27	56.80		251						
88	Excav.of Jalkachtra Beel Proj.	57-58	67-68	3.36	1.68	DR		1528.00		1538.00		17.12			1						
89	Polder-72		67-68	457.52	457.59	FCDR		16194.00	16194.00	16194.00	65.10				[illegible]						
90	Polder-18/19		67-68	61.45	61.45	FCDR		2619.00	2279.00	2279.00	[illegible]				[illegible]						
91	Polder-77/1		67-68	107.21	107.21	FCDR		2334.00	2937.00	2937.00	84.00				[illegible]						
92	Polder-66/1		67-68	47.75	47.75	FCDR		405.00	405.00	405.00	19.30				[illegible]						
93	Polder-66/2		67-68	27.35	27.35	FCDR		364.00	364.00	364.00	13.20										
94	Polder-25		67-68	174.70	174.70	FCDR		10634.00	13276.00	13276.00	45.70				10						
95	Constn.of Bhatiapara Reg.& Emb	53-54	68-69	6.31	[illegible]						14.40										
96	Polder-64/3		68-69	48.55	48.55	FCDR		507.00	507.00	507.00	19.52				[illegible]						

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
97	Polder-67		68-69	42.59	42.59	FCDR		648.00	648.00	648.00	12.80				9						
98	Polder-68		68-69	89.62	89.62	FCDR		810.00	810.00	810.00	24.80				10						
99	Polder-13/12		68-69	112.20	112.20	FCDR		12988.00	16235.00	16235.00	41.49				15						
100	Polder-61/1		68-69	249.60	249.60	FCDR		9097.00	8097.00	8097.00	28.86				13						
101	Fld.Emb.on R/B of Brahmaputra	63-64	69-70	638.34	789.54	DRFC		225911.00	225911.00	225911.00	215.84				33						
102	Polder-7/2		69-70	98.07	98.07	FCDR		7692.00	10891.00	10891.00	59.20				13						
	Sub-Total:			10091.51	10600.55		59910.03	361519.51	503348.64	907228.15	2472.24	1175.35	335.50		233	16		118			
Batch-A03																					
1	Polder-23		70-71	160.43	160.43	FCDR		6575.00	8219.00	8219.00	46.75				11						
2	Polder-53/1A		70-71	138.76	138.76	FCDR		11053.00	11053.00	11053.00	36.00				24						
3	Polder-53/1B		70-71	89.51	89.51	FCDR		15385.00	15385.00	15385.00	39.20				13						
4	Polder-53/2		70-71			FCDR		15466.00	15466.00	15466.00	77.60				30						
5	Polder-61		70-71	125.38	125.38	FCDR		7409.00	7409.00	7409.00	38.43				9						
6	Polder-72/1A and 73/1B		70-71	603.42	603.42	FCDR		4049.00	4049.00	4049.00	69.76				24						
7	Polder-73/2		70-71	76.79	76.79	FCDR		9919.00	9919.00	9919.00	47.04				12						
8	Polder-28/1		70-71	44.19	44.19	FCDR		4781.00	5628.00	5628.00	23.04				9						
9	Polder-35/1		70-71	376.20	376.20	FCDR		39676.00	45344.00	45344.00	94.40				23						
10	Polder-21		71-72	37.61	37.61	FCDR		1613.00	3279.00	3279.00	15.76				2						
11	Polder-9		71-72	20.87	20.87	FCDR		935.00	1093.00	1093.00	8.30				3						
12	Polder-36		71-72	122.56	122.56	FCDR		5819.00	6845.00	6845.00	38.54				18						
13	Polder-17/1		71-72	120.34	120.34	FCDR		4257.00	5020.00	5020.00	42.13				11						
14	Polder-20		71-72	75.88	75.88	FCDR		1619.50	3279.00	3279.00	24.40				3						
15	Polder-33		71-72	125.47	125.47	FCDR		9846.00	10364.00	10364.00	51.70				21						
16	Polder-31		71-72	173.65	173.65	FCDR		9846.00	10364.00	10364.00	72.80				19						
17	Mobarak Bundh	71-72	71-72	4.36	4.36	FC			1036.00	1036.00	9.66				3						
18	Re-ex.of Mouza Banal khal	56-57	72-73	2.64	2.64	DR		810.00		810.00		12.00									
19	Polder-13-14/2		72-73	184.08	184.08	FCDR		10526.00	14575.00	14575.00	93.93				13						
20	Polder-6-4		73-74	155.01	155.01	FCDR		16219.00	25870.00	25870.00	52.40				17						
	Sub-Total:			2637.15	2637.15			177819.00	204197.00	205997.00	831.90	12.00			259						
Batch-A04																					
1	Re-ex.of Bainta Araibaki khals	69-70	74-75	5.84	12.79	DR		2332.00		2332.00		22.57					20				
2	Donanata Closure (Dutch)	74-75	75-76	4.67	4.67																
3	Sundalpur Irrigation Project	72-73	75-76	8.54	17.45	IR	1686.25						21.50								
4	Re-ex.from Gopalganj to Ghagor	61-62	75-76	10.50	3.11	DR		3368.00		3368.00		29.00									
5	Re-ex.of Barai khali khal	74-75	75-76	32.90	27.04	DR		1822.00		1822.00		22.54									
6	Polder-28 2		75-76	115.30	115.30	FCDR		3202.00	2591.00	2591.00	20.00				5						
7	Emb.along the W/B ofPunarbhaba	73-74	76-77	42.00	16.40	FC			6883.00	6883.00	20.33				5		17				
8	Flood emb. & Reg. at Jotebazar	70-71	75-77	3.75	9.75	DRFC		16882.00	16882.00	16882.00	6.44	3.22			1						
9	Chandana Barashia(Dutch)		75-77	70.50	70.50	IR	3239.00														
10	Imp.of Gotiadahabeel Dr Scheme	56-57	76-77	20.12	7.03	DR		5162.00		5162.00		3.22			1						
11	Re-ex.of Dewankhali khal	53-54	76-77	22.39	3.08	DR		465.00		465.00		19.32			1		1				
12	Imp.of Beel Baghil & Other	74-75	76-77	5.87	5.45	DR		97.00		97.00											

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
13	Marichar Dhanra Irrgn.Project	69-70	76-77	45.99	45.99	IR	30057.00				3.79	5.12									Regulator-2 nos.
14	Dev.of Karnahar Bara Beel	63-64	76-77	80.53	62.16	DRFC	23835.00	6073.00	6073.00	6073.00	30.38				8			6			
15	Re-ex.from Mustafapur-Ghagor	61-62	76-77	36.48	6.34	DR		11401.00		11401.00		33.31									
16	Constn.of Regulator at Bisha	69-70	76-77	6.95	7.23	DRFCIR	10127.00	10127.00	10127.00	10127.00	0.57				2						
17	Improvement of Naragati khal	57-58	76-77	12.70	13.36	DR		5668.00		5668.00		13.68			1			5			
18	Dredging of Gumti River	73-74	76-77	46.50	7.06	DR		5028.00		5028.00		0.55									
19	Imp.of mar.dyke along Kankri R	57-58	76-77	44.68	42.32	FC			4146.00	4146.00	21.75										Rest house-1 no
20	Comp.Dr.Sc.for Noakhali Sadar	60-61	75-77	533.20	533.20	DR		98462.00		98462.00	14.63	40.46			1						
21	Polder-27/2		76-77	83.23	83.23	FCDR		3298.00	3765.00	3765.00	14.64				3						
22	Polder-55/1		76-77	278.80	278.80	FCDR		8704.00	8704.00	8704.00	45.28	3.20			27						
23	Polder-54		77-78	191.59	191.59	FCDR		9352.00	9352.00	9352.00	58.68	2.30			31						
24	Polder-17/2		77-78	118.06	118.06	FCDR		3239.00	3441.00	3441.00	10.40				5						
25	Polder-44		77-78	243.21	243.21	FCDR		17530.00	17530.00	17530.00	80.00	1.32			8						
26	Polder-34		77-78	96.46	96.46	FCDR		88259.00	28340.00	88259.00	23.81				11						
27	Re-ex.of Jhingri River	74-75	77-78	11.72	52.75	DRIR	4260.00	2138.00		2138.00		4.02									
28	Sub-merged weir at Tangapara	76-77	77-78	46.63	38.77	FCIR	2024.00		1417.00	1417.00											Weir cum Regulator-1
29	Imp.of Madhukhali Roypur Beel	72-73	77-78	15.66	7.22	DR		2397.00		2397.00		4.44									
30	FC Emb.at Alfadanga & Boalmari	61-62	77-78	66.89	20.88	FCDR		14170.00	14170.00	14170.00	53.13	11.27			7						
31	Prot.of Boro of Dhankunia Haor	63-64	77-78	7.26	10.57	FCDR		1619.00	1619.00	1619.00	20.44				1						
32	Prot.of Boro of Halir Haor	71-72	77-78	49.26		FCDR		6073.00	6721.00	6721.00	56.35										
33	Prot.of Boro of Paganer Haor	76-77	77-78	17.98		DRFC		6073.00	22672.00	22672.00	30.59										
34	Prot.of Boro of Karchar Haor	62-63	77-78	12.50	28.77	DRFC		4453.00	4453.00	4453.00	27.37				2						
35	Re-ex.of Rijna & Sonai River	73-74	77-78	64.35	30.83	DR		6882.00		6882.00		45.40						2			
36	Re-ex.of Khirai River&Branches	73-74	77-78	48.56	67.35	DR		2429.00		2429.00		25.00						2			
37	Imp.of Gograjala & Bail khal	75-76	77-78	81.57	13.00	IR	3644.00					61.50									
38	Re-ex.of Rajar Khal	73-74	77-78	43.80	23.96	IR	2308.00					19.32									
39	Imp.of Sapla & Akashi Beel	73-74	77-78	13.77	7.44	IR	1174.00					8.32									
40	Re-ex.of Roachala& Archi River	75-76	77-78	53.87	57.78	DR		3725.00		3725.00		9.87						10			
41	Bulli Bundh Irrigation Project	73-74	77-78	38.22	17.17	IR	2334.00						7.87		3						Closure-1 no
42	Re-ex.from Somespur to Chiknai	74-75	77-78	33.34	42.00	DR		2348.00		2348.00	0.32	15.39			1						
43	Imp.of Nabinagar Dattakhola Kh	73-74	77-78	21.48	15.19	IR	7004.04														Canal Re-ex.53.92 km
44	Sonamukhi Banmandar Dr.scheme	70-71	77-78	148.03	133.83	FCDR		18240.00	18240.00	18240.00	3.41	43.20			5			6			Closure-1 no
45	Re-ex.of Batkazal khal	75-76	77-78	28.68	26.30	DR		1839.00		1839.00		25.65									Foot Bridge-8 nos
46	Pratappur Irrigation Project	74-75	77-78	43.39	43.37	IR	5234.00				10.83				7						
	Sub-Total:			3030.32	2571.87		96928.29	371307.00	187126.00	402558.07	553.35	473.52	29.[illegible]		134			69			
Batch-A05																					
1	Repairing of Hizla Embankment	74-75	78-79	62.31	52.15	DRFC		2429.00	4453.00	4453.00	11.86				3						Closure-3 nos
2	Re-ex.of Harin Khola khal	78-79	78-79	1.31	1.20	DR		500.00		500.00		1.77									
3	Re-ex.of Singua River	76-77	78-79	49.26	49.26	DR		4858.00		4858.00		33.00									
4	Re-ex.ofLashghata Nalgora khal	76-77	78-79	57.39	56.20	DR		2024.00		2024.00		30.37									Foot Bridge-7 nos
5	Re-ex.of Pangsi River	78-79	78-79	1.56	0.23	DR		506.00		506.00		2.91									
6	Re-ex.of Singua River	73-74	78-79	46.14	46.14	IR	6073.00														River re-ex. 21.31 [illegible]
7	[illegible] of [illegible] of Chaptia [illegible]		78-79	[illegible].33	[illegible]	DRFC		2834.[illegible]	[illegible]233.[illegible]	[illegible].00	[illegible].36										

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
12	Kazipur bridge over Subil khal	80-81	80-81	0.67	0.65	IR	202.00														
13	Over Batkamari Khalider khal	80-81	80-81	0.43	0.43	IR	40.50														
14	At Belahati over Iramatikhari	80-81	80-81	3.89	3.40	IR	405.00								1						
15	At Sonakania over Dublagari	80-81	80-81	2.78	2.70	IR	405.00								1						
16	At Rathuabari	80-81	80-81	3.07	2.95	IR	324.00								1						
17	At sibbati over Subil canal	80-81	80-81	2.44	2.41										1						
18	Slope over Dasbhanga canal	80-81	80-81	7.41		IR	81.00								1						
19	Over StuartCanal atSindurkanta	80-81	80-81	5.18	4.34	IR	405.00								1						
20	At Bharati over Sastioari	80-81	80-81	2.28	2.46	IR	243.00								1						
21	At Pirtala over Pirtala canal		80-81	5.18	4.11	IR	486.00								1						
22	At Taltala over Taltala canal	80-81	80-81	5.18	2.46	IR	243.00								1						
23	At Kazipur over Kazipur canal	80-81	80-81	5.18	4.65	IR	607.00								1						
24	At Pirpurghat overBhainara can	80-81	80-81	1.59	1.42	IR	40.50								1						
25	At Duliarpurghat over Bhainara	80-81	80-81	1.59	1.59	IR	40.50								1						
26	Over Jhapuachar	80-81	80-81	3.99	3.99	IR	123.00								1						
27	Over Khalaiar char	80-81	80-81	4.23	2.98	IR	123.00								1						
28	Over Zoaria Nala	80-81	80-81	13.89	9.35	IR	751.00								1						
29	Over Guptachara	80-81	80-81	2.35	2.35	IR	61.00								1						
30	Prot.of Boro of Joydona Haor		81-82			DRFC		1215.00	1215.00	1215.00	9.66										
31	Loop cutting of Gunti River	81-82	81-82	13.29	13.29	DR		1619.00		1619.00		0.64									
32	Re-ex.of Naya Dakatia River	81-82	81-82	19.74	19.74	DRIR	2348.00					6.44									
33	Renov.of waterlogging at Rouha	77-78	81-82	105.52	105.52	DR		4170.00		4170.00		29.00			1						
34	Embk.both bank of Selonia Rvr.	81-82	81-82	9.76	9.76	FC			1377.00	1377.00	9.66										
35	Embk.both bank of KahuaKuhuri	81-82	81-82	51.40	51.40	FC			7692.00	7692.00	53.13										
36	Padma beel Haor khali scheme	78-79	81-82	6.93	4.60	DR		285.00		285.00		25.76			2						
37	Nurania Detagram Beel	79-80	81-82	36.30	43.35	FCDR		3200.00	3200.00	3200.00		2.81			1			1			
38	Batakandi Irrigation Project	73-74	81-82	116.87	96.03	IR	2348.17														River re-excav-115km
39	Regulator over Janakipur khal	79-80	81-82	37.82	37.82	FCDR		777.00	777.00	777.00	1.20	0.80			1						
40	Prot.of Boro of Lohalia Haor	80-81	81-82	19.00	19.00	FCDR		1417.00	1417.00	1417.00	8.05										
41	Prot.of Boro ofChandrasunar kh		81-82	18.83	18.83	FCDR		2834.00	3239.00	3239.00	24.15										
42	Re-ex.of Archi River	81-82	81-82	17.99	17.99	IR	729.00					4.37									
43	Re-ex.of Joytal Lopara khal	81-82	81-82	10.66	10.66	IR	911.00					6.60									
44	Re-ex.of Ghagutia khal (Dutch)	77-78	81-82	27.78	17.34	IR	647.77														Canal Re-ex.12.8 Km
45	Re-ex.of Jamuna from Aytala	78-79	81-82	161.28	140.36	IR	1821.86						23.20					1			Closure-1 no
46	Dev.of Faliar Beel(Dutch)	78-79	81-82	86.20	86.20	DRFC		16178.00	16178.00	16178.00		6.44			1						
47	CEP 72 nos. Appendix "Ka"	60-61	81-82	15389.49	15389.49	DRFC		582874.00	360769.00	960769.00					1027						
48	Sati Nadi Scheme	78-79	81-82	245.00	252.66	DRFC		1619.00	14170.00	14170.00	26.56	24.15			10			2			
49	Teesta Right Flood Embankment	78-79	81-82	230.30	261.44	FC			38366.00	38366.00	42.50				1						
50	Road cum embkt.at Sahebernat	80-81	81-82	31.16	31.16	FC			12437.00	12437.00	44.67										
51	X-dam cum Embkt.at Kakashipur	80-81	81-82	20.57	20.57	FC			5182.00	5182.00	0.72										
52	Re-ex.of Damudia River	81-82	81-82	19.74	19.74	IR	1848.00					3.65									
53	Re-ex.of Salua & Satdona	81-82	81-82	6.83	6.83	IR	2834.00					4.39			1						
54	Madaripur Beel Route	74-75	81-82	733.45		DRFC		26721.00	26721.00	26721.00	35.42	113.30			12						
55	[illegible]		81-82	3.61		FCD		3239.00	239.00	239.00	0.06				3						CRS 28 nos

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
8	Protn.of Boro of Kalnar Haor		78-79	33.88	33.88	DRFC		3725.00	4049.00	4049.00	48.30										
9	Pathakhali Konai beel scheme	77-78	78-79	40.26	40.26	FC			1378.00	1378.00	4.02										Closure-1 no
10	Protn.of Boro of Matin Haor		78-79	10.89	10.89	DRFC		5506.00	6073.00	6073.00	38.64										
11	Re-ex.of Barisal khal	77-78	78-79	5.46	4.05	DR		283.00		283.00											Excav.of Canal-7.2ka
12	Re-ex.of Dardaria khal	62-63	78-79	40.68	39.35	FCDR		4251.00	6219.00	6219.00	17.71	22.54			3						
13	Con.of Reg.over Gobakhali khal	76-77	78-79	24.05	24.05	IR	1214.57														Regulator-1 no
14	Polder-56/57		78-79	1135.58	1135.58	FCDR		88259.00	88259.00	88259.00	200.00	18.16			21						
15	Polder-39/1		78-79	328.14	328.14	FCDR		24291.00	24291.00	24291.00	93.22	6.40			13						
16	Protn.of Boro of Sanir Haor		79-80	85.72	85.72	DRFC		6073.00	6721.00	6721.00	61.18				31						
17	Re-ex.of Sautikanda Dr. khal	75-76	79-80	37.57	9.84	IR	2024.29										1				Re-ex.of khal-17.6ka
18	Barisal Irrign.Proj. Phase-1	75-76	79-80	3752.00	3752.00	IR	39675.00						729.60		340				60		Secy.pump-250 nos
19	Polder-26 (Dutch)	77-78	79-80	46.49	45.37	DRFC		3000.00	3000.00	3000.00	12.07				2						
20	Raktadaha Lohachura beel	70-71	79-80	193.40	189.13	DRFC		28200.00	2000.00	28200.00	32.20	29.00			4						
21	Re-ex.of Kalaya Nehalganj khal	78-79	79-80	63.60	65.41	DR		3174.00		3174.00		21.07									Foot bridge-7 nos
22	Re-ex.of Padri Sibpur khal	78-79	79-80	41.68	41.67	DR		1457.00		1457.00		21.07									Foot bridge-8 nos
23	Putia & other beel Dr. scheme	78-79	79-80	13.00	13.63	DR		6996.00		6996.00					1						
24	Madia & other beel Dr. scheme	77-78	79-80	13.32	9.61	DR		2510.00		2510.00					1						
25	Regulator over Noakhali khal	78-79	79-80	16.07	9.28	DR		2024.00		2024.00					1						
26	Sarigoyan Project	72-73	79-80	365.99	270.64	DRFC		1700.00	1700.00	1700.00	17.06	9.35			2						
27	Regulator over Betna River	78-79	79-80	31.50	27.50	DRFC		1600.00	1600.00	1600.00					1						
28	Chandpur Irrigation Project	62-63	79-80	5430.00	5419.34	DRFCIR	24290.00	46437.00	46437.00	46437.00	100.80	556.80	22.80		7	1					N.lock-1, LLP-1290no
29	Regulator over Bhangra khal	77-78	79-80	9.35	9.19	DR		2500.00		2500.00					1						
30	Drainage of Tala beel	78-79	79-80	43.18	57.98	DRFC		5600.00	5600.00	5600.00		15.76			2		2				
31	Imp.of Bhitabari Damoah beel	78-79	79-80	66.48	70.60	IRFC	22131.00		22131.00	22131.00	2.00	14.00			1						
32	Dev.of Gangnai River	77-78	79-80	36.07	49.37	DR		2186.00		2186.00		16.10			1						
33	Chiknai-Ghechua bundh	71-72	79-80	90.21	85.94	DR		4049.00		4049.00	0.15	13.18			1						
34	Re-ex.of D-7 G.K. khal	77-78	79-80	17.24	11.36	DR		466.00		466.00											
35	Kulia Patharghata Dr. scheme	78-79	79-80	29.27	23.86	DRFC		11500.00	11500.00	11500.00		11.27			2						Canal excavn.5.66 ka
36	Garalia Beel Regulator	78-79	79-80	18.00	23.44	FCDR		2850.00	2850.00	2850.00		3.22			1						
37	Polder-43/1		79-80	169.07	169.07	FCDR		28421.00	28421.00	28421.00	78.90	3.20			10						
	Sub-Total:			12448.11	12306.32		95403.86	300209.00	263321.00	329654.00	789.97	818.27	752.40		449	1	3		60		
Batch-A06																					
1	Reg.over Dhalgram Bara khal	79-80	80-81	26.66	21.83	FCDR		8200.00	8200.00	8200.00											
2	Re-excav.of Sikder Mallick Kh.	74-75	80-81	31.11	31.09	DR		3336.00		3336.00					1						
3	Kapatakhi Salikha Scheme	79-80	80-81	77.11	84.04	DR		5850.00		5850.00	14.49	35.70									
4	Regulato at Hashemdia	70-71	80-81	58.89	47.93	DR		1822.00		1822.00	0.31	3.22			3		2				
5	Re-ex.of Tulbaria Khal	78-79	80-81	16.80	6.16	DR		567.00		567.00		0.68			1						
6	Imp.of Kushiyara Bardal	70-71	80-81	42.80	34.29	DRFC		8421.00	8421.00	8421.00	40.10	4.33			1						
7	Reg.over Bara Khudra khal	79-80	80-81	9.34	11.85	DRFC		4480.00	4480.00	4480.00		10.46									
8	Dr.Scheme Makia & Other beels	78-79	80-81	13.52	14.15	DRFC		1330.00	1330.00	1330.00						1					
9	Re-constn. of Buri Bundh	75-76	80-81	111.17	103.46	IR	2024.29									1					
10	Tarail Pachuria Project	74-75	80-81	902.21	343.23	DRFC		3198.00	3198.00	3198.00	69.23	17.71	9.00		7						Barrage-1,closure-1
11	Chakanaya Panchakurulia closur	80-81	80-81	108.57	108.57																Closure-1

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
56	Polder-5		81-82	680.71	680.71	FCDR		44340.00	55704.00	55704.00	152.70				34						
57	Outfall of Gachpara canal	80-81	81-82	6.29																	
58	At Dibigram	81-82	81-82	6.51		IR	81.00								1						
59	Ratnai River near Garuri Bazar	80-81	81-82	19.30		IR	405.00								1						
60	At Bishan River	81-82	81-82	5.77	4.03	IR	81.00								1						
61	Water Control Structures	80-81	81-82	126.13	152.44	IR	15567.00								11						
62	At Rasikpur over Bhairab River	81-82	81-82	7.20	9.49	IR	324.00								1						
63	At Rajnagar over Kajla River	81-82	81-82	4.26	5.55	IR	122.00								1						
64	Over Muchikhali Canal	80-81	81-82	1.46	2.05	IR	51.00								1						
65	Over Dariapur Canal	80-81	81-82	2.10	2.15	IR	51.00								1						
66	Over Shirishkat Canal	81-82	81-82	1.81	1.58	IR	81.00								1						
67	Over Sonaichara char	80-81	81-82	11.24	11.24	IR	126.00								1						
68	Over Dungichara	80-81	81-82	10.36	10.46	IR	315.00								1						
69	Over Haor khali Canal		81-82	5.00	5.00	IR	162.00								1						
70	Over Monaipara Canal	80-81	81-82	7.22	7.16	IR	61.00								1						
71	Over Baranasi Modhuchara Canal		81-82	8.24	5.22	IR	506.00								1						
72	Re-ex.of Kachua Anispur khal	81-82	82-83	10.17	10.17	DR		1619.00		1619.00		5.55									
73	Re-ex.of Farashganj khal	81-82	82-83	3.25	3.25	DR		810.00		810.00		1.83									
74	Re-ex.of Choumuhani Sattar Pia	81-82	82-83	3.21	3.21	DR		810.00		810.00		4.93									
75	Re-ex.of Neamatpur khal	81-82	82-83	6.41	6.41	DR		1215.00		1215.00		4.87									
76	Re-ex.of Parbatinagar khal	81-82	82-83	6.57	6.57	DR		1417.00		1417.00		6.71									
77	Re-ex.of Noakhali khal,P-59/1B	82-83	82-83	95.55	95.55	DR		14575.00		14575.00		20.93									
78	Re-ex.of JaksinDarbeshpur khal	81-82	82-83	23.07	23.07	DR		3644.00		3644.00		15.29									
79	Brdg.cum Reg.over Bailgabakhal	81-82	82-83	25.48	25.48	IR	1174.00								1						
80	Buri Teesta Irrigation Project	78-79	82-83	141.55	220.00	IR	8417.00					28.80	63.79		78			10			
81	Ramnagar Dr. & W.C.scheme	80-81	82-83	40.88	40.90	DR		1417.00		1417.00		3.22			1						
82	Jangal Beel Dr. & W.C.scheme	80-81	82-83	45.67	42.38	FCDR		486.00	486.00	486.00					1						
83	Konagram Beel Dr. & W.C.scheme		82-83	19.09	19.09	DR		202.00		202.00		2.01			1						
84	Barnai salimpur Kolabasukhali	60-61	82-83	930.00	953.44	DRFC		42000.00	42000.00	42000.00	72.85	39.59			13		2				
85	Gangrail Closure(Dutch)	81-82	82-83	106.44	95.46	FC			7650.00	7650.00											Closure-1 no
86	Embkt.from Ilsha to Bazipur		82-83	62.70	62.70	FC			2429.00	2429.00	38.80										
87	Consn.of Konapara Embankment	80-81	82-83	94.59	93.11	FC			3117.00	3117.00	21.37										
88	Water Retn.stru.at Bangaonchar	81-82	82-83	9.06	9.06	IR	324.00								1						
89	Bridge&Reg.over Katakhali khal	80-81	82-83	93.60	93.60	DRFC		2227.00	2227.00	2227.00	7.24	6.96			8						Closure-1 no
90	Bridge&Reg.on Salimpur Karatia	82-83	82-83	63.58	63.58	DRFC		1642.00	1012.00	1012.00					4						
91	Manu River Project(Kuwait)	75-76	82-83	7258.00	6858.37	DRFCIR	670.00	23672.00	22672.00	22672.00	58.85	48.80	103.24		18	1		1			Elec.line-16 km
92	G.K.Project (Phase-I & II)	60-61	82-83	5088.90	8230.00	DRIRFC	74372.46	13205.66	19038.34	19038.34	33.85	264.13	1507.22		2177	2	3403	1			Closure-1 no
93	Closure dam over Marapadaa	82-83	82-83	54.58	54.58																Closure-1 no
94	Re-ex.of Mrigi khal		82-83	29.11	29.11	DR		2834.00		2834.00		9.66			1						
95	Prot.Goalundo Daulatdia ferry	82-83	82-83	54.58	24.13																
96	Bridge cum Reg.over Noakhal	81-82	82-83	25.74	25.74	DRFC		1024.15	1024.15	1024.15											Closure dam-1 no
97	Regulator over Alalia Bahadia	81-82	82-83	21.77	21.77	FCIR	1619.00		1619.00	1619.00											Regulator-1 no
98	IR&FC of Purulia Charbhatpara	81-82	82-83	89.57	48.89	IR	809.71				3.20					2					Regulator-1 no
99	Re-ex.of Bulbola khal	81-82	82-83	6.62	6.62	DR		811.00		811.00		3.83									

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
100	Extn.of Pathashali Konai Beel	81-82	82-83	94.64	81.26	FC			1822.00	1822.00	3.42										RCC pipe outlet-9 no
101	Over Ichamati Keshabpur	81-82	82-83	3.81	3.85	IR	51.00								1						
102	Khutakhali	81-82	82-83	19.24	19.24	IR	891.00								1						
103	At Barahaty over Harabati	81-82	82-83	3.50	3.11	IR	243.00								1						
104	Over Naogolakhari atCharbakhra	81-82	82-83	4.72	2.45	IR	243.00								1						
105	Over Ramshala Khal	81-82	82-83	0.36	1.91	IR	162.00								1						
106	Over Ichamati Shitalpur	81-82	82-83	3.61	4.64	IR	81.00								1						Cross Dam-0.034 km
107	Over Ambagan ghat, Kishoreganj	81-82	82-83	4.90	2.35										1						Cross Dam-0.013 km
108	Over Bhaticbara at Sadullapur	81-82	82-83	3.50	1.38										1						Cross Dam-0.014 km
109	Over Chilgacha khal, Chilgacha	81-82	82-83	2.58	2.44										1						Cross Dam-0.97 km
110	Baniagan River at Gazaria	81-82	82-83	0.69	0.30	IR	324.00								1						Cross Dam-0.06 km
111	Over Chadan Baisha, East Delua	80-81	82-83	0.98	9.35										1						
112	At Hajrakhali & Bahadurpur	82-83	82-83	10.44		IR	162.00								2						
113	Over Niamatpur DC Khal	80-81	82-83	28.54	30.73										2						
114	10" W.C.structure at Laljuri	82-83	82-83	15.76	15.76	IR	243.00								1						
115	10" W.C.structure,Baranayaganj	81-82	82-83	14.19	14.19	IR	324.00								1						
116	Brick matress str.at Mollar kh	81-82	82-83	2.62	2.62	IR	202.00								1						
117	10" W.C.structure,Khirainalya	81-82	82-83	5.26	5.26	IR	202.00								1						
118	Over Bhulua Khal	81-82	82-83	7.44	7.44	IR	404.00								1						
119	Over Neamatpur D.C. canal	81-82	82-83	7.33	7.33	IR	404.00								1						
120	Over Rajapur Debinagar canal	81-82	82-83	7.42	7.42	IR	404.00								1						
121	Over Parbati Nagar canal	81-82	82-83	7.41	7.41	IR	404.00								1						
122	Over Gokuler canal	81-82	82-83	7.33	7.33	IR	404.00								1						
123	Over Khil Baicha canal	81-82	82-83	4.08	4.08	IR	202.00								1						
124	Over Bulbula canal	81-82	82-83	5.20	5.22	IR	606.00								1						
125	At Fulbari over Sukdah canal	80-81	82-83	6.43	5.45	IR	606.00								1						
126	At Baithabhatia overSukdah can	80-81	82-83	12.77	8.60	IR	606.00								1						
127	At Jugibhita overMandaharkhari	81-82	82-83	3.85	4.19	IR	324.00								1						
128	Over Mandakini canal	81-82	82-83	65.79	31.79	IR	286.00								1						
129	Over Mallika canal	82-83	83-84	8.22	6.00	IR	40.50								1						Cross dam-0.30 km
130	Water Contro. Structures	80-81	83-84	535.32	506.44	IR	23604.00								2						Beel Re-ex-11.37 km
131	Imp.of Laxmikasa Charan beel	81-82	83-84	63.58	63.58	DR		1215.00		1215.00	5.17				2						L/out-1.25,1-dam-1no
132	Loop cutting of Surma river	80-81	83-84	334.74	192.35	DR		1215.00		1215.00											
133	Sanghair Hao: scheme(Dutch)	80-81	83-84	107.85	93.34	FCDR		4140.00	4858.00	4858.00	27.37						20				
134	Bhola North East Embankment	80-81	83-84	569.70	399.65	FC			8704.00	8704.00											
135	Dublakuri FCDIrr. Scheme	82-83	83-84	113.40	68.56	DRFC		1618.00	3644.00	3644.00					1						Re-ex.of khal-1.53km
136	Extension of Polder 66\3 (IDA)	80-81	83-84	143.29	137.43						15.26				2						
137	Polder 65\A-1 (Dutch)	81-82	83-84	127.80	94.48	FCDR		2188.00	2188.00	2188.00	8.00				2						
138	Re-ex.of Barial khal	79-80	83-84	116.50	101.00	DR		2423.00		2423.00								4			Re-ex.of khal-16.19km
139	Amtali closure in Pol-43/1	79-80	83-84	165.14	163.62																Closure-1 nc
140	Karnafuli Irrigation Project	75-76	83-84	4805.17	4805.17	FCDRIR	12045.74				12.21		132.00		56	3					
141	Narayanganj Narsingdi Irr.Proj	81-82	83-84	991.30	972.00	IR	1506.00				6.56	6.48	7.68			1	3				
142	Extension of Polder 6-8(Dutch)	79-80	83-84	258.02	141.64	DR		9000.00		9000.00								3			
143	[illegible] over Narabangali R	82-83	83-84	20.83	20.83	DR		405.00		405.00								1			

compl

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
144	Contn.of Appurtenant structure		83-84	173.00	173.00	DRFC			8097.00	8097.00		1.33			3						
145	Bridge cum Reg.over Konai Riv.	81-82	83-84	18.54	28.54	DRFC		809.71	809.71	809.71											Closure-3 nos
146	Brahmaputra Right Flood Embkt.	74-75	84-85	3632.50	3957.72	DRFC		72874.00	72874.00	72874.00	278.53				16						
147	Angur Ali Haor(Dutch)	81-82	84-85	110.36	102.74	DRFC					18.31	1.37			9						X-bundh-112 nos
148	Sakunia beel IR DR&FC scheme	81-82	84-85	196.00	121.12	DRFC					8.05	16.10			2						
149	Barakpur Dighulia(Dutch)	82-83	84-85	283.20	280.14						19.72	8.05			4						
150	Dredger & Attendant Plant	80-81	84-85	2555.00	4740.00																Closur-4 nos
151	Re-ex.of Mukteswari Teka nadi	78-79	84-85	367.57	382.39	DR		38400.00		38400.00		48.38			9			3			Drdg.5,plant10.Tag2
152	Barisal Irrign.Proj.Phase-II	80-81	84-85	3029.19	3012.56	IR	32389.00									22	166		40		Canal ex.kre-ex499km
153	Polder 58/3 Char Faizuddin	80-81	84-85	264.15	253.86	FC			1336.00	1336.00	16.93	9.66			2						
154	Lohagara FC Embankment Proj.	70-71	84-85	223.67	208.55	FC			32000.00	32000.00	17.71				3						
155	Singua Nebugatik other beel Dr	79-80	84-85	354.52	353.28	FCIR	6478.00		6478.00	6478.00	27.37				4						
	Sub-Total:			54118.51	57360.25		209903.00	974665.52	1423885.20	1423652.20	1252.38	1562.77	1852.32		3654	28	193	3469	2	40	
Batch-A07																					
1	Baramanikdi Drainage&Irrigatn.	83-84	85-86	156.82	100.63	DRFCIR	2591.00	3077.00	3077.00	3077.00											
2	Masajan Lohajan(Dutch EIP)	82-83	85-86	150.51	147.71	FCDR		809.71	809.71	809.71		15.20			2						Reg.1,Fl.gate-2 nos
3	FC Emb.along L/bank of Manu R.	82-83	85-86	404.26	436.78	FC			16000.00	16000.00	66.00				2						
4	Fakirhati Chatlar beel Dr.sch.	83-84	85-86	25.62	3.77	FCDR		3213.00	3213.00	3213.00											Spur-6 nos
5	Damrir Haor	84-85	85-86	197.00	159.23	FCDR		18212.00	18212.00	18212.00			7.11								
6	Polder 35/3(Dutch)	81-82	85-86	477.20	559.21	FCDR		12933.00	12933.00	12933.00	35.26	5.53									
7	Gazaria Beel Scheme	81-82	85-86	113.06	113.06	FCDR		2591.00	2591.00	2591.00						3					Closure-22 nos
8	Kalaroa Drainage scheme	84-85	86-87	390.93	340.35	DR		3860.00		3860.00					4						Re-excav-20.12 km
9	Sandwip Embankment	79-80	86-87	868.75	877.59	IRDRFC	7287.00	22672.00	22672.00	22672.00	23.50				1		5	10			W.C.structure-4 nos
10	Nagar Vally Project(Dutch EIP)	84-85	86-87	967.13	932.18	FCDR		14200.00	14200.00	14200.00	59.52						14				
11	Chenchuri Beel Dr.Sc.(DFC-II)	72-73	86-87	1110.00	1168.91	DRFC		18630.00	18630.00	18630.00	82.02	14.16			10			1			Reg-6,Re-ex-23.52 km
12	Meghna Dhonagoda Project (ADB)	73-74	87-88	14662.49	14319.22	IRDRFC	14367.00	17584.00	17584.00	17584.00		125.57	218.00		62	2					Reg-5,Road24.15 km
13	Sonail Embankment (Dutch EIP)	86-87	87-88	230.41	222.24	FC			4600.00	4600.00	19.40				3						Tr.line-50.56 km
14	Pathakhali Konai beel(Dut.EIP)	85-86	87-88	229.73	229.73	DRFC		1822.00	1822.00	1822.00	9.00				1						Pipe outlet-1.inl-30
15	Sanghair Haor (Dutch)	86-87	87-88	130.58	130.58	DRFC		4202.00	4202.00	4202.00	25.40				30		2				Re-ex of khal-5.5 km
16	Hangar khal Irrigatn(ADB EEC)	82-83	87-88	112.05	107.10	IR	538.46								2			1			S.dam.4km.con.bund2r
17	Muhuri Irrigation Project	77-78	87-88	15873.30	15636.24	DRFCIR	27125.50	8097.16	40081.00	40081.00											Re-ex canal-6.83 km
18	Bighainadi Fl & Salinity contr	84-85	87-88	508.60	508.60	FC			4858.00	4858.00	22.54										Clol.Reg1,T.line7.5k
19	Hamodar beel (Dutch)	83-84	87-88	261.00	135.55	DR		1619.00	1619.00	1619.00						8					Outlet-10 nos.
20	Nagarnadi sub-proj.(Dutch,Swe)	83-84	87-88	446.55	446.00	FCDR		9312.00	9312.00	9312.00	31.15							5			Re-ex of khal-32km
21	Polder 43/2C	83-84	87-88	400.00	400.00	FC			2146.00	2146.00	30.59				1	4					Re-ex2.22km.Inlet-12
22	Shaora beel(Dutch Swedish)	83-84	87-88	135.55	135.55	DR		1619.00		1619.00					4	6					Inlet-25 nos
23	North Bangladesh TW Proj(Inst)	80-81	88-89	8855.00	3509.04	IR	43600.00									2	11				Re-ex khal 38.76km
24	Hail Haor (IDA)	81-82	88-89	629.70	629.70	DRFC		24291.00	24372.00	24372.00	0.20										DTW10.New30.Rehab1
25	Chalan Beel Polder-D (IDA)	81-82	88-89	3732.36	3691.34	IRDRFC	1830.00	38583.00	53000.00	53000.00	132.28										Retired Embkt-2.07km
26	Kalkini North (IFAD-EIP)	84-85	88-89	231.11	231.11	FCDR		3077.00	3077.00	3077.00	30.35				13		8	10			Pipe-20nos.Slig-7nos
27	Dhuldi beel (IFAD IDA)	85-86	88-89	271.91	271.91	DRFC		2846.00	2846.00	2846.00	28.96										Building-3nos
28	Polder 39/1C (IDA)	85-86	88-89	327.00	260.60	FCDR		4700.00	4700.00	4700.00	15.00				10		2				Outlet13.Inlet-11nos
29	Polder 56/57 Extension IDA EIP	86-87	88-89	528.08	528.08	IRFCDR	990.00	1515.00	1515.00	1515.00	11.75				7		11				
															1		1				

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
30	Rahimpur khal (IDA EIP)	86-87	88-89	106.66	106.66	IRFCDR		10121.00	10121.00	10121.00											Bridge cum Regulator
31	Nsotana khal	85-86	88-89	107.31	103.61	IRDRFC		2146.00	2146.00	2146.00	5.52				3						
32	Satla Bagda Pro.DFC-II,IDA EIP	72-73	88-89	3855.95	3855.95	DRFC		21457.00	21457.00	21457.00	117.50				41		35	16			Roads-119km,LA585ha
33	Const. of Jetty at Gorakghata	87-88	88-89	331.58	331.58						0.33										R.C.C. Jetty-1 no
34	Surjamoni khal (Dutch Swedish)	87-88	88-89	198.54	198.54	DRFC		1802.00	1802.00	1802.00								32			Re-ex of khal-35 km
35	Satla Bagda O&M Polder-3	87-88	88-89	159.19	75.99	FC			1450.00	1450.00	2.50				3						
36	Pathar Chauli Haor(Dutch-Swed)	83-84	88-89	376.90	362.80	FCDR		4089.00	4089.00	4089.00	33.31						2				Re-excavn-0.23km
37	Tube Well Proj.(Installation)	86-87	89-90	7098.73	6908.17																Electrification.
38	Tube Well Pr.(comm.Area Dev)	84-85	89-90	3328.38	3146.57	IR	267210.00														Command Area Dev.
39	North Rupganj WC Proj. (China)	84-85	89-90	3613.11	3414.40	IRDRFC	2270.00	3700.00	3700.00	3700.00	18.00		34.34		179	1					T.line1.2km,LA124.45
40	Polder 55/2C (ADB)	86-87	89-90	806.33	629.70	DRFC		6275.00	6275.00	6275.00											
41	Arol Beel (IDA)	86-87	89-90	659.65	332.45	DRFC		15750.00	15750.00	15750.00											
42	Dutch Aided FDR	89-90	89-90	879.65	785.51																
43	IFAD Aided FDR	88-89	89-90	260.00	224.01																
44	Rehab.of N'ganj-Narsingdi Ir.P	88-89	89-90	1571.18	1571.18	IRDRFC		1000.00	1000.00	1000.00											
45	Zilkar Haor (Dutch)	83-84	89-90	498.56	446.34	DRFC		5263.00	5263.00	5263.00	24.71				3		4				Excav2.42km,Inlet23
	Sub-Total:			76330.97	72926.13		367838.96	291067.87	361124.71	366603.71	829.49	160.45	260.08		373	3	107	86			
Batch-A08																					
1	Bhola Irrigation Project, Ph-I	82-83	90-91	6307.97	5271.57	IR	38850.00	52632.00	52632.00	52632.00	38.47							28			Closure-1 no
2	IDA Aided BWDB small schmes	85-86	90-91	3593.58	3014.94																
3	Sirajganj IRDP	77-78	90-91	5067.29	4742.57	DRFC		47368.00	47368.00	47368.00	56.08	43.47			4						Dr. Regulator-9 nos
4	Kangsa River	84-85	90-91	900.97	864.92	DRFC		10200.00	11620.00	11620.00	19.07	30.57			33		7				Dr. Regulator-1 no
5	Sakuchia Island(Polder 58/2)	87-88	90-91	1139.65	976.07	IRFCDR	2100.00	4000.00	4310.00	4310.00	26.60	26.26			8		50				
6	Polder 39/1-A		90-91	477.18	447.31	IRDRFC	3000.00	10455.00	11750.00	11750.00	18.00				14						Re-ex of khal-20 km
7	Polder 52-53/A&B		90-91	1095.28	937.09	IRDRFC	4135.00	5400.00	8030.00	8030.00	19.99				7		7	4			
8	Thakurkona	88-89	90-91	392.41	299.82	DRFC		2812.00	3158.00	3158.00	13.15				5						Inlet-14,Outlet-13no
9	Hurasagar River		90-91	765.62	693.58			6323.00	7895.00	7895.00					6						
10	Gurmar Haor		90-91	1370.08	589.92	IRFC	4312.00	810.00	4858.00	4858.00	45.35				5						Re-ex of khal-1.37ka
11	Sonaimaral Haor		90-91	370.29	511.06	IRDRFC	1620.00	405.00	2429.00	2429.00	44.42				5						Re-ex of khal-2ka
12	Kamar Nagaon (ADB)	88-89	90-91	526.47	232.36	DRFC		2000.00	4000.00	4000.00	22.16				5						
13	Polder 55/4		90-91	1329.17	945.54	DRFC		4238.00	4238.00	4238.00	4.93				10						
14	Aglar Chak	86-87	90-91	387.79	351.61	IRFC	2532.00	405.00	2336.00	2996.00	0.30		11.42								
15	Polder 43/2B		90-91	345.39	666.40	IR	1236.00	3024.00	5247.00	5247.00	27.75				5		6				Inlet-24 nos
	Sub-Total:			25568.04	20604.76		59945.00	149722.00	170581.00	170581.00	394.77	100.30	11.42		113		70	32			
Batch-A09																					
1	Gusti Project, Phase-I, FCD-3	84-85	91-92	11405.14	10512.85	IRDRFC	11300.00	37340.00	37340.00	37340.00											
2	Gangajuri Haor, Habiganj	86-87	91-92	1956.49	1821.50	IRDRFC	1130.00	15350.00	15850.00	15850.00											
3	Paisarhat Ramsil, Barisal	86-87	91-92	366.92	1199.63	IRDRFC	2388.00		7280.00	7280.00											
4	Tarail Pachuria.Pol-4&5,G'gonj	88-89	91-92	506.15	59.22	IRDRFC	2214.00	4150.00	4150.00	4150.00											
5	Pabna Irrigation Proj, Phase-I	70-71	91-92	38404.14	36830.11	IRDRFC	21366.00	133864.00	184534.00	184534.00											
6	Haijda Embankment, Netrokona	83-84	91-92	261.23	587.96	IRDRFC	1240.00	810.00	5830.00	5830.00	33.34										Dr. Regulator-12 nos
7	Meherpur Irrigation Project	85-86	91-92	367.54	337.21	IRDRFC	1240.00	810.00	4453.00	4453.00											

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
8	Gograjala Irrigation Project	85-86	91-92	1154.56	723.80	IRDRFC	4292.00		3240.00	3240.00	26.18				9						R/E of canal-42.43km
9	ADB AIDED FLOOD DAMAGE REHAB	87-88	91-92	13632.36	13188.33																
10	Baram Haor, Sunamganj	86-87	91-92	463.10	474.90	DRFC		4800.00	4800.00	4800.00	25.96						6				
11	Nuruler Beel, Gaibandha	86-87	91-92	548.73	504.62	DRFC		8500.00	8500.00	8500.00											
12	Satdamua Katlar Beel,Gaibandha	87-88	91-92	441.63	432.46	DRFC		4500.00	4500.00	4500.00											
13	Upper Nagor River, Bogra	87-88	91-92	770.84	722.65	DRFC		10000.00	10000.00	10000.00											
14	REHAB & RECONST.OF CEP, PART-A	90-91	91-92	727.00	727.00																
15	REP.& RECONT.OF FD,SYLHET DIST	90-91	91-92	273.00	272.70																
	Sub-Total:			73178.83	68744.94		49964.00	225624.00	290477.00	290477.00	80.48				9		6				
Batch-A10																					
1	RIVER RESEARCH INSTITUTE	76-77	92-93	7904.55	6874.31																
2	Kalidaskhali Arpara	87-88	92-93	902.72	1033.82	IRDRFC	2210.00	16150.00	16150.00	16150.00											
3	Chenchuri Beel	84-85	92-93	601.50	551.05	IRDR	1090.00	245.00		245.00											
4	IDA AIDED FDR. PH-2	87-88	92-93	33561.93	34378.29																
5	Kalkini South	84-85	92-93	375.51	417.37	DRFC		3600.00	5100.00	5100.00											
6	Tarail Panchuria, Polder-2	86-87	92-93	774.21	523.00	IRDRFC	2753.00	1619.00	5810.00	5810.00											
7	Baliakandi Modhukhali	88-89	92-93	438.91	367.95	IRDRFC	1000.00	1000.00	6480.00	6480.00											
8	Tangon Barrage	82-83	92-93	1249.89	1289.94	IRDR	4453.00	4453.00		4453.00											
9	N.GANJ NARSINGDI IP(BLOCK-A1)	88-89	92-93	11390.02	10335.50	IRDR	2380.00	3500.00		3500.00	23.68	41.02	52.32		1	1					Cons.of 11 KV P.line
10	Faridpur Area-1	85-86	92-93	680.01	416.01	DRFC		15000.00	15000.00	15000.00											
11	Bhutiar Beel	86-87	92-93	887.96	790.08	DRFC		8000.00	8000.00	8000.00											
12	Venda Beel	87-88	92-93	441.06	390.96	DRFC		3600.00	3600.00	3600.00	32.08						6				Compart.Bundh-8km
13	Shakpaldia	89-90	92-93	291.40	179.26	IRDRFC	150.00	1220.00	1220.00	1220.00	20.30	4.00	10.00				2				Small Dr.outlet-1lno
14	Polder 43/2E	88-89	92-93	526.18	324.84	IRDRFC	1300.00	1350.00	1350.00	1350.00											
15	ROAD HBB,ZIA X TO RLY.GHAT	91-92	92-93	155.00	155.00																
16	Bank Prot.Yusufpur to Sardah	91-92	92-93	300.00	255.20																Bank Prot-1.5 km
	Sub-Total:			60480.85	58282.58		15336.00	59737.00	62710.00	70908.00	76.06	45.02	62.32		1	1	8				
Batch-A11																					
1	NAOGAON PROJECT. POL-1, FCD-3	84-85	93-94	10400.00	9956.25	DRFC		46100.00	46100.00	46100.00											
2	MADHUMATI NABAGANGA PROJ.PCD-3	84-85	93-94	6713.66	6632.54	DRFC		45000.00	45000.00	45000.00											
3	Halda Irrign Extension, Chitt.	86-87	93-94	3001.47	3251.49	IRDR	2820.00	1410.00		1410.00											
4	Shila River, Mymensingh	84-85	93-94	870.97	711.34	IRDRFC		6195.00	8015.00	8015.00	38.00				8						Regulator-8 nos
5	Upper Shila River, Mymensingh	86-87	93-94	710.87	735.40	DRFC		6500.00	6500.00	6500.00					10						Reg-1no, Closure-1no
6	G.K. IRRIGATION REHAB. PROJECT	82-83	93-94	21256.83	17272.71	IRDR															
7	Balali Padmasree Irrigation	85-86	93-94	412.79	330.37	IRFC	405.00		1620.00	1620.00											
8	Badalgachi, Naogaon	88-89	93-94	841.57	698.28	IRDRFC	75.00	11400.00	11400.00	11400.00	32.75						6				
9	Bibichini, Barguna	89-90	93-94	521.14	465.65	IRDRFC	400.00	2300.00	2300.00	2300.00											
10	Satkhira Kolaroa, Satkhira	89-90	93-94	545.28	406.33	DRFC		5550.00	5550.00	5550.00											
11	Chitra-Bhairab Proj. Jessore	90-91	93-94	1035.54	802.82	IRDRFC	17890.00	27500.00	27500.00	27500.00											
12	Bhadra River Bank Prot.Khulna		93-94	25.00	23.56																
13	Bangshi River Bank Prot.Balia		93-94	77.03	80.96																
14	Godagari Rail Bazar Prot. Raj	92-93	93-94	450.00	399.75																Brick matte-33068sq

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(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
15	Hemayetpur-Singair-Manikganj		93-94	40.00	31.00																
16	Chagat River Prot. Rangpur	93-94	93-94	44.00	3.00																
	Sub-Total:			46946.15	41860.49		21590.00	151955.00	153985.00	155335.00	70.75				18		6				
	Grand Total:			365004.80	348155.86		980846.68	3603576.63	3648166.55	4478690.79	7441.19	4560.26	3346.58	1)5995	49	390	3659	2	220		

FUNCTIONS OF PLANNING ORGANIZATION

A brief description of the functions of the planning offices of BWDB is given below:

2.5.3 Member (Planning)

(a) To supervise, guide and co-ordinate project preparation including feasibility studies, long term planning and perspective planning.

(b) Responsible for overall planning of the Water Resources and Flood Control Schemes in the country, supervision of the Land Reclamation Project, Early Implementation of Schemes of the Dutch Govt. Special Studies Project and international agencies in planning and sanction of projects.

(c) To supervise the function of:

(i) Chief Engineer, Hydrology
(ii) Chief Engineer, Planning
(iii) Chief Engineer, Water Investigation

(d) Any other functions assigned to him by the authority from time to time.

2.5.4 **Chief Engineer, Planning**

(a) To look after the overall administration of the office of the Chief Engineer.

(b) Responsible for overall Planning of Irrigation, Water Resources, Flood Control Schemes in the country and administrative control and supervision of the functions of the 6 Directorates under him.

(c) Responsible for Identification of WDB Projects, initiation of investigation and preparation of Planning Commission Proforma for survey, investigation and studies.

(d) Preparation of terms of reference for project studies and regional studies by foreign and local Consultants, as well as for Department Studies.

(e) Monitoring Consultants works through studies, co-ordinating with the department field officers during the studies and administration of the contract agreements.

(f) Responsible for preparation of preliminary and feasibility reports of Water Development and Flood Control Projects and revision and updating of Feasibility Reports.

(g) Preparation of project documents, contract documents.

(h) Short listing of consultants.

(i) Evaluation of consultants proposals and selection of consultant.

(j) Responsible for keeping liaison with Zonal Engineers during construction of the project preparation and revision of Five Year Plans, preparation of long term and updating Master Plan.

(k) To make assessment of foreign requirements for W.D. Projects and loan negotiations and agreements with the aid giving agencies.

(l) To look after preparation and processing of foreign loan application for Technical Assistance Studies and preparation of long term plan and updating of Master Plan.

(m) Any other function assigned to him by the authority from time to time.

2.5.4. **Director, Planning (General)**

a) Responsible for overall administration of the Directorate of Planning (General).

b) Identification of W.D. Project, initiation of investigation of W.D. Projects. Preparation of PC-II, TAPP, PCP, TOR of different projects.

c) Monitoring consultants work through studies, co-ordinating with Departmental Field offices during the studies.

d) conduction the feasibilities studies of the new schemes.

e) Revision and updating of feasibility reports and keeping liaison with foreign Technical Assistance Consultants in conducting the feasibility studies.

f) Scrutining of schemes received from fields for final acceptance for feasibility studies.

g) Printing and reproduction of reports/letters and maintenance of Technical Library.

h) Shrimp culture Projects aided by IDA.

i) Any other function assigned to him by the authority from time to time.

2.5.5 **Director, Planning (Schemes-I)**

a) Responsible for overall administration of the Directorate.

b) To furnish, in collaboration with expatriate Consultants, the feasibility study reports on Drainage and Flood Control Project Technically identified and selected on the basis of National Priorities and in compliance with the criteria of the AID giving agencies e.g. IDA, ADB etc.

c) Review of all relevant data, interim reports, old feasibility study reports, execution to Topographic Survey, Ground Water Studies, Flood Depth measurement, Socio-economic Survey.

d) To propose future cropping pattern on the basis of Civil Engineering and Structural provision in the project area, O&M cost etc. vis-a-vis the Agriculture Benefits with and the Project to show net production.

e) To keep liaison with the foreign consultants, Chief Engineer, Planning and AID Giving Agencies such as IDA/ADB etc, preparation of Budget, disbursement fund etc.

f) Any other function assigned to him by the authority from time to time.

2.5.6 **Director, Planning (Scheme-II)**

a) Responsible for overall administration of the Directorate.

b) Responsible to look after the Small Scale Irrigation Sector Project aided by ADB.

c) Responsible for reporting to the Chief Engineer, Planning and for obtaining advice and assistance from a Small Team of Expatriate Consultants.

d) Responsible for formation of a Planning Team to identify, screen and select sub-projects, to prepare feasibility studies and sub-projects, to appraisal reports and to prepare project proforma to obtain Bank and Government approval for financing.

e) Any other function assigned to him by the authority from time to

2.5.7 **Director, Planning (Schemes-IV)**

a) Responsible for overall administration of the Directorate.

b) Identification, feasibility study and implementation of early implementation type small schemes aided by the Netherlands and Sweden International Development Agency (SIDA).

c) To monitor and co-ordinate study projects under his Directorate.

d) To monitor project implementation and financing managements.

e) To review and comment on reports received from other offices.

f) To liaison with consultants and donor agencies on matter concerning budget & disbursement of funds etc.

g) Any other functions assigned to the Directorate.

2.5.8 **Director, Land Accretion and Estuary Development**

a) To look after the overall administration of the Project.

b) Responsible for control, guide, advice and supervise with the assistance Dutch Expertise.

c) Maintains contact/liaison with various organizations in connection with the project.

d) Responsible for collection processing and study of Hydrological Data Testing of Water samples in the Laboratory.

e) Responsible for execution of all structural construction works of Pilot Project in Noakhali coastal areas. Maintain Research in the Pilot Project.

f) Any other function assigned to him by the authority from time to time.

2.5.9 **Director, Economic Planning**

a) To look after the overall administration of the Directorate of Economic Planning.

b) To review new schemes and advise the Board about feasibility, impact, desirability of implementation and timing of such schemes.

c) To assist the line management Headquarters and Zonal Chief Engineers with advice in respect of new and ongoing schemes.

d) To assist formulation of short-range/long range and medium term development areas. Assist the Board in determining priority of new projects. Assisting the Board with command on the Annual Development Programme proposals, and attend review meetings on implementation of schemes.

e) To advise the Board about guidelines on Annual Development Budget. Advising the Board, about many significant implication due to change or revision of administratively approved project.

f) To conduct special studies and investigations where required and preparation of replies to comments made by the Govt. or any other Department/Ministry agency on various aspects of Board's programme/schemes.

g) To maintain of close co-ordination with the relevant staff/line offices, specially in the following fields of activity:

   i) Consideration of the feasibility and appraisal of investigations studies and projects.

   ii) Assisting the consultants in the preparation of feasibility report as required.

   iii) Reviewing different aspects of reports received from the consultants.

h) To assist the other Planning Directorate and Zonal and Field Offices in the preparation of Project Proforma and PC-II, with special emphasis on the agro-economic analysis and evaluation of schemes and to delineate the relevant scope of work relating to economic evaluation, financial appraisal and other areas in case of survey scheme i.e. PC-II.

i) To maintain liaison with the Ministry, Planning Commission and other concerned Govt. Agencies on relevant matters and attend meetings as and then required in connection with processing and approval of schemes and programme.

j) Any other function assigned to him by the authority from time to time.

Annexure-4

Government of the People's Republic of Bangladesh
Ministry of Water Resources

List of New Projects for which funding not yet lined up

Sl. No.	Name of Project (Estimated Cost Tk. in Lac)	Planned Duration	Objectives	Type
1.	Gomti Project Phase-II (Cost: 104840.00)	1994/95 to 2004/05	The objective is to provide FCDI to the Gomti area in its second phase.	FCDI
2.	North Noakhali Irrigation Project (Cost: 20871.00)	1994/95 to 1998/99	a) To solve drainage problems in Begumganj depression b) To extend benefits to tidal irrigation water supply through Rahmatkhali Regulator. c) To extend LLP irrigation by raising water from Dakatia river into Kamta Khal pump station.	FCDI
3.	River Bank Protection (Bhairab Bazar, Chandpur, Munshiganj), Phase-II. (Cost: 950000.00)	1994/95	The project has emerged out of Flood Action Plan studies (FAP-1 and FAP-9B). The project would aim at protection of population centers including important private/public infrastructure by implementing protective measures at Bhairab Bazar Town & Railway bridge, on the Meghna left bank, Munshignaj, and on lower Meghna.	FCDI Bank Prot
4.	Dakatia/Little Feni Irrigation Project. (Cost: 31990.00)	1994/95 to 1997/98	The project emerged out of the South East Regional Study under FAP-5. The objective is to extend FCDI development in the area.	FCDI
5.	Kurigram Irrigation & Flood Control Project (North Unit). Cost: 36449.60)	1994/95 to 2000/01	The project envisages the construction of irrigation and drainage systems, flood protective embankments and improvement of road networks in an effort to increase agricultural production and farmers income.	FCDI
6.	Kurigram Irrigation & Flood Control Project (South Region). (Cost: 14484.30)	1994/95 to 1998/99	The objective is to increase agricultural production, employment opportunities, regional development and improvement of people's living standard by rehabilitation and improvement of existing flood control and drainage infrastructure and providing irrigation facilities.	FCDI
7.	Pabna Irrigation & Rural Development Project (Phase-II) (Cost: 29184.00)	1995/95 to 1997/98	The project covering nine thanas in greater Pabna district envisages flood protection, improvement of existing flood control/drainage facilities, extension of the coverage of surface water irrigation and development of efficient, sustainable and cost-effective irrigation practices.	FCDI
8.	Barind Integrated Area Development (Phase-II) (Cost: 35000.00)	1991/92 to 1996/97	Environmental improvement through conservation of water and afforestation and thereby supplying irrigation water to about 3.48 lakh acres.	Area Dev.
9.	Greater Dhaka Protection Project, (Cost: 292359)	1994/95 to 2009/10	The main objective of the project is flood mitigation and storm water drainage improvements for identified priority areas of Greater Dhaka East, Narayangonj DND & Narayanganj West.	Town Prot.
10.	North Rajshahi Irrigation Project (Cost: 57866.40)	1990/91 to 1995/96	The main objective of the project is to provide irrigation water to a net area of 51,200 ha.(of which 42,200 ha. is in the Barind Tract, 9000 ha. in the Pabna flood plain area) for boosting food production in the area.	DI
11.	Construction of groyne at Simla to stop river erosion. (Cost: 5646.75)	1994/95 to 1996/97	The main objective of the project is to protect Simla area in Sirajganj P.S. from erosion of the river Jamuna.	Bank Prot.

Sl. No.	Name of Project (Estimated Cost Tk. in Lac)	Planned Duration	Objectives	Type
12.	Protection of Pump House and Intake channel of G.K. Project from erosion of the river Padma. (Cost: 3144.64)	1994/95 to 1995/96	To protect pump house & intake channel of G.K. irrigation project from erosion of the river Padma.	Rehab/Prot.
13.	Bogra Polder-2 Project (Rehabilitation of Raktadha-Lohachura & Naghar Bhely). (Cost:1462.36)	1994/95 to 1999/2000	Flood protection and drainage management of 20,500 hectares of land out of net 51883 hectares of land improved in the project area and limited irrigation facilities to be provided by LLP.	FCDI
14.	Chilmari Bandar Protection Dist. Kurigram (Cost: 791.00)	1994/95 to 1996/97	The main objective of the project is to save the right bank of river Brahmaputra for a length of 19 Km. from Boiragirhat to Jorgach Bazar, Chilmari Thana Head Quarter, educational institutions, mosques, small industries etc. from erosion of the river Brahmaputra by constructing groyne and bank revetment.	Town Prot.
15.	Construction of Groyne to stop erosion of the Padma at Ramkrishnapur and Philipnagar, Dist. Kustia (Cost: 6206.36)	1994/95 to 1995/96	The object of the project is protection of BWDB's structures, Govt. & private properties from erosion of the river Padma and prevent intrusion of flood water into vast areas of G.K. Project.	Bank Prot./ FC
16.	Re-excavation & renovation of Noakhali canal, Bagar Dona canal & construction of necessary sluice gate & closure, dist. Noakhali (Cost: 1560.00)	1994/95 to 1995/96	The objective of the project is to control flood and provide drainage in about 36000 ha of land through re-excavation of canal and construction of appurtenant structures.	FCD
17.	Construction of Groyne at Kazipur on the right bank of the river Jamuna, Dist. Serajganj (Cost: 4560.35)	1993/94 to 1994/95	The objective of the project is to protect the Thana Head Quarter, Thana Health Complex, Benghai Bazar, Kazipur College and other educational institutions from erosion of the river Jamuna through construction of Groyne and bank revetment.	Bank Prot.
18.	Bhairab Bazar Town Protection project, Dist. Kishorgonj (Cost: 10665.00)	1995/96 to 1999/2000	The objective of the project is protection of Bhairab Bazar Town with so many industries, educational institutions, mosques, temples, Govt. & private properties from erosion of the river Meghna.	Town Prot.
19.	Bank protection of the river Padma at Paka Narayanpur in P.S. Sadar and Shibgonj, Dist. Nawabganj. (Cost: 3740.00)	1995/96 to 1996/97	The main objective of the project is protection Govt. & private properties, educational institutions, mosques, temples, valuable agricultural lands, hat-bazar, etc from erosion of the river Padma.	Bank Prot.
20.	Rajshahi Town Protection Project (Cost:2170.48)	1980/81 to 1995/96	The main objectives of the project is protection of BWDB's embankments and structures, Govt. & private properties from erosion of the river Padma.	Town Prot.
21.	Left bank protection of the river Teesta from Teesta Rly. bridge to Chandimari Dist. Lalmonirhat (Cost:2336.00)	1993/94 to 1996/97	The main objective of the project is protection of BWDB's embankment and structures, Govt. & private properties educational institutions, mosques, hat-bazar etc. from erosion of the river Teesta.	Bank Prot.

Sl. No.	Name of Project (Estimated Cost Tk. in Lac)	Planned Duration	Objectives	Type
22.	Bank protection of the river Teesta at Bairati Nohali and Kachua in P.S. Gangachara, Dist. Rangpur (Cost: 1685.00)	1994/95	The objective of the project is protection of Teesta right embankment from Km 35 to km 39.50 at Bairati, Nohali and Kachua from erosion of the river Teesta and to prevent intrusion of flood water inside the Teesta Barrage project area through construction of marginal embankment, permeable spur, bank revetment etc.	Bank Prot./ FC
23.	Left bank Protection of the river Padma (Louhajang, Munshiganj) (Cost: 5516.87)	1994/95 to 1995/96	The objective of the project is to protect Lauhajang Thana from Kankass to Kalma through construction of embankment of about 3 Km. and bank revetment by C.C. block.	Bank/Town Protection
24.	Protection of Belkuchi Thana from erosion of the river Jamuna. (Cost: 2368.14)	1991/92 to 1995/96	The objective of the project is to protect the Thana Head Quarter, small industries, educational institutions, mosques etc from erosion of the river Jamuna through bank revetment.	Town Prot.
25.	Bhola District Town Protection Project. (Cost: 1500.00)	1992/93 to 1995/96	The objective of the project is to protect bank erosion of the river Meghna in the east and the river Tentulia in the west of Bhola district town and to save educational institutions, hat-bazar, roads, mosques, temples, D.C's office, Dist. Judge office, S.P.'s office, PWD office, PDB & WDB offices which are situated near river bank.	-do-
26.	Chandpur Town Protection Project. (Cost: 49870.00)	1995/96 to 1999/2000	The objective of the project is to protect Chandpur district town with Rly. station bazar, educational institutions, offices, mosques, temples etc from erosion of the rivers Meghna and Dakatia.	-do-
27.	Kumarkhali Town Protection Project (Cost: 1476.63)	1993/94 to 1994/95	The objective of the project is protection of Kumarkhali Town along with so many small industries, educational institutions etc from erosion of the Garai river through construction of Spur, Groyne and bank revetment work.	-do-
28.	Bank protection of the river Jamuna near Chandanbaisa, dist. Bogra (Cost: 1906.05)	1993/94 to 1994/95	The objective of the project is protection of B.R.E. through bank revetment work.	Bank Prot.
29.	Munshigonj Town Projection Project Dist. Munshigonj (Cost:5500.00)	1993/94 to 1997/98	The objective of the project is protection of Govt. & private properties from erosion of the river Dhaleswari.	Town Prot.

Annexure 5

ACTIVITIES OF RRI

The work undertaken and accomplished by Hydraulic Research Directorate during the last three years are as furnished below:

Year	Description of work undertaken and accomplished
1991-92	1.Model study for the protection of Fulcharighat area under Brahmaputra River Training Studies (BRTS). 2. Model study for the protection of Sariakandi area under BRTS. 3. Model study for the protection of Chandpur area under Meghna River Bank Protection Study (MRBPS). 4. Model study for the protection of Ekhlaspur area under MRBPS. 5. Model study for the protection of Sirajganj area under BRTS. 6. Flume study on Revetment structure, Ferryghat, groynes etc. under BRTS (Partly).
1992-93	1. Flume study on revetment structure, Ferryghat, groynes etc. under BRTS (Completed). 2. Jamuna Bank Protection and River Training/ AFPM Pilot Project, FAP-21/22 (Bahadurabad area). 3. Jamuna Bank Protection and River Training/ AFPM Pilot Project, FAP-21/22 (KAMARJANI AREA). 4. Model study for the Protection of Dhohazari R&H Bridge from erosion of the Sangu River, Chittagong. 5. Model study for the Protection of Gorai railway bridge from the erosion of Gorai river, Kushtia.
1993-94	1. Jamuna Bank Protection and River Training AFPM Pilot Project, FAP-21/22 (Bahadurabad area) 4 Nos. additional tests. 2. Jamuna Bank Protection and River Training AFPM Pilot Project, FAP-21/22 (Bahadurabad area) 4 Nos. additional tests. (Kamarjani area). 3. Model study on the silt Trap of Teesta Barrage Project. 4. Model study for the protection of Kurigram Town and Palashbari Regulator from erosion of the Dharla River.

Geo-technical Research Directorate comprises of three divisions. The work undertaken during last three years of the three divisions have been illustrated as follows:

Soil Mechanics Division

During the last three financial years 1991-92, 1992-93 & 1993-94 a total of 350 testing reports incorporating the results of various kinds of tests carried out in soil mechanics laboratory on the samples of different projects were published and distributed to relevant quarters. Soil samples were received from Ground Water Division-I & II of BWDB. The laboratory tests were conducted for foundation of various hydraulic structures and construction of allied structure.

The soil samples have been tested for determining their natural moisture content, unit weights, optimum moisture content and maximum density, permeability, consolidation, unconfined compressive strength, venue shear, direct shear, triaxial shear with or without pore pressure measurement, CBR values etc. and evaluation of shear-strength and settlement parameters depending on the nature and type of soil samples and purpose of investigation.

The soil testing reports as prepared on laboratory testing consist of introduction, field exploration, laboratory investigation, summary of test results, range of test values, tables, description of soil profile, consistency, density index, comments and appendix. The reports were prepared, published and duly distributed to different quarters associated with the design and construction of the particular project.

The quantity of soil samples received and tested during the last three financial years is shown at Annexure I.

Sediment, Chemical, Water Pollution and Ground Water Utilization Division

During last three financial years, a large number of sediments, bed materials, bed lead and water samples were received in the Sediment Technology Laboratory and Water Quality Laboratory of Geo-technical Research Directorate of RRI. The samples were collected by the Water Hydrology Directorate and Ground Water Division-I & II of BWDB. The samples collected by the Hydrology Directorate were usually of routine nature while some of them and those collected by other divisions of BWDB were in connection with specific project or purposes.

Sediment Technology of RRI has two principal functions: (1) The determination of suspended sediment concentration of samples collected from the rivers and (2) The determination of particle size distribution of suspended sediment, river bad materials and reservoir deposits. These sediment data are used to study the problems related to sediment transportation, siltation, erosion and to design protective works.

The Waters Quality Laboratory of RRI analyses water and soil samples from the point of view of engineering, agriculture, environmental and pollution etc. At present, the laboratory is capable of determining about 24 parameters of water and soil such as p, EC-Value, Free Co_2, Co_3, CI, SO_4, No_2, ca, Mg, Na, K.B. Sio_2, Fe, etc.

The work, undertaken by this research division during the last three fiscal years are detailed at Annexure II.

Material Testing and Quality Control Division

Generally cement, sand, shingle, stone/brick chips samples, brick specimens, concrete cylinder/cube of different projects/divisions of BWDB, and other government & non-government organizations are received and tested in RRI Concrete Laboratory for determining quality.

The names of the Projects/Divisions of BWDB and other Government & Non-Government, organization from which the laboratory received the samples are as follows:

- Dhaka Integrated Flood Protection Dhaka.
- Faridpur Town Protection Work, Faridpur.
- Second small Scale Flood control Project, Gopalgonj.
- Kumarkhali Town Protection Work, Jhenaidah.
- Flood Rehabilitation Project, Madaripur.
- Construction of Basudevpur Bridge, Magura, etc.

Details of the samples of concrete and materials as received and tested in the laboratory during the last 3 years are at Annexure III.

The Directorate of Technology and Services provides services of general nature to the RRI as a whole. Some of these are: computer services, instrumentation, workshop, library, publication, store, photography and telecommunication services etc.

Work Undertaken and Accomplished (Last 3 Year)

Sl.No.	Items of Work Undertaken/Accomplished
1.	Development and Calibration of North West Region Model
2.	Development and Calibration of South West Region Model
3.	Development and Calibration of North East Region Model
4.	Development and Calibration of North Central Region Model
5.	Development and Calibration of South Central Region Model
6.	Verification of General Model
7.	Verification of South Regional Model
8.	Coastal Embankment Rehabilitation Project (CERP-II)
9.	Teesta Project Drainage Model (TPDM)
10.	Tangail Compartmentalization Pilot Project (CPP) EIA study
11.	Dhaka Aricha Highway Rehabilitation
12.	Fisheries Sector Study in North West Region, FAP 17
13.	Vulnerability to Climate Change Study: Sea Level Rise
14.	Mathematical Model Runs for System Rehabilitation Project
15.	Updating of Regional Models
16.	Development of Salinity, Sediment and Morphological Models
17.	Water Quality Model of Buriganga and Karnafuli

FAP 19 GEOGRAPHIC INFORMATION SYSTEM PROJECT OVERVIEW*

5 December 1994

1. BACKGROUND

Recent advances in computer performance and significant cost reductions have led to the development of powerful information systems for capturing and manipulating maps and other geo-referenced data. These geographic information systems (GISs) are being adopted by many governments and planning and implementing agencies in developed nations as a way to better manage and more effectively use their information resources. This technology and its applications have considerable potential for developing countries like Bangladesh.

GIS is a computer-based technology for recording, manipulating, analyzing, and displaying data such as digital maps, images, or other information with a spatial reference such as latitude and longitude. GISs and their associated mapbases and databases can serve general or multiple purposes with large and diverse requirements, or they can have very specific applications with limited databases. A key feature of GIS is that separate data sets may be related through a common spatial reference. With GIS, the spatially related information can be manipulated, analyzed and output in ways that enhance the usefulness of the input data. For example, maps of land elevation and flood water levels can be combined in a GIS to produce useful flood area/depth maps. The FAP 19 GIS is a project of 50 months duration, initiated in April 1991 scheduled for completion in June 1995.

2. OBJECTIVES

The main objectives of the FAP 19 PROJECT ARE TO:

- provide a GIS facility to assist in planning and managing geographic information for the FAP;
- assist the FPCO in establishing a GIS network to serve the various FAP users;
- promote and establish standardized data protocols and database formats among the various GISs in FAP;
- provide on-the-job training in GIS technology to FPCO and other government and non-government organizations in support of the FAP objectives;
- promote unrestricted access to water resources management and planning information for legitimate users.

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*prepared by FAP 19 Consultants

3. GIS FACILITIES

The installed GIS of FAP 19 consists of: two full-size tablet digitizers; a 9-track tape drive; two color ink-jet printers; a color thermal wax printer; two image processing boards and displays; and an 8-pen plotter. A total of 12 GIS and image processing licenses have been purchased. The main software packages used by FAP 19 are the raster-based pcERDAS, the vector-based pcARC/INFO, and IDRISI.

These packages are supported by numerous other software for specialized functions, such as pcTIN for digital terrain modelling.

4. TRAINING OF FAP 19 STAFF

An important aspect of the FAP 19 project is the selection and training of local personnel. Among the 15 professionals now employed are specialists in engineering, geography, mathematics, and computer sciences. The resident team leader and several short-term consultants have provided staff with training and technical expertise in global positioning systems, digital elevation modelling, hydrodynamic modelling, remote sensing, image processing, and spatial modelling.

5. FAP 19 APPLICATIONS PROJECTS

FAP 19 GIS activities have included both comprehensive GIS applications projects and demonstration or pilot studies for implementation on a larger scale by the FAP or other development projects. Table 1 lists the major GIS project efforts and their status. Some of the projects are described in more detail below.

Table 1 **FAP 19 Applications and Pilot Studies**

GIS Application	Collaborators	Status
Dynamics of Brahmaputra/Jamuna River	FAPs 1,21/22	Complete
Spatial Interface for Hydrologic/Hydraulic Models	FAPs 20, 25	Complete
Computer Design and Management	FAP 20	Complete
Environmental Impact Assessment Case Study	FAP 16	Complete
National Database	FAPs 2, 4	On going
Disaster Management and Relief Pilot Study	CARE, Disaster Management Bureau	On going
Satellite Radar Applications for FAP Pilot Study	FAPs 17,25;SPARRSO	On going
Charlands of Major Rivers in Bangladesh	FAP 16	Complete

Dynamics of the Brahmaputra-Jamuna River This river morphology study was a collaborative effort with the Brahmaputra Right Embankment Strengthening Study (FAP 1), which used the results in planning embankment and river training works. Using GIS and image processing, an extensive time series data set was compiled from satellite images and historic maps dating back to the British survey of the 1760s. Analysis of these data yielded detailed tables, graphs, and maps which quantify and graphically portray bankline erosion and accretion, low-flow channel characteristics, and the evolution, movement, and lifetime of the numerous river chars. This information has been used to predict future bankline positions, assess and predict river bend behavior, describe relationships of bank erosion and island sediment storage, and identify stable chars that are suitable for infrastructure development and government extension efforts.

Spatial Interface for Hydrologic/Hydraulic Models Over the past ten years, a series of hydrodynamic models has been developed for Bangladesh, which compute water levels at specified stations or points along watercourses. Using GIS analysis, FAP 19 developed procedures for converting the water elevations into maps showing the depths of flooding in rivers as well as the extent and depth on the floodplains. The GIS techniques developed under this project make extensive use of surface modelling through creation of digital elevation models for both the land and flood water surfaces. The intersection of the two surfaces defined the potentially flooded area and depth of flooding. The advantage of this technique is that flood model results can be portrayed graphically and flood depth maps can be integrated digitally with other GIS themes for assessing the impacts of alternative scenarios. Data, methodologies and results provided a basis for the development of the Flood Management Model (FAP 25).

Disaster Management and Relief Pilot Study This pilot study was undertaken to test the usefulness of GIS for improving disaster preparedness and relief efforts in Bangladesh. The work is focusing on a section of the Chittagong District that was badly damaged in the 1991 cyclone and includes collaboration of FPCO, CARE Bangladesh and the Disaster Management Bureau of the Ministry of Relief. It is clear from early results that GIS will prove useful for both cyclone and river flood management and relief. In the pilot study, a digital elevation model was prepared from detailed maps and combined with a digital representation of the April 1991 tidal surge, resulting in a model of coastal flooding extent and depth. Vulnerable populations, estimated on the basis of 1991 census data, were then linked to shelter "catchment" areas and other shelter access criteria. Outputs to date include maps and tables showing the extent and depth of potential flooding; shelter areas and protected population; population at-risk from flooding by age and gender; and vulnerability based on access to drinking water, landlessness, and housing structure.

Pilot Study on applications of Digital Radar Imagery to FAP Landsat and SPOT satellite sensors cannot penetrate the clouds that normally cover the country during the monsoon season when it is most endangered by floods. However, recently launched radar satellites can penetrate haze and clouds and provide imagery with a ground resolution of about 12 meters. Such data could be used to map the flooding extent which could be used to assess damage from river floods and cyclone tidal surges and would be valuable for verifying and calibrating flood models. FAP 19 designed this study, arranged acquisition of four images, and carried out field verification in collaboration with Bangladesh SPARRSO, Fisheries Study (FAP 17), the Flood Management

Model (FAP 25) and other FAP projects. FAP 19 has begun processing the digital imagery and will analyze it in conjunction with mathematical flood models, digital elevation models, and conventional Landsat satellite imagery. The end result will be the documentation of the availability, quality, and utility of satellite radar technology for the FAP.

6. RESULTS

6.1 Reports, etc.

FAP 19 output includes not only reports, maps, images, and digital databases but also support to other FAP programs, trained personnel, and efforts specifically designed for building the overall GIS capability in Bangladesh. Study results and other findings have been disseminated through extensive collaboration with other FAPs, involving some level of direct support to 15 FAP activities. Also, FAP 19 results and expertise have been used by numerous other development programs in Bangladesh.

In addition to the required inception and interim reports, FAP 19 has produced a series of technical notes, technical reports, collaborative reports, a training manual, and a comprehensive archive document. A list of these reports is provided in Table 2.

Table 2 FAP 19 Reports as of March, 1994.

TYPE OF REPORT	TITLE	DATE
Technical Note	No.1-Bangladesh Transverse Mercator Projection	May 92
	No.2-North Central Region Digital Elevation Data	Jan 93
	No.3-Area Elevation Curves for BWDB Southwest Regional Projects	Jan 93
	No.4-GIS Atlas for Tangail Area Study	Nov 92
	No.5-Bangladesh GIS Installation Summary	Feb 93
	No.6-Tangail Area Digital Elevation Model	Aug 93
	No.7-Bangladesh National Digital Elevation Model	Aug 93
	No.8-National Database for Bangladesh	Aug 93
Technical Report	Classification of Flood Depth and Extent Using Mike 11 and GIS	Feb 93
	Comparison of Elevation Data from BWDB and Finnmap	Jan 93
	GIS Technology for Disaster Management Pilot Study Interim Report	Mar 94
Report	GIS Resources in Bangladesh	
	Inception Report	Jun 91
	Interim report	Aug 91
	GIS Institutional Issues	Dec 92
		Jul 93
Training Manual	Introduction to GIS and Remote Sensing in Environmental Impact Assessment	Aug 93
Collaboration Report with FAP-16	EIA Case Study: Compartmentalization Pilot Project	Dec 92
	EIA Case Study: Bhelumia Bheduria Project	Apr 93
	The Dynamic Physical and Socioeconomic Environment of Riverine Charlands : Jamuna	Aug 93
	The Dynamic Physical and Socioeconomic Environment of Riverine Charlands: Meghna, Ganges, Padma	Oct 93
Archive Document	Archive of GIS Database and Project Vol 1, Vol II, Vol III	Mar 94

A seminar was organized by FAP 19 on applications of GIS in water resources planning and was attended by 140 participants at a local hotel in November 1992. A workshop on satellite-based radar imagery, held in June 1994 at SPARRSO, had some 85 participants.

6.2 Database

Each of the FAP 19 GIS applications projects has resulted in a specialized database at an appropriate scale for the particular area of study. Many of these databases have been used by other FAP studies. In addition, digital coverages of Bangladesh are complete for a number of themes with several other under development. These national data are being used by other FAP studies and other development projects. A list of coverages in the FAP 19 national database is provided in List 1.

List 1 List of completed National-Level Data Layers Prepared Under the FAP 19 National Database Project[1]

- AEZ boundaries
- Administrative Districts
- Thana Boundaries
- River network
- Major Roads
- Railways
- Water Level and Discharge Stations
- Rainfall Stations-Daily Rainfall Data
- Soil Association Boundaries
- Topsoil Texture
- Land Types (flood Regime)
- Digital Elevation Model (500 meter)

[1] Primary data sources: BARC, AST, BWDB, BBS and others

6.3 Training

A number of training workshops were conducted by the FAP 19 team leader and consultants. These workshops, in which some 45 persons have been trained, covered such topics as vector and raster GIS, image processing, digital elevation modelling, triangulated irregular networks, and GIS programming languages. Along with staff from FAP 19, these workshops were attended by people from BWDB, LGED, SPARRSO, FPCO, and other development projects. In addition to the formal workshops, FAP 19 staff have received on-the-job training since the program's inception.

In an effort to develop a local GIS training capability, three GIS analysts from FAP 19 and one from LGED have been given a special course entitled "Training of Trainers in ARC/INFO". FAP 19 is now facilitating the certification of these four as internationally accredited trainers by ESRI of Redlands, California, the creator and vendor of ARC/INFO software. These individuals, under the direction of FAP 19's training coordinator, will be responsible for the GIS training program which will be offered during 1995.

6.4 GIS Technology Transfer in Bangladesh

To facilitate the efficient use of existing Bangladesh GIS resources as well as new resources as they become available, FAP 19 has worked toward achieving successful technology transfer through a variety of activities. Efforts which are more focused on the FAP include establishing GIS standards and providing guidance to new GISs within the FAP. To help maintain and

support the broader group in Bangladesh with an interest in GIS. FAP 19 facilitated formation of the GIS User's Group in September 1991. The group provides a forum for technical presentations, dialogue, and information exchange. Also, a survey of all Bangladesh GISs and spatial databases was completed early in the project, and annual updates are distributed to foster cooperation and compatibility among the many new GISs being implemented by the government and donor programs. Future project efforts will continue to address the institutional capability in Bangladesh for the effective use of GIS, which will in turn facilitate more coherent water policy formulation and national resources planning.

7. CONCLUSION

The FAP 19 project has demonstrated the utility of GIS and related technologies as effective tools for water resources planning and management. From a broader perspective, it is proven that if properly designed and implemented, GIS can be a powerful tool for sustainable development in Bangladesh. It can serve multiple sectors simultaneously and can function as an intermediary among interests and institutions.

GIS is an appealing technology which can be used for presentation of information and for analyses in meaningful ways, often not possible using conventional approaches. However, the complexities and limitations of the technology and the expertise required for making full use of it are commonly either not understood or not recognized. This can result in either false expectations of the technology, or the placement of GISs in environments where the skills for its proper use do not develop. Sustainable GIS installations must be designed to ensure that such consequences do not occur. This requires sufficient levels of training and adequate financial resources to maintain equipment and software and to provide needed supplies. It is critical that these factors are fully considered while developing the program for the future of the GIS beyond the scheduled date of FAP 19's completion.

FAP 19- GEOGRAPHIC INFORMATION SYSTEM

PRELIMINARY RECOMMENDATIONS FOR INSTITUTIONALIZATION*

27 September 1994

A priority of the final phase of the FAP 19 project is to implement a practical strategy to preserve the FAP 19 GIS beyond the ISPAN project life. This subject has been addressed in a series of documents from 1992 ("FAP 19 Institutional Issues"), July 1993 (same title), and May 1994 ("Background Paper on Locating FAP 19's GIS"). The following brief is motivated by the urgency for action to secure a future for FAP 19 staff and technical resources, so as to ensure that a valuable asset to the country of Bangladesh is not lost. The remaining nine months of the GIS project schedule are barely sufficient to engineer a successful transfer, so it is essential that the institutionalization process now move ahead decisively.

Background

Under this component of the Flood Action Plan, FAP 19 is contributing to the design, compilation, analysis and management of geographic information for the FAP. The GIS project has become a "center of excellence" through the provision of services and delivery of structured, customized analyses and map products. Activities have included comprehensive project implementation, training, demonstration studies, technical advice and database development. FAP 19 investigations have included a major inventory of the riverine charlands, creation of the national GIS database, disaster and relief support, map-oriented interfaces for hydrologic/hydraulic models, GIS components of case studies for environmental assessments, flooding extent and flooding duration, floodplain sedimentation, and the refinement of a national digital elevation model. FAP 19 projects constructed and manipulated tabular and spatial databases, GIS analysis and modelling, map rectification (including GPS use), and digital image processing of Landsat, AVHRR, and satellite radar imagery.

FAP 19's technical leadership has produced institutional strengthening through advice to other GIS installations, through project and training support to many GIS users, and through its spearheading of the Bangladesh GIS Users' Group. Results have been delivered as technical reports, formal documentation of methods and procedures, atlases, extensive map series, annotated images, statistical analyses, tabular databases, and trainees at the technician, analyst, and managerial levels. Two phases of activity have carried the project from April 1991 to June 1995.

Considerations for Institutionalization

At this stage, central and specific issues about the future of FAP 19 must be addressed despite the institutional uncertainties of FPCO and the FAP as a whole. It is clear that the momentum

*prepared by FAP 19 Consultants

and capability developed and sustained by FAP 19 is valuable to Bangladesh, but it is also vulnerable and subject to serious weakening unless a plan for its future affiliation is confirmed soon.

The staff, databases, and equipment of FAP 19 are interdependent assets that were built in response to FAP technical demands over the project period, and they will require some adjustment to serve the ongoing programs of its future host institution. It should be recognized, however, that GIS is by nature a cross-sectoral endeavor, and even if its output is to remain highly specific to the host needs, there are benefits to maintaining a multidisciplinary approach. a readiness to take on new challenges can be expected from a laboratory with broad capabilities, where staff are familiar with the requirements of various inputs, and where the mixture of specialists catalyzes a creative atmosphere of design and review. The current staff is trained to respond with moderate sophistication in the areas of environmental assessment, disaster management, and especially water resources planning; an appropriate host would make the most advantage of such specialization. Furthermore, the strength of GIS capability will be preserved by moving the three components, people data, and machinery, as integrated units. The transfer of hardware and software alone would be comparatively futile unless experienced practitioners are also available to apply their sensitivity to the weaknesses and strengths of a broad range of important databases.

There are special costs which the institutional transfer of a mature, technically successful GIS laboratory must address:

1. Foremost is the need for continued donor or BDG support in the areas of access to foreign exchange- for procurement of technical supplies, equipment upgrades, special data including satellite imagery, and a moderate level of external technical assistance; the necessity for this last item is likely to fade by the end of the decade, after local practice has reached a level of technical confidence and competence and can stand on its own, and when the demands for GIS services become so pervasive that there is a move towards commercialization.

2. Second, for now there must be financial and bureaucratic commitments within the BDG host organization to adjust technical staffing and laboratory office space in order to make room for FAP 19 resources.

3. Third, the host should embrace a long-term aim to increasing the use of spatial data analysis, with capable staff willing to consider the GIS challenge at a career level, and with open-minded technical management that can objectively assess the constant stream of fresh ideas in this fast-changing field.

4. Last, the circumstances of transfer should be manipulated to ensure that the program's momentum and productivity are not unduly sacrificed.

Recommendations for Transition

Among the many host candidates for FAP 19, none currently can satisfy the above conditions. The project has adopted the following mechanisms for transition:

- a careful selection of host(s),
- an "exploratory" pilot study of collaborative GIS work using FAP 19 facilities,
- joint authorship of post-transition workplans with task objectives and costs, and
- the critically important training of host staff in the theory and practice of GIS.

In briefest form the project plans to commit itself to a Primary Recipient, which will be the planning office within the Water Sector; this will be the site for most of the data, machinery and training. Other Supporting Recipients, DOE and LGED/CARE, will receive a smaller allocation of data, machinery and training. Finally, over the nine remaining months FAP 19 will sustain its partnerships with other GIS users through data and training programs.

In considering the site for Primary Recipient, it is an obvious solution for FAP 19 resources to remain committed to the water resources sector as a "home base". GIS capability is at a level where it can serve as a tool for national-level water planning, and as such it is expected that eventually the most suitable host will be a revitalized WARPO. If national water planning functions are actively shifted to WARPO in the near future, as has been recommended by the FPCO Institutional Review Mission, then FAP 19 may move directly to WARPO. More likely is the scenario where the change in BDG water resources agencies takes 1-2 years to materialize, in which case the ultimate host can still be WARPO, but the immediate move will be to an intermediary "bridging" project, such as the forthcoming River Morphology Project (FAP 27) or the SWMC. Since much of FAP 19's work has focussed on water resources, there is not much need for "exploratory" projects for these water sector institutions. Rather, the need is for continuation of joint activities in the areas of training, the discussion of specific technical challenges, and the joint modification of capabilities to meet future demands.

In addition to the Primary Recipient in the water resources sector, it will be advantageous to collaborate with agencies in other sectors. This will reinforce the cross-sectoral network which FAP 19 has accrued to the considerable benefit of all parties. Supporting Recipients will be DOE and LGED/CARE, who will also serve as backup candidates for Primary Recipients should responses in the water sector fail to materialize. DOE will likely become a major user of spatial data in its role of lead government agency for environmental assessment. LGED and CARE form a team to support the planning and implementation of the IFFD project, which will upgrade more than 10,000 km of rural roads throughout the country; LGED's GIS capability is highly productive and needs encouragement and support to complete its contribution to this major program. Prototype joint applications projects are in design with both DOE and LGED/CARE. Workplans for a major training initiative and for a data sharing network are currently under draft; some equipment donation will likely be appropriate.

In addition to the above recipients, over the next nine months other collaborators will also participate in FAP 19's training program and in its data sharing network. The performance of joint studies will continue to be considered on the basis of need and available manpower. Institutions which are the focus at this level include SRDI, FAP 20, BBS, SPARRSO, BARC, JMBA, BCAS, and Universities.

SUMMARY OF RECOMMENDATIONS		
Primary Recipient	Water Resources Planning (probably WARPO) via FAP 27 or SWMC if needed	Primary repository for equipment, data, staff
Supporting Recipients	DOE LGED/CARE	Secondary repositories for equipment, data; project development
Collaborators	JMBA BBS SRDI FAP 20 BCAS BARC SPARRSO Universities	Training participants, data sharing

* PROPOSAL FOR THE CREATION OF AN ENVIRONMENTAL CELL IN THE WATER SECTOR

1.0 INTRODUCTION

In the October 1994 Flood Action Plan Report recommendations have been made that a reorganization of WARPO take place "with strong professional support". WARPO would seem to be the appropriate institution for water sector planning at the macro-level. The report goes on to recommend that "a reorganized WARPO may best absorb the GIS and the environmental study capabilities to cater to the needs of all water user agencies. It would be advisable to establish an environment cell in WARPO in line with the one suggested for FPCO in 1993. External assistance would, however, be necessary initially." The report has also suggested a close liaison between the cell and the GIS unit with LGED and the DOE. FAP 16 or the environmental study of FAP has already established the close working relationship with DOE and will require the continued collaborative working relationship with the GIS unit. The environmental study has the capability and the trained manpower to immediately become an active important environmental planning cell within the water sector. With part of FAP 19's capability working inside the cell and in the water sector, the following proposed cell will continue to be a great support project for strengthening the water resource planning capability. The following is a brief description of the need, the capability of FAP 16 and the proposed program for the cell including its proposed output and cost to operate.

1.1 BACKGROUND

Sustainable development is the prudent use of today's land and water resources to ensure the availability of the resource for future generations. Sustainable development involves the union of environmental considerations and economic decision making. There is relentless competition for, and an aggressive assault on, resources (particularly water) by various economic activities. Successful and thorough environmental assessment and management planning are key to wise use and protection of the environment and its resources so that the integrity is maintained for future populations. The Environmental Study of the Flood Action Plan (FAP 16) has established environmental impact assessment guidelines and manuals for the water sector and has conducted case studies and special environmental studies which have helped direct planners of the water sector in the development of more sustainable projects. FAP 16 has also been involved in training of water and other sector officials in environmental impact assessment.

1.2 NEED

During the Second Conference on the Flood Action Plan held in March 1992, the Bangladesh Government and the donor community unanimously accepted a World Bank resolution that EIA's be carried out on all FAP-related projects. There will continue to be environmental assessment requirements in the water sector after FAP 16's existing project closing date and after FAP itself turns into the planning arm or turns over the water resource planning responsibility to WARPO.

* Prepared and submitted by FAP 16 Consultants.

The multidisciplinary nature of FAP 16's staff will continue to be required in the water sector to strengthen the very fragile nature of existing EIA capability and provide direction in future water sector planning. The environmental study component should continue to assist water planners in FPCO and later in WARPO (assuming that a merger between FPCO and WARPO will take place) in water project planning and the preparation and monitoring of environmental management plans. The environmental capability developed through more than 3 years of environmental work under FAP will continue to be required for further strengthening of the water sector planning process through the use of the tools developed at all stages of the planning process. There will also be a need for continued environmental data collection and database development and the provision of training for engineers in EIA.

During the last few years, the water resource sector in Bangladesh, through FAP, has made considerable progress in developing and implementing the environmental impact assessment framework and in achieving a certain level of consensus on how it is applied in water sector projects.

There will be a need for an environmental team or cell to guide water project planners/ implementers in carrying out IEE, EIA and successfully carrying out and monitoring the success of the Environmental Management Plans. FAP 16's developed capability along with GIS can fill the environmental planning needs for the near term with an expansion required for the long term.

In the past there has not been adequate time and resources allocated for the purposes of doing a proper impact assessment. There is a need for a multidisciplinary environmental team to help draft future TORs to ensure that studies take into account existing data deficiencies and the full requirements of the EIA, to be useful. Threshold limits or maximum acceptable limits of impact on any particular resource, or resource level, and/or social group are to be established.

A second need is for the very weak and general lack of environmental data to be significantly strengthened. Little accurate and quantitative information on the environmental and social effects of water development projects exists. This has consequences for the adequate prediction and quantification of environmental impacts. Improved and increased efforts need to be made in future environmental data collection and monitoring of environmental impacts. Data acquisition and structure of the database should be watershed-based and "living". As assessments or impact statements are done the data bank for a given watershed would grow. An environmental cell with GIS capability can provide this to the water sector in the improvement of its planning process.

2.0 RESOURCES AND CAPABILITIES

The multidisciplinary ISPAN team consists of U.S. and Bangladeshi environmental specialists representing major disciplines, including agriculture and soils, socioeconomic, fisheries, hydrology, geography and terrestrial and aquatic ecology.

The principal strengths of FAP 16 are its training capability, its EIA/IEE capability and its database. The first two capabilities are exclusively the product of its seven senior professionals and four junior professionals. They have been trained as trainers and have taught the EIA process a number of times. They have developed the EIA Guidelines, assisted in developing the EIA Manual, conducted EIA case studies, been involved in a number of special studies and have extensive field experience. They are also familiar with the database. This database, when combined with the databases from other FAP studies (such as FAP 17, FAP 19, FAP 21, FAP 24 etc) will form a substantial environmental baseline which can be used to further develop other knowledge of the environment in Bangladesh. One of the considerations for transfer of this capability is that the team must be kept intact and the database, both hard copy and electronic, must also be transferred in original or in true copy.

A key task of the environmental component has been the development of an environmental impact assessment (EIA) process by which all projects formulated under the FAP can be examined and adapted to ensure that only environmentally sound activities are selected, funded, and implemented.

The Environment Study (FAP 16) has significantly contributed to the study and management of the Environment in Bangladesh by developing an EIA Guidelines and an EIA manual for the Water Sector. This is the first complete set of guidelines for any sector in the country. Its impact, particularly through a series of Skills Workshops and seminars, has been assessed as a major contribution. By the time the sixth Skills Workshop is completed at the end of January 1995, over one hundred senior government officials and senior executives of consulting firms and NGOs working in the environment field, will have been trained in and sensitized to the need for the environmental impact process (EIA, EMP, EA). FAP 16 has also contributed to the database of natural and human resource (environmental) information by undertaking three case studies of FCD/FCDI projects and six special studies related to fisheries, disease incidence, soil fertility and the virtually overlooked people of the Charlands.

3.0 RECOMMENDATIONS

The fourth and last phase of the Environmental Study (FAP 16) is very rapidly coming to a close, with the project life of FAP 16 extending to the end of April 1965. The work done by FAP 16 has been very important in initiating the EIA process within the Water Sector and FAP 16 has made suggestions for the further institutionalization of EIA in water sector planning. This has been dealt with earlier in the Discussion Paper on Institutionalization, the EIA Process in the water sector (October 1993) and in a brief concept paper on Institutionalization of the Environment Study (September 1994).

There is an obvious urgency to the matter of institutionalization as only a few months of project life remain and the possibility exists that the current gains in environmental awareness and capability in the water sector might be lost. There was also an earlier plan to develop an environmental cell within FPCO which was supported by FPCO and for which donors had expressed an interest in supporting. The existing project document for Flood Action Plan Coordination (GOB/UNDP/World Bank) has made mention of the environmental cell and its

importance. One of the activities described in the project document suggests that "The cell would develop a permanent process through which critical environmental assessment would take place in all future water resource sector projects planning."

As WARPO has not yet been reorganized and FPCO is operational until January 1996, it could be recommended that the cell be established in FPCO as earlier planned until WARPO has been reorganized and FPCO plus the cell and GIS capability can all be merged to broaden and strengthen WARPOs planning capability.

The following recommendations for the formulation of the cell comprised of core capability from FAP 16 and 19 is based on the assumption that when FPCO's water sector planning mandate ends in December 1995 the cell and the GIS capability will continue in WARP where FPCO is to be merged. It is also assumed, based on what has been stated in the October 1994 release of the FAP report, that WARPO will be reorganized and revitalized. It is also assumed that FPCO through its project document has a strong mandate for moving ahead with the formation of an environmental cell. It is therefore recommended that the core environmental capability developed through the environmental study go to make up the core of the environmental cell to firmly establish the EIA process within the water sector.

4.0 THE PROGRAM

4.1 ONGOING ACTIVITIES (Through April 1995)

The Environmental Study program of FAP 16 continues to the end of April 1995. during the phase IV period the emphasis has been on institutionalizing the EIA process through training in EIA, through seminars and through collaborative work with both FPCO and the DOE.

Accordingly, the Environmental Study component of the Flood Action Plan (FAP 16) has conducted six EIA skills workshops for practitioners and reviewers, a training of trainers workshop (TOT), a series of seminars for senior officials from the private and public sector, and organized a study tour on EIA and GIS for senior GOB officials to the U.S.

The training program was designed to support the establishment of stable and sustainable EIA's in the water resource sector. Its main purpose was to develop in-country capability so that EIA could become an integral part of future feasibility studies. To this end, the EIA training program that was developed was to institutionalize the EIA Guidelines developed by FPCO and FAP 16. This was seen as a critical part of institution building process within the water sector.

While EIA guidelines and manuals have been developed and training provided to the water sector there has still not been developed a permanent process within the water sector through which critical environmental assessment would take place. Even after FAP 16 finishes at the end of April 1995 there will be the need for establishment of the process through which environmental planning and assessment would take place in future water sector projects.

4.2 PROPOSED FUTURE ACTIVITIES (After April 1995)

One of the organizations which could effectively use the environmental capability established in FAP 16, is WARPO. This is of course dependent on whether WARPO is to be strengthened and revitalized through a merger with FPCO and through staff and financial strengthening. This revitalized WARPO would be a very suitable host because FAP 16 has so far worked mostly in the water sector and its capabilities can strengthen national-level water sector planning and monitoring. However given the dynamics of the project process the revitalization process may take a year or two, and therefore a "bridging project" for the combined environmental/GIS capability would be required from the first quarter of 1995. The bridging project could be in the form of an environmental cell with GIS capability attached to FPCO which could be a combination of FAP 16 personnel FAP 19 personnel and others possibly from the POE as advisers. When FPCO is transferred to WARPO and WARPO strengthened, the cell could also be expanded to serve the total environmental planning needs of the organization.

4.3 IMMEDIATE OBJECTIVES, ACTIVITIES AND OUTPUTS

OBJECTIVE

To develop and guide an effective permanent process for environmental planning assessment and management within the water sector and to work specifically within FPCO and WARPO but to maintain links with the DOE, and establish a network with other public and private sector organizations.

ACTIVITIES

The cell would have the broad mandate to do the following activities:

1. Develop a standardized long term environmental data collection and monitoring program for the water sector based on the conceptual framework of a GIS rather than the case by case approach.

2. Establish an environmental database utilizing existing FAP data and build a watershed and GIS based environmental data management system starting with the southwest region.

3. Build on the existing FAP 16 and 19 collection and maintain an environmental and water resources library, data archive and reference center which is accessible to all users.

4. Continuously monitor the application of EIA guidelines and the manual and recast, update, change where necessary to better suit the existing situations. To conduct IEE or preliminary environmental reviews where necessary and draft environmental assessment TORs for water sector projects.

5. Demonstrate within the water sector how to develop an environmental management plan, then implement, monitor and evaluate utilizing the guidelines for peoples participation to help guide the process.

6. Provide both short-term and long-term EIA skills training periodically for the water sector and others. There is a need to continue to train and develop a pool of talent. Significant shortfalls still exist in the skills and experience required to manage interdisciplinary teams, to scope the issues and to produce EIA documentation.

7. Utilize existing tools, develop to the extent possible the environmental review procedure for the water sector.

8. Develop appropriate environmental standards for critical environmental components associated with water resource development.

9. Continue to maintain close liaison with concerned institutions and organizations, in particular the DOE and the DOF through training and data sharing.

OUTPUTS

1. Development of additional tools for environmental planning, assessment, management and participation, including but not limited to,

   a) Preliminary environmental screening or review procedures,

   b) Environmental standards,

   c) GIS based environmental data management program including data collection protocols and standards,

   d) Environmental management manuals for mitigation measures, contingency planning, compensation planning, and resettlement monitoring,

   e) Established alternative analysis procedures and guidelines,

   f) Establish environmental audit procedures,

2. Fully develop and implement EIA review process within the water sector as approved in the EIA Guidelines and EIA Manual.

3. Complet initial environmental examination for the southwest and the northwest where significant alternations in surface water flow have taken place. Determine historic and existing river flow related impacts.

4. Fully develop 5 year workplan for the cell beyond June of 1996.

YEAR 1-MAY 1995-JULY 1996

It is proposed that either the cell be housed in FPCO's existing office space or that additional office space be acquired for WARPO and the unit be attached to WARPO. The unit would maintain, if funding is provided, the bulk of the GIS capability shown in the reserve under the FAP 19 institutionalization plan.

BUDGET-Proposed Environmental Cell (14 month operation)

Line Item	Cost
Professional Labor (Consultants)	
Expatriate Consultant	$160,000
* National Consultant	$210,000
Administrative and Accounts Support	$ 70,000
Office Rent O & M	$ 40,000
Office Equipment (Rental)	$ 16,000
Vehicle Rental	$ 25,000
Travel Per Diem, Prints & Reproduction Office Supplies, Computer Supplies, Communication, Miscellaneous	$ 35,000
Additional GIS support in computer sw/hw satellite imagery, and printer supplies	$ 25,000
Training/Workshop	$ 9,000
Total.....	$590,000

* The National consultants will be made up of a core cell from existing staff of FAP 16 and 19. In support of this core cell there would be an advisory support group made up of people from the POE of FPCO.

NEEDED

1. Secured funding for the above cell. Possible sources for the funding would be from the existing World Bank/UNDP, USAID, or Canadian CIDA to be linked to future support to the DOE.

2. The identification of the future macro planning institution within the water sector. For the purposes of this document it is assumed to be FPCO/WARPO resulting from the proposed merger as suggested in the October version of the FAP document.

3. The selection and identification of GOB water sector individuals to work with the cell and to be trained in both environmental impact assessment and GIS related to environmental assessment.

5.0 YEAR PROJECTED PROGRAM

The activities and outputs of the cell should be supported on a long term basis to ensure institutionalization. One of the major outputs of this 4 month proposed bridging program will be to develop a detailed 5 year project program for training and institutionalizing the EIA process within the water sector.

(2)

Annexure 9

ENVIRONMENT POLICY, 1992

ENVIRONMENT POLICY - 1992

1. Preamble and Perspective

The existence and progress of life on earth depend on nature and environment. In recent times, gradual degradation of the natural environment has posed a serious threat to the existence of all living beings and to the progress of human civilization.

In view of the various adverse impacts on environment, the Government of Bangladesh have attached special importance to its protection and improvement. A number of environmental problems, which inter-alia include natural disasters like recurrent floods/droughts/cyclones/tidal bores, primary signs of desertification in the northern districts, intrusion of salinity in the rivers, land erosion, fast depletion of forest resources, instability of the weather and climatic conditions etc. are prevalent in the country. Against this backdrop, the Government have established the Ministry of Environment and Forest (MOEF) and upgraded the Department of Environment (DOE) in order to coordinate and supervise the activities concerning protection and improvement of the environment. Simultaneously, major problems related to environmental pollution and degradation have also been clearly identified.

Since various socio-economic malaises like poverty, population pressure, illiteracy, inadequate health care, lack of public awareness etc have emerged as serious impediments to the protection of environment, it is necessary that these problems are adequately addressed simultaneously along with issues concerning improvement of environment in an integrated manner. Implementation of the Government's commitment to protect the environment and mitigation of other environment related problems are possible only through a well-defined national policy.

In the context of the environment, the Government recognizes that:

1.1 Since global and regional environmental pollution and degradation affect the nature, environment and resource base of Bangladesh, it is essential to have coordinated vigilance and to undertake necessary action programme to address such issues.

1.2 The geophysical location of Bangladesh, the gradual degradation of its environment, and the absence of appropriate technology, sustainable management techniques and processes for the exploitation of resources have made it imperative to adopt an integrated environment policy on priority basis.

1.3 With a view to ensuring preservation and improvement of environment, it is essential that people at all levels are involved for sustainable use of national resources. This can only be achieved through mass awareness.

1.4 For immediate and long-term solution of the problems concerning natural disaster, it is necessary that the issues are considered as an integral part of the overall programme for protection and improvement of environment and sustainable resource management.

1.5 It is necessary to undertake activities at local and regional level. It is also feasible and essential to ensure improvement of the national environment and thus global environment at large, as well as environmentally sound and sustainable use of resource through regional and global cooperation in relevant fields.

2. **Objectives:**

The objectives of environment policy are:

2.1 to maintain ecological balance and pursue development along with protection and improvement of the environment;

2.2 to protect the country against natural disasters;

2.3 to identify and regulate activities which pollute and degrade the environment;

2.4 to ensure environmentally-sound development in all sectors;

2.5 to ensure sustainable, long-term and environmentally-sound use of all national resources, and

2.6 to actively remain associated with all international environmental initiatives to the maximum possible extent.

3. **Policies**

Environmental activities encompass all geographical regions and development sectors of the country. As such, policies towards realization of the overall objectives of this Environment Policy are described in 15 sectors below.

3.1 Agriculture

3.1.1 All steps taken and technologies adopted for agricultural development and attainment of self-sufficiency in food are to be made environmentally-sound.

3.1.2 In the process of development all agricultural resource bases are to be conserved and their environmental compatibility and long-term use are to be ensured.

3.1.3 The application of agro-chemicals, artificial materials and inputs which adversely affect the fertility as well as organic properties of the soil and also cause adverse impacts on man and animals are to be regulated. Safety of agricultural workers in applying those inputs is to be ensured. At the same time, the application of different natural fertilizers and insecticides is to be encouraged.

3.1.4 Assist environmentally-sound development in agriculture through appropriate changes in production management and production relations with a view to protect and improve the environment and ensuring sustainable use of resources.

3.1.5 The use of environment-friendly fibres like jute and jute products are to be increased.

3.2 **Industry**

3.2.1 Adoption of corrective measures against industrial pollution in phases.

3.2.2 Undertake Environmental Impact Assessment (EIA) for all new industries both in public and private sectors.

3.2.3 Impose ban on establishment of industries producing goods which cause environmental pollution; close down such already existing industries in phases and discourage use of such polluting products through development/introduction of environmentally-sound substitutes.

3.2.4 Encourage development of environmentally sound and appropriate technology and initiatives in research and extension in the field of industry, balance such initiatives with the best use of labour and provision of proper wages.

3.2.5 Prevent wastage of raw materials in industries and ensure their sustainable use.

3.3 **Health & Sanitation:**

3.3.1 Prevent activities which are harmful to public health in all spheres, including development activities in the country.

3.3.2 Integrate environmental concerns with the National Health Policy.

3.3.3 Incorporate environmental issues in health education curriculum.

3.3.4 Develop healthy environment in rural and urban areas.

3.3.5 Ensure healthy workplace for workers.

3.4 **Energy and Fuel:**

3.4.1 Reduce and discourage the use of those fuels which pollute the environment and increase the use of environmentally-sound and less harmful fuels.

3.4.2 Reduce the use of fuel wood, agricultural residues etc to meet energy needs and increase the use of alternative energy sources.

3.4.3 Adopt appropriate precautionary measures against adverse environmental impact of the use of nuclear energy and take preventive steps against nuclear radiation and pollution.

3.4.4 Develop improved energy-saving technology and proliferate its use.

3.4.5 Conserve country's fossil fuel reserves and renewable sources of energy.

3.4.6 Conduct Environmental Impact Assessment before implementing projects for extraction of fuel and mineral resources.

3.5 **Water Development, Flood Control and Irrigation:**

3.5.1 Ensure environmentally-sound utilization of all water resources.

3.5.2 Ensure that water development activities and irrigation net-works do not create adverse environmental impact.

3.5.3 Ensure that all steps taken for flood control, including construction of embankments, dredging of rivers, digging of canals etc are environmentally-sound at the local, zonal and national levels.

3.5.4 Implement mitigatory measures against adverse environmental impact of completed water development and flood control projects.

3.5.5 Keep the rivers, canals, ponds, lakes, haors, baors and all other water bodies and water resources free from pollution.

3.5.6 Ensure sustainable, long-term, environmentally-sound and scientific exploitation and management of the underground and surface water resources.

3.5.7 Conduct Environmental Impact Assessment before undertaking projects for water development and management.

3.6 **Land:**

3.6.1 Formulate a balanced and environmentally-sound national land use policy and plan.

3.6.2 Prevent land erosion, preserve and increase soil fertility, and expand activities for conservation and environmentally-sound management of newly accreted land.

3.6.3 Encourage land use systems compatible with various eco-systems.

3.6.4 Prevent spread of salinity and alkalinity on land.

3.7 **Forest, Wildlife and Bio-diversity:**

3.7.1 Conserve, expand and develop forests to sustain the ecological balance and meet the socio-economic needs and realities.

3.7.2 Include tree plantation programmes in all relevant development schemes.

3.7.3 Stop shrinkage and depletion of forest land and forest resources.

3.7.4 Develop and encourage use of substitutes for forest products.

3.7.5 Conserve wildlife and bio-diversity, strengthen related research and help dissemination and exchange of knowledge in the concerned area.

3.7.6 Conserve and develop wetlands and protect migratory birds.

3.8 **Fisheries and Livestock:**

3.8.1 Ensure appropriate environment for the conservation and development of fisheries and livestock.

3.8.2 Prevent activities which diminish the wetlands/natural habitats of fish and undertake rehabilitative measures in this area.

3.8.3 Ensure that development activities in fisheries and livestock do not create any adverse impact on the mangrove forests and other ecosystems.

3.8.4 Evaluate existing projects for water resources development, flood control and irrigation to determine their adverse impact on fisheries and adopt measures for alternate fish culture and improvement of environmental conditions.

3.9 **Food:**

3.9.1 Ensure hygienic and environmentally-sound methods for production, preservation, processing and distribution of food.

3.9.2 Dispose rotten or harmful foodstuff and food crops in an environmentally acceptable manner.

3.9.3 Prohibit import of food items likely to create adverse impact on the environment and public health.

3.10 **Coastal and Marine Environment:**

3.10.1 Ensure environmentally-sound conservation and development of coastal and marine eco-systems and resources.

3.10.2 Prevent all internal and external activities polluting the coastal and marine areas.

3.10.3 Strengthen necessary research to preserve and develop coastal and marine environment and resources.

3.10.4 Limit coastal and marine fish catch within tolerable regeneration/respawning limits.

3.11 **Transport and Communication:**

3.11.1 Ensure that road, rail, air and inland water transport systems do not pollute the environment or degrade the resources. Conduct Environmental Impact Assessment before undertaking related projects.

3.11.2 Ensure that vehicles and people using roads, railway, air and inland waterways do not pollute the environment and take steps to protect the health of workers running these transports.

3.11.3 Control activities in inland ports and dockyards which cause pollution of water and the local environment.

3.12 **Housing and Urbanization:**

3.12.1 Integrate environmental considerations into all housing and urban planning activities and research.

3.12.2 Extend environmentally-sound amenities to all the existing urban and rural housing areas in phases.

3.12.3 Control housing and urban development schemes having adverse impact on the local and overall environment.

3.12.4 Attach greater importance on the role of water bodies in the beautification of cities/towns.

3.13 **Population**

3.13.1 Ensure integrated, planned and environmentally-sound utilization of manpower.

3.13.2 Integrate environmental conservation and development concerns in the population policy and action programme.

3.13.3 Ensure the role of women in development.

3.13.4 Encourage utilization of unemployed manpower in development activities.

3.14 **Education and Public Awareness:**

3.14.1 Integrate people in the spread of education and overall development of the country through eradication of illiteracy and increase in the rate of literacy.

3.14.2 Create widespread mass awareness regarding environmental conservation and improvement, sustainable, long-term and environmentally-sound utilization of all resources.

3.14.3 Ensure inclusion and dissemination of environmental knowledge and information in the formal and informal systems of education and media.

3.14.4 Induce spontaneous and direct participation of people in all environmental activities.

3.14.5 Incorporate environmental issues in all government and non-government training programmes and also in such programmes for industrial and commercial workers.

3.15 **Science, Technology and Research**

3.15.1 Incorporate environmental pollution supervision and control measures in the national science and technology policy.

3.15.2 Encourage necessary research and evolve necessary technology to ensure long-term, sustainable and environmentally-sound utilization of all resources for conservation and improvement of the environment.

3.15.3 Incorporate environmental consideration as an integral part of priority areas for research and development within the framework of National Science and Technology Policy (1986).

3.15.4 Consideration of environmental issues in all research activities by research and development institutions.

4. **Legal Framework:**

4.1 Amend all laws and regulations related to protection of the environment, conservation of natural resources, and control of environmental pollution and degradation with a view to meet present day's need.

4.2 Frame new laws in all sectors necessary to control activities concerning environmental pollution and degradation.

4.3 Ensure proper implementation of all relevant laws/regulations and create widespread public awareness in this regard.

4.4 Ratify all concerned international laws/conventions/protocols which Bangladesh considers ratifiable and amend/modify existing national laws/regulations in line with the ratified international laws/conventions/protocols.

5. **Institutional Arrangements:**

5.1. The Ministry of Environment and Forest would coordinate the implementation of this policy.

5.2 A National Environment Committee with the head of the Government as the chairperson would be constituted to give overall direction for implementation of this policy.

5.3 The Ministry of Environment and Forest would take timely steps for appropriate amendment and modification of this policy in the backdrop of changes in the state of the environment and socio-economic and other needs of the country.

5.4 The Department of Environment will make final review and approve all Environmental Impact Assessments (EIAs).

Development Budget of BWDB
1991/92 to 1994/95

(Lac Tk.)

Sl. No.	Title of Project	Source of funding	Approval Status	1991-92 allocation		1992-93 allocation		1993-94 allocation		1994-95 allocation	
				Original	Revised	Original	Revised	Original	Revised	Original	Revised
1	2	3	4	5	6	7	8	9	10	11	12
Carry-over Projects											
1.	River Research Institute, Faridpur.	IDA/UNDP	A	668	980	300	800	800	450	Closed	-
2.	Gumti Project, Ph-1(FCD-3)	IDA	A	2700	2725	1300	1300	150	150	Closed	-
3.	Naogaon Project, Polder-1 (FCD-3)	IDA	A	3100	2075	2000	1700	1090	1090	150	-
4.	Madhumati-Nabaganga Project	IDA	A	1900	1500	1200	1500	690	1490	100	-
5.	BWDB-Small Schemes (EIP type IDA)	IDA	A	3800	3200	2600	2470	1325	1245	Closed	-
6.	System Rehabilitation Project	IDA/EEC/The Netherlands	A	4300	3300	6400	5569	6600	3985	6200	-
7.	Barnai Project (FCD-4)	IDA	A	2400	1700	2540	2050	2330	1480	1050	-
8.	Second Small-scale Flood Control, Drainage and Irrigation Project (IDA aided)	IDA	A	3350	3300	5000	3600	4500	3050	4650	-
9.	IDA aided Flood Rehabilitation Project (Cr.No. 1870 BD & 2048 BD)	IDA	A	5000	8400	2900	4500	800	1180	100	-
10.	IFAD aided Small scale Flood Control and Irrigation Project	IFAD	A	500	650	800	800	650	450	Closed	-
11.	Pabna Irrigation and Rural Development Project (Ph-1)	ADB	A	3200	3560	-	1152	Closed	-	-	-
12.	Rehabilitation of G.K. Irrigation Project	ADB	A	6400	3750	3070	2655	1850	1725	2400	-
13.	Bhola Irrigation Project, (Phase-1)	ADB/EEC	A	600	370	Closed	-	-	-	-	-
14.	ADB aided Small scale Irrigation Sector Project	ADB	A	3350	2200	1285	1750	850	385	Closed	-
15.	ADB aided Flood Rehabilitation Project	ADB	A	2300	3425	Closed	-	-	-	-	-

(Lac Tk.)

Sl. No.	Title of Project	Source of funding	Approval Status	1991-92 allocation		1992-93 allocation		1993-94 allocation		1994-95 allocation	
				Original	Revised	Original	Revised	Original	Revised	Original	Revised
1	2	3	4	5	6	7	8	9	10	11	12
16.	Costal Embankment Rehabilitation Project, Khulna (Phase-1).	ADB	A	125	55	-	100	765	380	Closed	-
17.	Teesta Barrage Project	SFD/IDB	A	5000	4700	11390	7000	7000	5650	9500	-
18.	Narayanganj-Narsingdi Irrigation Project (Block A/1)	Japan	A	5710	5460	950	1450	Closed	-	-	-
19.	Land Reclamation and Delta Development Project	Dutch/ Swedish	A	1000	365	Closed	-	-	-	-	-
20.	Dutch-Swedish EIP (2nd Ph.)	Ditch/ Swedish	A	166	220	90	210	Closed	-	-	-
21.	Dutch-Swedish EIP (3rd Phase,Gr-1)	Dutch/ Swedish	A	525	625	155	198	Closed	-	-	-
22.	Dutch-Swedish EIP (3rd Phase,Gr-2)	Dutch/ Swedish	A	625	620	300	210	Closed	-	-	-
23.	Dutch-Swedish EIP (3rd Phase, Gr-3)	Dutch/ Swedish	A	1450	1200	1600	1435	800	822	700	-
24.	Dutch-Swedish EIP (4th Phase,Gr-1)	Dutch/ Swedish	A	825	720	1475	1485	1500	1241	750	-
25.	Dutch-Swedish EIP (4th Phase, Gr-2)	Dutch/ Swedish	A	1000	750	1350	1350	1500	1150	750	-
26.	Dutch-Swedish EIP O&M (Gr-1)	Dutch/ Swedish	A	152	185	Closed	-	-	-	-	-
27.	River Protection and Town Protection (Block Allocation)		A	200	400	2500	2200	2500	3503	4000	-
28.	Khowai River Project		A	100	155	22	22	Suspended	-	-	-
29.	Kurigram FC & Irrigation Project		A	100	110	-	80	Suspended	-	-	-
30.	Hydrological Survey and Investigation	UNDP	RU ECNEC	1650	1200	1700	1500	2000	1705	2900	-
New Schemes (1991-92)											
31.	Rehabilitation & Reconstruction of Costal Embankment Project, Part-A.		A	-	585	Closed	-	-	-	-	-
32.	Emergency Rehabilitation & Reconstruction of Flood damaged structures in greater Sylhet District.		A	-	267	Closed	-	-	-	-	-

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(Lac Tk.)

Sl. No.	Title of Project	Source of funding	Approval Status	1991-92 allocation		1992-93 allocation		1993-94 allocation		1994-95 allocation	
				Original	Revised	Original	Revised	Original	Revised	Original	Revised
1	2	3	4	5	6	7	8	9	10	11	12
33.	Rehabilitation & Reconstruction of Coastal Embankment Project, Part-B	SFD	A	-	1691	4000	5275	1600	2400	500	-
34.	Rehabilitation & Reconstuction of Costal Embankment Project, Part-C	IDA/Japan ECC	RU	-	1917	10315	12700	9900	8585	3700	-
35.	H.B.B. Road from Zia-Crossing to Serajganj Rly. Station		RU	-	105	80	155	Closed	-	-	-
	New Schemes; (1992-93)										
36.	Bhola Irrigation Project, Phase-2 (BWDB-Portion).	ADB	A	-	-	1670	1535	2800	1025	3900	-
37.	Secondary Town Integrated Flood Protection Project (BWDB-Portion, Part-A&B).	ADB	A	-	-	1875	1850	5300	2325	5600	-
38.	Bank Protection near Manash Regulator at the right bank of the Brahmaputra and construction of retired embankment at 4 places.		U	-	-	-	300	430	200	205	-
39.	Rehabilitation & Reconstruction of Embankment outside Polders of BWDB at Cox's Bazar.	SFD	A	-	-	-	124	655	35	140	-
40.	Char Development & Settlement Project.	Dutch	A	-	-	-	60	675	40	810	-
	New Schemes (1993-94)										
41.	Dutch-Swedish, EIP O&M Group-II	Dutch	A	-	-	-	-	175	125	80	-
42.	River Bank Protection Project, (Flood Protection-1).	IDA	U	-	-	-	-	1400	50	2255	-
43.	Coastal Embankment Rehabilitation Project, (Ph-2)	IDA	U	-	-	-	-	1100	50	2300	-
44.	Dutch-Swedish EIP (4th Ph., Gr-3)	Dutch/ Swedish	A	-	-	-	-	600	500	1300	-
45.	Jessore-Khulna Drainage Rehabilitation Project.	ADB	A	-	-	-	-	-	100	2625	-
46.	Kalikota Haor Project		A	-	-	-	-	-	10	400	-

(Lac Tk.)

Sl. No.	Title of Project	Source of funding	Approval Status	1991-92 allocation		1992-93 allocation		1993-94 allocation		1994-95 allocation	
				Original	Revised	Original	Revised	Original	Revised	Original	Revised
1	2	3	4	5	6	7	8	9	10	11	12
New Schemes, (1994-95)											
47.	Arial Beel FCDI Project		A	-	-	-	-	-	-	150	-
48.	Installation of Floating Pump in G.K. Irrigation Project.		U	-	-	-	-	-	-	1400	-
49.	Tulshiganga Drainage Project.		U	-	-	-	-	-	-	200	-
50.	Construction of Embankment from Tarapasa to Premnagar at the left Bank of river Manu at Rajnagar Thana in Moulvi Bazar District Rajnagar		U	-	-	-	-	-	-	150	-
51.	Lalutia Irrigation Project		U	-	-	-	-	-	-	100	-
52.	Protection of saline water intrusion at Nazirpur and adjacent 4 Unions in the District of Pirojpur.		U	-	-	-	-	-	-	200	-
53.	Re-excavation of the river Titas		U	-	-	-	-	-	-	150	-
54.	Upper Tulshiganga Right & Left Bank FCD Project.		U	-	-	-	-	-	-	300	-
55.	Baral Basin Development Project		U	-	-	-	-	-	-	200	-
56.	Barabilla Beel Project		U	-	-	-	-	-	-	125	-
57.	Dhaka Integrated Flood Protection Project Part A&D (BWDB Component) from block allocation under Programming Division of Planning Commission	ADB	U	-	3308	4020	3720	5248	1800	9702	-
Grand Total (1-57):				60773	65773	72887	72805	67583	48376	69742	

Annexure 11

ON-GOING TECHNICAL ASSISTANCE PROJECTS BWDB

Sl. No.	Projects	Type of TA	Commencement date	Completion date	Investment size in M. Tk.
01.	Strengthening of FF and Warning system	GRANT	89-90	94-95	393.40
02.	O&M Programme for Development of Management	GRANT	89-90	94-95	8.50
03.	SW simulation modelling (PH-3)	GRANT	93-94	95-96	195.20
04.	FS & detailed Design of SW Area Water Management (FAP-4)	GRANT	94-95	96-97	158.80
05.	Social Environmental Evaluation Study of MDI Project.	GRANT	94-95	96-97	4.20
				Total :	760.10

SOURCE: BWDB

Annexure 12

Statement on the budget allocation and expenditure of Water Development board for the last Four year's i.e. 1990-91 to 1993-94 under 163-IWD and FFW Wheat

Sl. No.	Head of Account	1990-91		1991-92		1992-93		1993-94	
		Provision	Expenditure	Provision	Expenditure	Provision	Expenditure	Provision	Expenditure
1.	163-INd (Revenue Budget)	78.01	83.05 (106)	85.76 (136)	90.12 (105)	96.89 (170)	98.67 (101)	114.02 (206)	119.41 (104)
2.	Wheat	73.80	58.80 (79.67)	108.00	96.00 (88.88)	72.00	52.20 (72.50)	78.00	68.40 (87.69)
		778.19	563.36 (72.39)	947.05	741.71 (78.31)	958.86	828.47 (86.90)	801.89	713.81 (89)

Source: MWR

Note: Figures in the parentheses indicate % of expenditu e against provision.

Annexure 13

Project-wise Allocation for Repair/Maintenance of Completed BWDB Projects from 163-IND

(Amount in lac Taka)

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
A. CHITTAGONG O&M CIRCLES					
1.	Ramgarh Town Protection Project.	4.00	10.00	13,00	11.20
2.	Lacharipara River Bank Protection	1.00	-	7.00	15.00
3.	Sonaichhari Sub-Project	-	-	3.50	2.50
4.	Dhurang Irrigation Project	10.00	9.70	16.00	15.95
5.	Fatikchari Irrigation Flood Protection Project	-	3.30	1.50	6.50
6.	Karnafuli Irrigation Project, Halda Unit	-	3.00	1.60	0.50
7.	Karnafuli Irrigation Project	10.00	4.00	3.80	3.70
8.	Latifpur-Kumira Sea Bank Projection	-	-	-	4.50
9.	Sial-Bukka	-	0.85	0.55	-
10.	Hungar Khal Embankment	2.00	-	0.50	5.50
11.	Dalu River	-	-	0.50	-
12.	Tankabati Khal Embangkent	-	-	0.50	2.50
13.	Katakhali Khal Embankment	-	1.00	0.50	-
14.	Srimai Khal	-		0.50	-
15.	Sungu River Bank Protection	-	4.50	0.50	0.50
16.	Sovandandi Flood Control and Irrigation Project	-	-	0.50	2.75
17.	Water Control StructureS	-	-	7.40	-
18.	Bandarban Town Protection Project	-	-	1.00	2.00
19.	Mandakini Water Control Structure	-	-	1.25	-
20.	Halda Irrigation Extension Project	-	-	-	1.50
21.	Coastal Embankment Project	4.00	33.00	29.10	38.70
22.	Appurtenant Structures	2.00	-	8.00	1.00

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
23.	River Training works of Matamuhuri River Project	1.00	-	-	-
24.	Ichamati River Project	-	5.27	-	-
	Sub-Total:	34.00	74.62	97.20	114.40
B.	FENI CIRCLE				
1.	Muhuri Irrigation Project	15.00	15.00	41.25	22.05
2.	Comprehensive Drainage scheme in Noakhali district.	33.00	29.90	38.05	63.55
3.	Coastal Embankment Project	5.00	29.99	98.98	98.05
4.	Old Dakatia and Small Feni River Project	3.00	4.70	7.75	4.50
5.	Kahua & Muhuri River Embankment	-	15.00	66.76	36.50
6.	Land Reclamation Project	-	-	0.60	-
7.	Appurtenant Structures	-	8.17	-	-
	Sub-Total	56.00	102.76	253.39	225.75
C.	CHANDPUR O&M CIRCLE				
1.	Chandpur Irrigation Project	22.00	21.98	24.53	31.20
2.	Meghna-Dhonagoda Irrigation Project	25.00	64.24	67.06	58.10
	Sub-Total	47.00	86.22	91.59	89.40

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
D.	COMILLA O&M CIRCLE				
1.	Gumti Phase-1	9.00	27.30	319.76	288.40
2.	Kakri River Flood Control Embnkment	2.00	22.00	35.86	11.00
3.	Gograjala Irrigation Project	-	-	4.00	-
4.	Satdona Beel Sub-Project	-	-	3.20	-
5.	Chandal Beel Sub-Project	-	-	0.70	-
6.	Old Dakatia	-	1.00	-	-
7.	Ghungur Salda & Buri Nadi	-	-	-	2.00
8.	Sonai Bizna Nadi	-	-	2.00	-
9.	Roachala and Archi Nadi	-	-	-	-
10.	Dattakhola & other Beel Drainage Project.	1.00	-	2.00	0.70
11.	Sonaichari Project	-	-	-	-
12.	Sundalpur Sub-project	-	-	2.00	-
13.	Water Control Structures	-	-	1.50	-
	Sub-Total:	12.00	50.30	371.02	302.10
E.	DHAKA O&M CIRCLE, DHAKA				
1.	Narayanganj-Narsingdi Irrigation Project Block-A/1	-	-	5.80	40.11
2.	Narayanganj-Narsingdi Demra (N.N.D) Irrigation Project	15.00	10.00	12.35	37.30
3.	North Rupganj Water Conservancy Project	-	14.50	58.00	75.60
4.	Balusair Embankment Project	-	5.00	4.90	7.70
5.	Tayebpur-Kashimpur Flood Control Embankment Project	-	28.00	15.50	21.50
6.	Dhaka South-west Project	-	-	3.00	-
7.	Aglarchak Irrigation Project	-	1.00	3.00	3.00
8.	Keraniganj Irrigation Project	-	3.00	4.00	4.70

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
9.	Harikhali Bridge-cum Regulator	-	0.75	0.25	0.20
10.	D.N.D. Irrigation Project	23.00	57.40	105.10	114.00
	Sub-Total	38.00	120.15	211.90	304.20
F.	SYLHET O&M CIRCLE, SYLHET				
1.	Sari-Gawain Project	12.00	9.00	7.60	25.40
2.	Kushiyara River Bank Project Zakiganj	0.50	1.00	3.00	3.50
3.	Surma River Bank Protection at Kanaighat	1.00	5.00	2.25	4.50
4.	Kushiyara Bardal Project	0.50	-	3.00	2.50
5.	Zilkar Haor	-	8.80	7.50	23.00
6.	Patharchuli Haor	-	8.40	7.50	17.00
7.	Khowai River Project	-	1.00	20.81	50.35
8.	Sutki FCD Sub-Project	3.00	0.05	2.00	0.30
9.	Gangajuri Sub-project	-	-	0.45	0.70
10.	Embankment from Hangar Bhaban to Dattapur	1.00	-	-	
11.	Sona Moral Haor	-	1.00	1.00	
12.	Embankment from Sherpur to Markuli	-	-	-	0.50
13.	Ballah Town Protection Project	-	-	4.08	0.70
14.	Basia River Re-excavation	-	0.20	-	-
15.	Haor Dev. (Shanir Haor and Kanaighat Project etc)	2.00	5.20	-	20.20
16.	Sunamganj Town Protection Project	-	2.00	-	10.00
17.	Zinarpur Closure Protection	-	-	5.00	8.00
18.	Bhanda Beel Sub-Project	-	-	26.00	10.00
19.	Sangai Haor	-	-	-	1.00
20.	Zakiganj Town Projection	3.00	-	-	
	Sub-Total	23.00	41.65	90.19	186.85

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
G. MYMENSINGH O&M CIRCLE, MYMENSINGH					
1.	Old Brahmaputra Multi-purpose project	7.00	9.30	11.80	21.00
2.	Konapara Embankment Project	1.00	2.00	0.22	15.60
3.	Katakhali Project	1.00	-	-	-
4.	Laithy Water Control Structures	1.00	-	1.50	-
5.	Appurtenant Structures	1.00	-	0.80	-
6.	North Mymensingh Tubewell Project	1.00	2.10	2.00	2.00
7.	Old Brahmaputra River Re-excavation Project	0.56	-	-	-
8.	Garamara Sluice	-	-	-	0.25
9.	Bardal Canal	-	-	-	0.30
10.	Singua River Re-excavation	0.20	-	-	-
11.	Gazaria Beel Scheme	0.24	1.00	0.50	0.30
12.	Mashjan Lohajong Project	1.00	2.20	-	-
13.	Baraikhali Canal Project	-	4.00	-	-
14.	Humaipur Haor Project	-	-	-	17.00
15.	Dublakuri Katakhali Project	-	0.20	0.50	0.30
16.	Shila River Sub-Project	-	-	-	5.48
17.	Alalia Bahadia Project	-	0.20	-	-
18.	Shambhuganj Embankment Project	-	2.00	12.00	8.20
19.	Charan Lakhmivasa Project	-	0.50	0.20	1.00
20.	Construction of Regulator over Old Louhajang river	-	-	0.20	10.20
21.	Satbila Regulator	-	-	0.15	0.05
22.	Bailjana Canal Project	-	1.94	0.10	0.50
23.	Kabariabari Canal Project	-	-	0.15	-
24.	Janakipur Regulator	0.50	-	0.15	0.55

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
25.	Padma Khali Konai Beel Project	-	3.50	-	-
26.	Water Control Structures over Chilla Khali River	-	1.53	-	
27.	Removal of waterlogging from Rouha Bakchari & other Beels	-	0.20	0.15	0.10
28.	Kamar Naogaon FCD Project	1.30	2.00	0.25	4.50
29.	Flood Control Project from Pingna to Jokerchar.	-	-	0.25	2.00
30.	Kangsha River Embankment Project	-	-	11.00	8.20
31.	Haizda Embankment Project	-	-	16.00	2.50
32.	Balali-Padmasree Project	-	-	-	7.10
33.	Thakurgaon Sub-Project	-	-	6.50	5.15
34.	Naotana Canal Scheme	-	2.70	10.50	8.50
35.	Appurtenant Structures	-	6.53	-	
36.	Netrokona Town Protection	0.95	9.25	15.10	11.00
37.	Tengapara Weir cum Regulator	0.80	5.00	1.00	0.40
38.	Indo-Bangladesh Border Pillar sub-Project	1.05	1.50	0.50	0.50
39.	Dewanganj Town Protection	1.00	-	3.00	1.00
40.	Dewan Khali Alampur Project	0.40	1.00	-	
	Sub-Total:	20.00	58.65	94.52	133.58
H.	MOULVIBAZAR O&M CIRCLE, MOULVIBAZAR				
1.	Monu River Project	25.00	25.45	108.20	103.58
2.	Hamhamichara Sub-Project	-	0.50	4.40	3.40
3.	Monu River Left Bank Embankment Project	10.00	4.35	78.25	48.40
4.	Shakha Barak Sub-Project	-	-	0.25	3.50
5.	Hail Haor Project	5.00	2.70	-	
6.	Appurtenant Structures	-	0.75	-	3.50
7.	Monu River E.C.D. Sub-Proj.Phase-1	-	-	-	3.00
	Sub-Total:	40.00	33.75	191.10	165.46

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
I.	RAJSHAHI WATER DEV.CIRCLE, RAJSHAHI				
1.	Rajshahi Town Protection Project	2.50	3.00	21.10	26.50
2.	Karnahar Bara Beel Project	-	5.50	12.15	7.10
3.	Raktadaha Lohachura Beel Project	-	5.00	6.40	0.50
4.	Nagarvalley Project	1.00	8.20	10.00	2.70
5.	River Bank Protection from Yusufpur-to Sarda Cadet College		-	5.00	-
6.	Appurtenant Structures	-	-	2.00	
7.	Chakal Tangalgari Beel Scheme	-	-	-	0.20
8.	Low lift Irrigation Project	-	-	1.50	-
9.	Baral Basin Project	-	4.00	11.00	11.25
10.	Tulshiganga Project	1.00	5.50	19.05	12.80
11.	Chalan Beel Polder-D	6.10	17.14	21.35	22.35
12.	Embankment on the South Bank of the Ganges river.	-	-	0.60	3.20
13.	Barnai River Sub-Project	0.60	0.70	1.50	1.50
14.	Bhedra Beel Excavation Project	0.05	0.35	-	0.40
15.	Barshi Regulator	2.75	-	-	-
16.	Chalan Beel Project, Phase-1	-	5.30	135.00	77.65
17.	Naogaon Polder-1 Sub-Project	-	-	-	10.30
18.	Water Control Structures	1.00	-	3.00	-
	Sub-Total:	15.00	54.69	249.65	176.45
J.	BOGRA O&M CIRCLE, BOGRA				
1.	Brahmaputra Flood Protection Bundh Project.	35.00	13.90	474.52	388.13
2.	Nurullar Beel Embankment Sub-Project	-	-	34.00	25.00
3.	Sardagari Beel Excavaction Project	1.00	0.15	0.20	0.20
4.	Nelaya River Project	0.50	0.50	1.60	0.90

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
5.	Gaibandha Town Protection Project	1.00	2.00	4.50	3.50
6.	Satdamua Katlar Beel Project	-	-	-	3.60
7.	IDA Water Control Structures	-	-	-	1.20
8.	Nagar River Embankment Sub-Project	1.00	3.00	-	-
9.	Sewra Beel Drainage Project	-	0.55	0.35	-
10.	Low lift Irrigation Project	-	-	0.45	-
11.	Serajganj Town Protection Project	-	-	8.00	-
12.	Kamarnai Embankment	0.50	0.10	-	-
13.	Shajadpur Town Protection Project	-	-	-	2.00
14.	Construction of pucca road from Ziamore to Rly.Ferry Ghat	-	-	-	1.50
15.	Hurasagar Sub-Project	12.00	-	2.00	2.30
16.	Water Control Structures	-	1.40	0.25	-
17.	Serajganj IRD Project	-	16.00	6.00	4.40
	Sub-Project:	51.00	37.60	531.87	432.70
K.	GANGES-KOBADAK IRRIGATION REHAB PROJECT, KUSHTIA				
1.	G.K. Irrigation and Rehabilitation Project	40.00	40.00	104.60	320.00
2.	Kushtia Town Protection Project	-	-	1.50	-
3.	Mobarak Bundh Project	-	-	25.00	-
	Sub-Total	40.00	40.00	131.10	320.00
L.	FARIDPUR O&M CIRCLE, FARIDPUR				
1.	Comprehensive Drainage Scheme of Faridpur district.	16.00	14.07	20.94	56.40
2.	Faridpur-Barisal Project	-	2.00	3.00	29.00
3.	Baramanikdi FCDI Project	-	-	-	1.60
4.	Faridpur Town Protection Project	0.50	-	-	-
5.	Salua Regulator	1.00	0.80	1.25	-

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
6.	Shakunia Beel Project	1.00	-	-	0.50
7.	Alfadanga Boalmari Project	2.00	2.55	1.10	10.40
8.	Purulia Charvatpara Project	1.00	1.90	0.55	3.20
9.	Faridpur Area-1	-	-	1.30	1.40
10.	Modhukhali Baliakandi Sub-Project	-	-	-	4.40
11.	Dhuldi Sub-Project	-	-	-	1.40
12.	Konagram Beel Drainage Project	-	3.30	0.90	0.40
13.	Pakuria Beel Sub-Project	-	-	1.95	0.45
14.	Jangal Beel Drainage Project	-	0.75	1.30	0.50
15.	Beel Jobai & Beel Saorail Drainage Project	-	-	1.20	0.10
16.	Ramnagar Beel Drainage Project	-	-	-	0.05
17.	Karatkandi Beel Sub-Project	-	-	-	0.10
18.	Mugi Canal Drainage Project	-	0.50	1.15	-
19.	Madaripur Beel Route	-	0.20	8.00	1.50
20.	Tarail Pachuria Polder-3	-	1.80	0.20	0.50
21.	Golabari Irrigation Project	-	0.30	0.50	0.50
22.	Tarail Pachuria, Polder-2	-	-	-	5.80
23.	Kalkini North Sub-Project	-	1.70	0.1-	-
24.	Helalpur Kaderpur Beel Project	-	-	0.15	-
25.	Kalkini South Sub-Project	-	-	10.00	21.50
26.	Sureswar System	-	-	-	5.20
27.	Madaripur Town Protection Project	0.50	2.00	5.33	14.60
28.	Re-excavation of khal from Gopalganj to Ghagat & Paisharhat	-	0.20	-	-
	Sub-Total:	22.00	29.07	58.92	160.40

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
M.	KHULNA O&M CIRCLE, KHULNA				
1.	Coastal Embankment Project	28.60	175.63	278.58	367.46
2.	Bhutiar Beel Drainage Project	-	-	1.54	1.10
3.	Chenchuri & other Beels Drainage Project	2.70	4.70	7.10	16.36
4.	Chenchur Irrigation Sub-Project	-	-	8.67	15.00
5.	Singua-Nebugati & other Beel Drainage Project	2.00	6.40	2.91	0.40
6.	Arol Beel Project	-	0.50	2.00	10.40
7.	Madia & other Beel Drainage Project	-	0.20	-	-
8.	Kalidash Arpara Flood Control Project	-	-	2.65	-
9.	Regulator over Betna River at Sankarpur	-	-	0.45	-
10.	Makla Beel Drainage Project	-	-	-	1.50
11.	Sonamukhi-Bonmandar Beel and other Drainage Project	-	0.40	0.59	0.60
12.	Borokhudra Regulator	-	0.35	-	0.05
13.	Raghabpur Regulator Project	-	0.20	-	0.10
14.	Mulia Patherghata Project	-	0.50	-	-
15.	Hari Har River Project	-	0.10	0.50	-
16.	Patia and other Beel Drainage Project	-	-	-	-
17.	Regulator over Jafar khal	0.10	0.05	-	-
18.	Barnal-Salimpur Kolabasukhali	6.00	1.39	5.40	2.50
19.	Barakpur Dighulia Project	2.00	0.80	0.20	2.90
20.	Regulator over Kanai Khal	0.10	-	-	-
21.	Mukteswari Teka River Project	1.40	0.10	0.70	2.10
22.	Goralia and Nurania Batgram Project	0.10	0.08	1.25	0.80
23.	Shrimpculture Project	-	-	-	7.50
	Sub-Total:	43.00	191.40	312.54	427.90

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
N.	PABNA IRD CIRCLE, PABNA				
1.	Pabna IRD Project	3.00	0.50	123.29	204.45
O.	THAKURGAON W.D. CIRCLE, THAKURGAON				
1.	North Bangladesh Tubewell Project	248.00	60.00	62.95	61.15
2.	Ground Water Development and Low Lift Irrigation Project	34.00	71.65	113.20	184.41
3.	ADB Small Irrigation Project	-	-	-	17.40
4.	Buri Bundh Irrigation Project	-	-	20.00	11.05
5.	Water Control Structures	-	-	-	1.25
6.	Tangon Barrage Irrigation Project	-	-	5.00	0.20
7.	Punarbhaba East Bank Embankment	-	-	-	7.00
8.	Petki Irrigation Sub-Project	-	-	0.50	
	Sub-Total	285.00	132.15	324.94	487.11
P.	BARISAL O&M CIRCLE, BARISAL				
1.	Barisal Irrigation Project Phase-1	10.00	26.20	17.60	35.60
2.	Coastal Embankment Project	15.00	122.47	106.79	115.50
3.	Surjamoni Khal Re-excavation	-	-	-	2.00
4.	Kalai-Nehalgonj Khal Re-excavation	-	-	-	3.20
5.	Appurtenant Structures	-	-	-	15.05
	Sub-Total:	25.00	148.67	124.39	171.05
Q.	BARISAL CIRCLE (SATLA-BAGDA, BARISAL)				
1.	Satla-Bagda Project	6.00	16.50	29.90	44.15
2.	Barisal Irrigation Project	20.00	10.80	14.00	20.70

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
3.	Paishat Ramshil Sub-Project	-	-	15.50	12.05
4.	Coastal Embankment Project	-	-	14.50	12.05
	Sub-Total:	26.00	27.30	70.50	89.25
R.	BHOLA WATER DEV. CIRCLE, BHOLA				
1.	Coastal Embankment Project (56/57 Polder)	10.00	17.10	18.10	13.00
2.	Polder 58/2 (Sakuchia)	-	2.25	1.55	0.70
3.	Bhola Irrigation Project	-	7.00	13.62	12.60
	Sub-Total:	10.00	26.35	33.27	26.30
S.	TEESTA CANAL CIRCLE-1, RANGPUR				
1.	Haragacha Protection Project	-	2.00	1.00	0.50
2.	Banglabazar Protection Project	-	2.00	1.00	0.50
3.	Sarai Protection Project	-	1.00	-	1.00
4.	Bakultala Protection Project	-	4.00	-	0.20
5.	Teesta Right Embankment Project	-	3.00	43.00	75.20
6.	Badarganj Port Protection Project	-	2.00	3.00	2.00
7.	Water Control Structures	-	1.00	4.10	3.10
8.	Appurtenant Structures				
	a) Fulbandi Bridge	-	-	1.20	5.00
	b) Dharmaghat Bridge	-	-	-	0.50
	c) Manas Regulator	-	-	-	1.00
	d) Dhardhara Regulator	-	-	1.00	0.50
	e) Dhoom Regulator	-	-	1.00	0.50
	f) Nekbakta Regulator	-	-	2.50	0.10
9.	Buri Teesta Irrigation Project	-	-	-	1.10
10.	Buri Teesta Right and Left Bank Embankment	-	-	1.50	3.10
	Sub-Total:	0.00	15.00	59.30	93.00

No.	Name of Project	Allocation for Repair/Maintenance Works			
		1991-92	1992-93	1993-94	1994-95
1	2	3	4	5	6
T.	TEESTA CANAL CIRCLE-2, RANGPUR				
1.	Kurigram Flood Control and Irrigation Project (South Unit)	-	-	54.70	98.30
2.	Kurigram Flodd Control and Irrigation Project (North Unit)	-	-	21.12	26.90
	Sub-Total:	0.00	0.00	75.82	125.20
U.	CYCLONE PROTECTION CIRCLE				
1.	Coastal Embankment Project	1.00	29.67	91.82	140.60
2.	Shrimp Cultivation Project	-	-	-	6.90
	Sub-Total:	1.00	29.67	91.82	147.50
V.	DIRECTOR, LAND RECLAMATION AND DELTA DEVELOPMENT	-	-	15.32	-
W.	UNALLOCATED	-	-	-	337.80
	Sub-Total	0.00	0.00	15.32	337.80
	Grand Total:	788.00	1300.00	3500.00	4500.00

Annexure 14

STATEMENT SHOWING COMPLETED PROJECTS (TYPEWISE) OF BANGLADESH WATER DEVELOPMENT BOARD SINCE 1944-45
WITH THEIR RESPECTIVE ESTIMATED COST AND EXPENDITURE.

(Taka in Million)

Batch Name	No. of Projects (by type)									Estimated Cost (Expenditure)							
	DR	IR	FCDR/ DRFC	IR DR	FC IR	DIFC FC	DIFC IR	Oths	Total	DR	IR	FCDR/ DRFC	IRDR	FCIR	FC	DRFCIR	OTHERS	TOTAL
A01	24	2	2	-	-	3	-	2	33	4.00	10.42	0.44	-	-	2.45	-	0.08	17.39
										(3.22)	(10.42)	(0.06)	(-)	(-)	(2.30)	(-)	(0.08)	(16.08)
A02	30	7	55	4	-	3	1	2	102	62.50	164.49	701.69	41.27	-	15.33	22.92	0.95	1009.15
										(65.89)	(192.21)	(716.64)	(41.53)	(-)	(15.84)	(27.69)	(0.26)	(1060.06)
A03	1	-	18	-	-	1	-	-	20	0.26	-	263.02	-	-	0.44	-	-	263.72
										(0.26)	(-)	(263.02)	(-)	(-)	(0.44)	(-)	(-)	(263.72)
A04	17	8	15	1	1	2	1	1	46	105.56	29.98	151.88	1.17	4.66	8.67	0.69	0.47	303.08
										(92.09)	(19.02)	(139.86)	(5.28)	(3.88)	(5.87)	(0.72)	(0.47)	(267.20)
A05	14	4	16	-	1	1	1	-	37	42.25	385.97	262.91	-	6.65	4.03	543.00	-	1244.81
										(40.64)	(383.20)	(253.77)	(-)	(7.06)	(4.03)	(541.93)	(-)	(1230.62)
A06	24	70	29	1	2	12	3	14	155	173.49	579.87	2387.55	1.97	37.63	175.85	1715.21	340.28	5411.85
										(143.89)	(564.91)	(2279.73)	(1.97)	(37.51)	(155.89)	(1997.41)	(554.71)	(5736.02)
A07	3	3	20	-	-	5	10	4	45	78.75	1229.59	1175.51	-	-	170.25	4122.00	857.00	7633.10
										(61.15)	(1176.27)	(1115.95)	(-)	(-)	(164.36)	(4039.95)	(734.93)	(7292.61)
A08	-	2	5	-	2	-	4	2	15	-	715.32	821.53	-	225.79	-	358.24	435.92	2556.80
										(-)	(593.80)	(724.52)	(-)	(94.15)	(-)	(287.15)	(360.85)	(2060.47)
A09	-	-	4	-	-	-	8	3	15	-	-	222.43	-	-	-	5632.22	1463.24	7317.89
										(-)	(-)	(213.46)	(-)	(-)	(-)	(5242.23)	(1418.80)	(6874.49)
A10	-	-	4	3	-	-	5	4	16	-	-	238.45	1324.14	-	-	293.34	192.15	6048.08
										(-)	(-)	(1217.65)	(-)	(-)	(-)	(242.89)	(4166.28)	(5828.26)
A11	-	-	4	2	1	-	4	5	16	-	-	1836.98	2425.83	41.28	-	326.92	63.60	4694.61
										(-)	(-)	(1773.05)	(2052.42)	(39.04)	(-)	(267.81)	(53.73)	(4186.05)
Total	113	96	172	11	7	29	35	37	500	466.81	3115.64	8062.39	3794.38	316.01	377.02	13014.54	7353.69	36500.48
										(407.14)	(2939.83)	(7681.50)	(3318.85)	(181.64)	(348.73)	(12647.78)	(7290.11)	(34815.58)

Source: BWDB

Note:
1) A01 Pre-WAPDA
2) A02 Pre-Liberation
3) A03 Post-Liberation
4) A04 FFYP
5) A05 2-Year Plan
6) A06 SFYP
7) A07 Third EYP
8) A08-11 4TH fyp ONWARD.