2014-15

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

MINISTRY OF WATER RESOURCES

Project Completion Report: IMED 04/2003 (Revised)
of
The project 'Development Phase of Water Management Infrastructure in Bhola District (DWMIB)' under ORIO11/BD/21 through Netherlands Enterprise Agency (ADP# TA-01)

BANGLADESH WATER DEVELOPMENT BOARD

Directorate of Planning -2
BWDB, Dhaka

August 2015

Government of the People's Republic of Bangladesh
Ministry of Planning
Implementation Monitoring and Evaluation Division
PROJECT COMPLETION REPORT: IMED 04/2003 (Revised)

A. PROJECT DESCRIPTION :

01. Name of the Project : Development Phase of Water Management Infrastructure in Bhola District (DWMIB)

02. Administrative Ministry/Division : Ministry of Water Resources (MoWR)

03. Executing Agency : Bangladesh Water Development Board (BWDB)

04. Location of the Project :

Division	District	Upazila
Barisal	Bhola	Bhola Sadar, Daulat Khan, Burhanudduin, Tajumuddin, Lalmohan, Char Fession.

05. Objective of the Project :

The main long term objective of the project is to protect the citizens of Bhola against flooding, salinity and loss of land due to the rising level of the Bengal Sea, increased River flows and erosion and the increasing strength of seasonal typhoons.

06. Estimated Cost :

(In lakh Taka)

	Original	Latest Revised
(a) Total	1529.02	-
(b) Taka	62.71	-
(c) Foreign Currency	1466.31	-
(d) Project Aid	1466.31	-
(e) RPA	-	-

07. Date of Approval :

	PCP	TPP
(a) Original	-	4th July, 2013
(b) Latest Revised	-	-

08. Implementation Period :

	Date of Commencement	Date of Completion
(a) Original	January 2013	February, 2014
(b) Latest Revised	January 2013	June, 2015
(c) Actual	14 July 2013	June, 2015

09. Financing Arrangement (Source-wise):

9.1 Status of Loan/Grant

a) Foreign Financing :

Source (s)	Currency as per Agreement	Amount in Euro (Million)	Nature (Loan/ Grant/ supplier's/ credit)	Date of Agreement	Date of Effectiveness	Date of Closing	
						Original	Revised
1	2	3	4	5	6	7	8
Government of Netherlands under ORIO grant through Netherlands Enterprise Agency	Euro	1.364644	Grant	27.01.2013	14.07.2013	February, 2014	June, 2015

b) GOB :

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
62.71 (In kind-53.21 lakh, In cash-9.50)	-	62.71 (In kind-53.21 lakh, In cash-9.50)	-

9.2 Utilization of Project Aid: (Source wise)

Source (s)	Total Amount		Actual Expenditure		Unutilized Amount	
	In Euro (In million)	In Local Currency (BDT in lakh Taka)	In Euro (In million)	In Local Currency (BDT in lakh Taka)	In Euro (In million)	In Local Currency (BDT in lakh Taka)
1	2	3	4	5	6	7
Government of Netherlands under ORIO grant through Netherlands Enterprise Agency	1.364644	1466.31	1.299660	1396.49	0.064983	69.82

* Exchange rate with date: €1= BDT 107.45 *(Bangladesh Bank Exchange Rate as of 17-09-2012)*

9.3 Re-imbursible Project Aid (RPA) : Not Applicable.

(In lakh Taka)

RPA Amount		Amount Spent	Amount Claimed	Amount Re-imbursed	Remarks
As per PP	As per Agreement				
1	2	3	4	5	6

B. IMPLEMENTATION POSITION

01. Implementation Period :

Implementation Period as per TPP		Actual Implementation period	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
1	2	3	4	5
January, 2013 To February, 2014	January 2013 To June, 2015	14 July 2013 to June, 2015	114.29%	

02. Cost of the Project:

(In lakh Taka)

Description	Estimated Cost		Actual expenditure	Cost over-run (% of original cost)	Remarks
	Original	Latest revised			
1	2	3	4	5	6
TOTAL	1529.02	-	1398.52	-	
TAKA	62.71	-	2.03	-	In kind: 53.21 In cash: 9.50
PA	1466.31	-	1396.49	-	

03. Project Personnel:

Sanctioned strength as per PP	Manpower employed during execution	Status of the existing manpower			Manpower Enployed	
		Manpower requirement for O&M as per pp	Existing manpower for O & M	Others		
1	2	3	4	5	Male	Female
Officer (s) : 3	3	-	-	-	2	1
Staff(s) : -	-	-	-	-	-	-
Total : 3	3	-		-	2	1

04. Training of Project Personnel (Foreign/Local) : Not applicable.

Field of Training / Study tour/ workshop/ Seminer etc.	Provision as per PP		Actual		Remarks
	Number of person	Man - months	Number of person	Man - months	
1	2	3	4	5	6

a. Foreign

b. Local

05. Component-wise Progress (As per latest approved TPP):

(In lakh Taka)

Items of work (as per TPP)	Unit	Target (as per TPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
1	2	3	4	5	6	7
(a) Revenue Component						
Allowances (Counterparts) and others **(In kind)**	LS	23.66	LS	-	LS	Expenditure for allowances and others was borne from establishment budget of BWDB.
Other allowances (Facilities for Steering Committee, Technical Committee, Project Management Committee)	LS	1.50	LS	1.035	LS	
International Travels	LS	90.26	LS	90.26	LS	
Office rent, Water and Electricity **(In kind)**	LS	18.50	LS	-	-	Expenditure was borne from establishment budget of BWDB.
Gas and Fuel for DP-II(**In kind 1.00**)	LS	3.50	LS	-	-	
Petrol and lubricant for DP-II(**In kind 1.50**)	LS	3.50	LS	-	-	
Printing and binding (TPP, Documents, reports, booklets, letters etc.)	LS	1.00	LS	0.994	LS	

Items of work (as per TPP)	Unit	Target (as per TPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
Stationary	LS	1.00	LS	-	-	Expenditure was borne from establishmnt budget of BWDB.
Food and Accomodation	LS	126.12	LS	126.12	LS	
Consultancy						
Local	mm	97.11	19.45 mm	97.11	19.45 mm	
Foreign	mm	841.33	42.15mm	841.33	42.15mm	
Contingencies/ others expenditure	LS	311.49	LS	241.67	LS	
Repair & Maintenance of Vehicles (**In kind 1.25**)	LS	2.75	LS	-	-	Expenditure was borne from establishmnt budget of BWDB.
Repair of Computer and Office Equipments (**In kind**)	LS	7.30	LS	-	-	
Total		**1529.02**	-	**1398.52**	-	**53.21 paid as in kind**

06. Information regarding Project Director (s):

Name & Designation with pay Scale.	Full time	Part time	Responsible for more than one project	Date of		Remarks
				Joining	Transfer	
1	2	3	4	5	6	7
Gopal Chandra Sutradhar Director, Planning-II BWDB, Dhaka & Project Director,DWMIB 25750-1000x8-33750	Yes	-	No	18/10/2009 (On 13/11/2013 as Project Director, DWMIB)	29/12/2013	
Md.Kudrat Ali Director, Planning-II BWDB, Dhaka & Project Director,DWMIB 25750-1000x8-33750	Yes	-	No	09/01/2014 (On 04/02/2014 as Project Director, DWMIB)	09/04/2014	

Name & Designation with pay Scale.	Full time	Part time	Responsible for more than one project	Date of		Remarks
				Joining	Transfer	
1	2	3	4	5	6	7
Md. Maqbul Hussain Director, Planning-II BWDB, Dhaka & Project Director,DWMIB 25750-1000x8-33750	Yes	-	No	09/04/2014 (On 11/05/2014 as Project Director, DWMIB)	till date	

07. Procurement of Transport (in Nos.): Not applicable.

Type of transport	Number as per P.P.	Procured with date	Transferred to Transport Pool with date	Transferred to O & M with date	Condemned /damaged with date	Remarks
1	2	3	4	5	6	7
Car	No such procurement has been done.					
Jeep						
Microbus						
Minibus						
Bus						
Pick-up						
Truck						
Motor Cycle						
By-cycle						
Speed Boat						
Launch						
Others with name						

08. Procurement of Goods, Works and Consultancy Services: Not applicable.

08.1 Goods & Works of the Project costing above Tk. 200.00 lakh. and Consultancy above Tk. 100.00 lakh :

Description of procurement (goods/works /consultancy) as per bid document	Tender/Bid/Proposal Cost (in crore Taka)		Tender/Bid/Proposal		Date of completion of works/services and supply of goods	
	As per PP	Contracted value	Invitation date	Contract signing/ L.C opening date	As per contract	Actual
1	2	3	4	5	6	7
No such procurement has been done.						

8.2 Use of Project Consultant (s) (Foreign/Local):

Name of the Field	Approved man month		Actual man month utilised	Remarks
	As per PP	As per contract		
1	2	3	4	5
(a) Foreign	42.15	42.15	42.15	
(b) Local	19.45	19.45	19.45	

09. Construction/Erection/Installation Tools & Equipment: Not applicable.

Description of items	Quantity (as per PP)	Quantity procured with date	Transferred to O & M with date	Disposed off as per rule with date	Balance	Remarks
1	2	3	4	5	6	7

C. FINANCIAL AND PHYSICAL PROGRAMME :

01. (a) Original and revised schedule as per TPP :

(In lakh Taka)

Financial Year	Financial provision & physical target as per original TPP				Financial provision & physical target as per latest revised TPP			
	Total	Taka	P.A.	Physical %	Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9
2012-13	611.61	25.08	586.52	40%	-	-	-	
2013-14	917.41	37.63	879.79	60%	-	-	-	-
Total	**1529.02**	**62.71**	**1466.31**	**100%**	-	-	-	-

01. (b) Revised ADP allocation and progress :

(In lakh Taka)

Financial Year	Revised Allocation & target				Taka release	Expenditure & physical progress			
	Total	Taka	P.A.	Physical %		Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9	10
2012-13	-	-	-	-	-	-	-	-	-
2013-14	1258.00	2.00	1256.00	82	2.00	1257.88	1.04	1256.84	82
2014-15	212.00	1.00	211.00	18	1.00	140.64	0.99	139.65	18

N.B: PA: 1466.31, DPA: 1466.31, RPA: 0.00

D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT:

Objectives as per TPP	Actual achievement	Reasons for shortfall, if any
Specific Objectives were -		
The main objectives of the project are: • Reinforcement of around 200 km dikes around Bhola • Disaster Risk Reduction integrated dike monitoring and flood warning systems • Building of cross dams to accelerate land accretion • Training of local operators and institutional embedding of maintenance and operation.	On the basis of the assessment of current situation in Bhola, the Feasibility Study reports recommended to change the objectives of the Project to: • Construction of bank protection work • Improvement of existing infrastructures (embankments and hydraulic structure) • Installation and commissioning of Erosion Early Warning System (EEWS) including supply of Sonar equipment for monitoring.	
The objectives of the development phase are: • Final analysis of the current flood protection in Bhola and adjacent islands • Development of solution scenario's • Mathematical modelling of physical measures/scenario's • Report on environmental and social impact per scenario • Selection of the most realistic scenario's • Cost estimates and financial and economical evaluation • Selection of one scenario to be implemented • Detailed plan on the implementation of the selected scenario • Insight in needed permits, rules and regulations regarding the infrastructure and the dike monitoring and flood early warning system and the integration with command and control functions and connectivity between government offices and central command and control • Feasible financial plan to operate and maintain the structures • Financial structure secured and in place to finance the implementation phase • Tender/procurement plan on which the implementation phase can be internationally procured.	All objectives of the Development Phase have been attained successfully.	

E. BENEFIT ANALYSIS

01. Annual Out-put: Not applicable.

Items of out-put	Unit	Estimated quantity expected at full capacity	Actual quantity of out-put during the 1st year of operation at full capacity (or during, real production for newly completed project).
(a) (b) (c) (d)			

02. Cost / Benefit : Not applicable.

Item	Estimated	Actual
(1) Benefit cost ratio of the project (i) Financial (ii) Economic (2) Internal Rate of Return (i) Financial (ii) Economic		

03. Please give reasons for shortfall, if any, between the estimated and actual benefit:

Not Applicable.

F. MONITORING AND AUDITING

0.1 Monitoring:

Name & designation of the inspecting official	Date of Inspection	Identified Problems	Recommendations
1	2	3	4

(a) **Ministry / Agency: Not yet conducted.**
(b) **IMED : Not yet conducted.**
(c) **Others: Not yet conducted**

0.2. Auditing during and after Implementation:

2.1. Internal Audit: Not yet conducted.

Period of Audit	Date of submission of Audit Report	Major findings/ objections	Whether objections resolved or not.
1	2	3	4

2.2. External Audit: Not yet conducted.

Audit period	Date of submission of Audit Report	Major findings/ objections	Whether objections resolved or not.
1	2	3	4

G. DESCRIPTIVE REPORT

1. General Observations/Remarks of the Project on :

1.1 Background

After Cyclone Sidr and Aila, the Emergency Cyclone Recovery and Restoration Project (ECRRP) carried out a Multi Criteria Analysis (MCA) to rank the polders in coastal area in order to the urgency of rehabilitation. From the analysis out of 123 polders, the Bhola island which is known as Polder 56/57 ranked number 1 in terms of importance and need for rehabilitation. But the cost for this polder exceeded the ceiling set by the World Bank for expenditures in each polder and therefore did not qualify the project to be included in the priority list. Meanwhile, the Netherlands Government has taken up the project through ORIO grant. ORIO means Facility for Infrastructure Development. According to the ORIO grant policy for Bangladesh, the maximum project cost is € 60 million for Development Phase (Feasibility Study), Implementation and Maintenance phase; where ORIO program provides 100% grant to carry out the Development Phase and finances 50% grant for the Implementation and Maintenance phase.

For this project, the Netherlands Government has provided US$ 1.81 Million (€ 1.36 Million) for the Development phase and offered US$ 30.56 Million (€ 22.98 Million) for the Implementation and Maintenance phase through ORIO grant with a condition that Bangladesh Government should manage another US$ 30.56 Million (€ 22.98 Million) from other Development Partner or GoB itself for Non ORIO part whereas the total project costs for 3 (three) phases US$ 62.93 Million (€ 47.32 Million).

1.2 Justification/Adequacy

River bank erosion has become threatening in Bhola Island and it is identified as the mother of all problems in the project area. From the assessment of current situation of the Project area and consultation with stakeholders in feasibility study phase, it is found that any rehabilitation of existing infrastructure can only be effective if the erosion of the adjacent foreshore is halted. Moreover, the river erosion leads to disruption of the island society and endangers the future of the island. To ensure a future for the Island as a whole, river erosion has to be countered. The above reasons have led the project as one of the most priority projects in Bangladesh.

1.3 Objectives

The initial ORIO application proposed technology segmented in three different areas: Embankment rehabilitation and reinforcement, Flood early warning system and Building of cross dams. During the Inception phase and the subsequent Assessment phase of this project, a thorough analysis of the situation made it clear that the river morphology at Bhola, in particular along its East coast was of a magnitude requiring major civil works to address the aspect of 'reinforcing embankments'. It also became clear that only rehabilitating embankments would just provide a temporary solution, because the river bank erosion would not be stopped by an embankment but devour it within a few years. The BWDB O&M Divisions on Bhola are very much aware of this and do not invest in construction of embankments where there is no river bank protection in place, breached embankment are only repaired provisionally just to keep most of the monsoon floods out, which leads to a precarious and insecure situation for most of Bhola's inhabitants. Together with BWDB staff, Public Administration Officials and other stakeholders it was concluded that river bank protection should be given the highest priority –

without a proper river bank protection an embankment is not safe and investing in embankment construction and other water management infrastructure a waste of resources. Another complicating factor is that riverbank protection works alone do not generate that much economic benefits; it mainly creates sustainable conditions for investing in embankment rehabilitation that is the main driver for further economic development. Hence a combination of river bank protection and embankment rehabilitation would be necessary to achieve economic feasibility. As the per-kilometer-cost of bank protection works is a multiple of that for embankment construction (35-75 times higher) the available budget would not be enough to protect the whole eastern shoreline of Bhola. Therefore a Multi-criteria Analysis was carried out to select the location with the highest priority for the intervention that could be realized within the available budget. Two areas came out of this analysis: Location 1 from chainage 0.00-6.014 km in the North-East of Bhola Island near Elisha ghat and Location 4 from chainage 29.462-39.00 km on the East Coast of Bhola near Dalautkhan, for both of which preliminary designs and cost estimates have been prepared. Although Location 4 had been ranked with the highest priority, the costs proved to be prohibitively high and Location 1 has been selected for implementation.

This deviation from the initial application also affected the planned Flood Early Warning System (FEWS). As the requirements of the project gradually became clearer, the system was redefined to become an Erosion Early Warning System (EEWS), i.e. focusing on erosion monitoring and early warning, and the corresponding monitoring technologies were adapted. Such a system has a very high relevance as river bank protection works regularly suffer severe damage because deterioration of the bank protection under water is not timely detected until the protection works completely collapse. The EEWS would detect the start of erosion at the underwater toe of the bank protection when there is still ample time to take remedial measures to prevent total collapse of the bank protection works.

During the period between project formulation and the start of the Development Phase of the project the construction of cross dams at the most promising locations to the south of Bhola had been initiated. While preparing this ORIO Project the two priority cross dams across the Char Montaz and Mainka channels respectively, had already been designed and tendered out of which Char Montaz cross dam has already been constructed and Char Mainka cross dam is under process . Construction of the cross dams next on the priority list are estimated not to be feasible as the channels are very wide and deep with considerable flow velocities. All stakeholders on Bhola Island were unanimously in favour of constructing high priority river bank protection works rather than low priority cross dams. The plan to construct cross dams was thus dropped also because it would be an activity to the south of Bhola completely unrelated to the activity of bank protection with an embankment in the north east and the associated EEWS.

1.4. Project revision with reasons: Not applicable.

2. Rationale of the project in respect of Concept, Design, Location and Timing.

Bhola Island is the largest island in the delta of Bangladesh having key economic asset such as Shahbajpur Gas Field which reserves 400 bcf gas with approximate financial value BDT 400000 lakh, 225 MW Power Plant which construction is going on with project cost BDT 200014.694 lakh etc. Almost 27% of the Hilsa in Bangladesh is captured and exported from Bhola Island. The catch is estimated at 1.2 lac ton of Hilsa in Bhola in a year. Every year thousands of people lose their houses, land and livelihoods when their land is swallowed by the Meghna River as the strong currents continue to erode the island's eastern coastline devouring fertile land at a rate of about 5-10 km^2 annually. Besides loss of land and assets, also many embankments and sluices are destroyed which causes even more damage to the island due to extensive flooding of the hinterland. When erosion is halted and chance of flooding is decreased, the overall living conditions and economic stability increased significantly. People will experience a more secure future and be more inclined to invest in their means of income and food, quality of life (housing) and in social services like schooling, improvement of livelihood for this generation and the generations to come. Indirect benefits will likely arise with improved employment opportunities in agriculture and processing, trading and transportation of products. Another important benefit is that an increase in the number of erosion victims (and therewith the number of landless households) will be less than without the project.

3. Brief description on planning and financing of the project and its applicability: Not applicable.

- Project Identification
- Project Preparation
- Appraisal
- Credit Negotiation
- Credit Agreement
- Credit Effectiveness
- Loan Disbursement
- Loan Conditionalities
- Project Approval.
- Others (if any).

4. <u>Analysis of the Post-Implementation situation and result of the project</u> : Not applicable.

4.1 Whether the beneficiaries of the project have clear knowledge about the Target/ Objectives of the project.
4.2 Programme for use of created-facilities of the project
4.3 O & M programme of the project.
4.4 Impact of the project -
4.4.1 Direct
4.4.2 Indirect
4.5 Transfer of Technology and Institutional Building through the project
4.6 Employment generation through the project.
4.7 Possibility of Self employment
4.8 Possibility of women-employment opportunity
4.9 Women's participation in development
4.10 Probable Impact on Socio-Economic activity.
4.11 Impact on environment

4.12 Sustainability of the project

4.13 Contribution to poverty alleviation/reduction
4.14 Opinion of the public representatives, local elite, local administration, teachers, religious leaders, women's representatives etc.
4.15 Contribution of Micro-credit programmes and Comments on overlapping with any NGO activities.

5. Problems encountered during Implementation (with duration & steps taken to remove those): Not applicable.

5.1 Project Management
5.2 Project Director
5.3 Land Acquisition
5.4 Procurement
5.5 Consultancy
5.6 Contractor
5.7 Manpower
5.8 law & Order
5.9 Natural clamity
5.10 Project financing, allocation and release
5.11 Design formulation/approval
5.12 Project aid disbursement and re-imbursment
5.13 Mission of the development partners.
5.14 Time & Cost Over-run
5.15 Project Supervision/Inspection
5.16 Delay in Decision
5.17 Transport
5.18 Training
5.19 Approval
5.20 Others.

6. Remarks & Recommendations of the Project Director:

The Project is Development Phase of Water Management Infrastructure in Bhola District which aims to protect the citizens of Bhola against flooding, salinity and loss of land due to rise in water level, river flow, river erosion and seasonal typhoons. During this phase, Feasibility Study along with mathematical modeling of physical measures, final analysis of the current flood pattern, the protection in Bhola islands have been completed. This phase also includes selection of implementation scenarios, detailed planning of Implementation, preparation of procurement plan, feasible financial planning of Implementaton and O&M etc.The final study report has been approved by Director General, BWDB, Dhaka on 03 March 2015. On the basis of the study report, a DPP for the Implementation and O&M Phase has been prepared and sent to the MoWR on 08 April 2015 for further processing. MoWR recommended to resubmit the DPP after getting the exact grant amount from ORIO. Appraisal on Project Plan is going on by the ORIO at Hague, Netherlands. After completion of the appraisal and approval of DPP, the Grant Arrangement is planned to be signed between GoB and GoN.

(মোঃ মকবুল হোসেন)
পরিচালক
পরিকল্পনা-২
বাপাউবো, ঢাকা।

Date : 29.06.22 **Signature and seal of the Project Director/Manager**

7. Remarks/Comments of Agency Head

The study report of "Development Phase of Water Management Infrastructure in Bhola District (DWMIB)" has been approved by BWDB. On the basis of the study report, a DPP of an investment program for implementation and O&M phase of the project has been processed for approval.

28/2/2022

Date : .....

Signature and Seal

(MD. ISMAIL HOSSAIN)
Director General
BWDB, Dhaka.

8. Remarks/Comments of the officer in- charge of the Ministry/Division

Date :

Signature and Seal