

**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 : Feasibility study of pilot program of  
Land reclamation from Bay of Bengal  
By Engineering and Biological Interventions.
02. Administrative Ministry/Division : Ministry of Water Resources,
03. Executing Agency : Bangladesh Water Development Board. (BWDB)
04. Location of the Project : The projects area start from the lower Meghna  
down from Chandpur covering the whole estuary  
Char and surrounding tidal mudflat areas of near  
Shore and off shore shallow area of Bay of Bangle

05. Objective of the Project :

The objective of the study is to identify the appropriate methodology and technology and technique for accelerated land reclamation from the cost of Bay of Bengal by means of Engineering and Biological Intervention to cope up with the acute need of new land for the country.

06. Estimated Cost :

(In lakh Taka)

	Original	Latest Revised
(a) Total	181.31	181.31
(b) Taka	181.31	181.31
(c) Foreign Currency	-	-
(d) Project Aid	-	-
(e) RPA	-	-

07. Date of Approval :

PCP	PP
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(a) Original : 19/10/2005

(b) Latest Revised : 28/8/2009

08. Implementation Period :

	Date of Commencement	Date of Completion
(a) Original	July 2005	June 2007
(b) Latest Revised	July 2005	June 2009
(c) Actual	July 2005	June 2009

09. Financing Arrangement (Source-wise):

9.1 Status of Loan/Grant

a) Foreign Financing :

Source (s)	Currency as per Agreement	Amount in US \$ (Million)	Nature (Loan/Grant/supplier's/credit)	Date of Agreement	Date of Effective -ness	Date of Closing	
						Original	Revised
1	2	3	4	5	6	7	8

Not Applicable

b) GOB:

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
181.31	-	-	

9.2 Utilization of Project Aid: (Source wise)

(In million)

Source (s)	Total Amount		Actual Expenditure		Unutilized Amount	
	In US \$	In Local Currency	In US \$	In Local Currency	In US \$	In Local Currency
1	2	3	4	5	6	7
GOB		BDT		BDT		BDT
Not applicable						

9.3 Re-imburseable Project Aid (RPA):

(In lakh Taka)

R P A Amount		Amount Spent	Amount Claimed	Amount Re-imbursed	Remarks
As per PP	As per Agreement				
1	2	3	4	5	6
Not Applicable					

## B. IMPLEMENTATION POSITION

### 01. Implementation Period:

Implementation Period as per PP		Actual Implementation period	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
1	2	3	4	5
July 2005 to Jun 2007	July 2005 to Jun 2009	July 2005 to Jun 2009	100%	

### 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	181.31	181.31	167.91	-	
TAKA	181.31	181.31	167.91	-	
PA	-	-	-	-	

### 03. Project Personnel:

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

### 04. Training of Project Personnel (Foreign/Local) :

Field of Training /Study tour/workshop/ Seminar 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 : Not Applicable

b. Local: Not Applicable





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

(In lakh Taka)

Items of work (as per PP)	Unit	Target (as per PP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
1	2	3	4	5	6	7
Local consultant	person-month	76.23	87 person-month	78.66	87 person-month	As per quoted rate of the consultant
Office Stationary printers etc for PMU-ESPP and SSD, BWDB	LS	0.80	LS	0.25	-	-
Survey investigation and detail survey	LS	56.20	LS	45.00	LS	As per quoted rate of the consultant
Mathematical Model study	LS	43.66	LS	44.00	LS	
Overhead @2.5%	2.5%	4.42	LS	0	-	
<b>Total</b>		<b>181.31</b>		<b>167.91</b>	-	

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
Mr Md. Habibur Rahman	Yes	-	Yes	19-04-2001	06-08-2005	
Md Abdul Wadud Bhuiyan	Yes	-	Yes	06-08-2005	09-12-2007	
G.M Shamsur Rahman	Yes	-	Yes	09-12-2007	--	

07. Procurement of Transport (in Nos.) :

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	Not Applicable					
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:

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
Consultancy	181.31	167.66	19-04-2006	26-02-2007	March '09	March '09

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 : Not Applicable
- b) Local : 87.00 M.M 87.00 M.M

09. Construction/Erection/Installation Tools & Equipment:

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
Not Applicable						

C. FINANCIAL AND PHYSICAL PROGRAMME:

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

(In lakh Taka)

Financial Year	Financial provision & physical target as per original PP				Financial provision & physical target as per latest revised PP			
	Total	Taka	P.A.	Physical %	Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9
2005-2006	181.31	181.31		100%	-	-		-
2006-2007								
2007-2008	-	-		-	181.31	181.31	-	100%
2008-2009								

01. (b) Revised ADP allocation and progress :

(In lakh Taka)

Financial Year	Revised Allocation & target				Taka relea se	Expenditure & physical progress			
	Total	Taka	P.A.	Physical %		Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9	10
2005-06	1.0	1.0		-	-	-	-		-
2006-07	100.0	100.0		15%	28.60	16.77	16.77		15%
2007-08	90.0	90.0		49%	90.0	90.00	90.00		49%
2008-09	70.0	70.0		36%	70.0	61.14	61.14		36%
Total				100%		167.91	167.91		100%

**D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT:**

Objectives as per PP	Actual achievement	Reasons for shortfall, if any
(a) The objective of the study is to identify the appropriate methodology and technology and technique for accelerated land reclamation from the cost of Bay of Bengal by means of Engineering And biological Intervention to cope up with the acute need of new land for the country.	Feasibility study submitted as per ToR and Contract	Not applicable
(b)		
(c)		
(d)		



## E. BENEFIT ANALYSIS

### 01. Annual Out-put:

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)			Study project
(d)			Not applicable

### 02. Cost / Benefit :

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:

## 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:





(b) IMED :

(c) Others: (Please specify)

**0.2. Auditing during and after Implementation:**

**2.1. Internal Audit:**

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:**

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**

Bangladesh Water Development Board has been entrusted with the task of managing the water resources of the country and the estuary in terms of studies, implementation and operation & maintenance of water resources development projects including land reclamation. Land Reclamation Project (LRP) started its function in terms of Hydrographic Survey and Study in the Coastal area of Bangladesh and the Netherlands, in recognition of the two distinct approaches decided to continue the LRP Project under two separate projects namely (i) Char Development and Settlement Project (Land based) and (ii) Meghna Estuary Study (Water based). Char Development and Settlement Project Phase-I started in 1994 and completed in 1999. Char Development and Settlement Project Phase-II commenced in 1999-2000 and it is still continued. Meghna Estuary Study (MES) project commenced in 1995 under the financial assistance of the Netherlands, Denmark and Bangladesh. The Project extensively studied the Meghna Estuary bathymetry and dischargement, a two dimensional Model study, Morphological Study, EIA studies, study on impact on Agro-fishery and formulate the "Draft Master plan" and "Draft Development Plan" for the estuary. The project was ended in July 2002. Till to date the survey and study activities are being continued through the Survey and Study Division (SSD) under the direct guidance of the Directorate of Project Management Unit- Estuary Study Pilot Project (PMU-ESPP) and the Chief Planning, BWDB.



Afterwards a new 5 years program namely Estuary Development Program (EDP) has been approved by GoB to continue the marine survey, investigation and design of potential cross-dams and investigation & implementation of potential erosion control and accelerated land accretion schemes. The project is going to be started during this current year.

Meanwhile a project named "Pilot Program of Land Reclamation from Bay of Bengal by Engineering and Biological Project" has been included in the ADP of 2004-2005. The MoWR vide memo no. MoWR/Plan-5(12)/2004/152 date 04-07-2004 requested to prepare a PC-II for the proposed project.

The concept of Land Reclamation from the Sea or Coastal area combinedly by Engineering and Biological intervention is new from BWDB and even for Bangladesh. But some South-East Asian and North European countries are adapting this process/approach on pilot basis for coastline development. In Indonesia a case study on Jakarta Bay had been done, where an assessment was made for reclamation of area for beach by sand filling from the bottom of Sea/estuary through dredging. In Germany artificial sedimentation fields in the coastal forelands and salt marshes are studied considering ecological aspects. In north seacoast of Germany brushwood fences in combination with a regular drainage system was installed in sedimentation field for Land Reclamation. Special types of soil tolerant plants are planted to protect the salt marshes and their forelying mud flats.

Malaysia and Korea also had some investigation program on Tide/Coastal Land Reclamation in West Coast of Korea and West Coast of Malaysia respectively. The process of these types of reclamation is needed to be studied for appropriate implementation in Bangladesh.

Our Coastline stretching about 710 km from west to east. At our coast, the Bay is bordered by a continental shelf. The shelf is about 300 km wide. The slope is gradual, averaging 1:800. About 18,000 km<sup>2</sup> underwater delta area of the Ganges-Brahmaputra-Meghna rivers is less than 12 metres deep much of the sediment that escapes the Meghna Estuary is deposited here. In this zone total 69 inlands are recognized 9 located in the sea, 49 in the estuary and 11 in coastal rivers. In addition, 65 char lands (attached to main lands) are also indentified so far. Tidal foreland in and around these chars and inlands and shoreline could be the potential locations for land reclamation by pilot Engineering and Biological intervention.

Based on the concept of South-Asian countries the PC-II for land reclamation Pilot-Program through Engineering and Biological intervention has been formulated. Under the guidance of Chief Planning, the Directorate of PUM-ESPP and Survey & Study Division of BWDB with their professional skill will co-ordinate & monitor the study.

### **1.2 Justification/Adequacy**

The projects Area start from the lower Meghna of Chandpur covering the Whole estuary Char and surrounding tidal mudflats areas of near Shore and off shore shallow area of Bay of Bengal.

### **1.3 Objectives**

The objective of the study is to identify the appropriate methodology and technology and technique for accelerated land reclamation from the coast of Bay of Bengal by means of Engineering and Biological Intervention to cope up with the acute need of new land for the country.

### **1.4 Project revision with reasons**

First revision was done due to the lapse (about 16 months) of the deployment process of the local consultant.



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

Bangladesh is a densely populated country. Despite continuous domestic and international efforts to improve economic and demographic prospects, Bangladesh remains a developing nation. Its per capita income in 2006 was US\$1400 (adjusted by purchasing power parity) compared to the world average of \$10,200. Obstacles to growth include frequent cyclones and floods, inefficient state-owned enterprises, mismanaged port facilities, a growth in the labour force that has outpaced jobs, inefficient use of energy resources (such as natural gas), insufficient power supplies, slow implementation of economic reforms, political infighting and corruption. Despite these hurdles, the country has achieved an average annual growth rate of 5% since 1990, according to the World Bank.

Poverty index indicates about forty percent of the people live below poverty. Land pressure is tremendous. Per capita land is reducing day to day with increase of population. Geomorphology of Bangladesh represents the complexities of natural phenomenon of three mighty rivers. With this scenario to enhance the GDP we should have to increase domestic products. Agro-economy has influence on national economy which is more than fifty percent. It can be easily envisaged that land have to be reclaimed for settlement and agro-product for food security. Food security becomes a panic scenario in all over the country.

Therefore land reclamation in Bangladesh not only strategy of development but also the heart and soul struggle for existence of Bangladesh a state of the nation as well as international sea economical activities.

Efforts given to roll-over criteria such as erosion control, vegetative criteria and it leads ultimately final criteria into ground cover and ecological functions and vegetative criteria.

Techniques and methodologies selected for this study and options sorted out for engineering and biological and in combination of both are treated as the best tools for reclaiming the land from Bay of Bengal as the study affirm it and gives the imperative initially only three representative pilot areas which have been selected on priority basis considering the criteria of identification.

## **3. Brief description on planning and financing of the project and its applicability.**

- ◆ Project Identification
- ◆ Project Preparation
- ◆ Appraisal
- ◆ Credit Negotiation N/A
- ◆ Credit Agreement N/A
- ◆ Credit Effectiveness N/A
- ◆ Loan Disbursement N/A
- ◆ Loan Conditionalities N/A
- ◆ Project Approval. The project has been approved by the Minister in charge of the Planning and Finance on 09-10-2005.
- ◆ Others (if any). ---





4. Analysis of the Post-Implementation situation and result of the project :

- 4.1 Whether the beneficiaries of the project have clear knowledge about the Target/ Objectives of the project. Yes
- 4.2 Programme for use of created-facilities of the project No Program
- 4.3 O & M programme of the project. N/A
- 4.4 Impact of the project – No Impact
  - 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.

Not applicable since it is a study project

5. *Problems encountered during Implementation (with duration & steps taken to remove those)*

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

6. Remarks & Recommendations of the Project Director:

Feasibility study of the project has been successfully completed and a DPP may be submitted to the competent authority for implementation of the proposed options as pilot project.

Date : 27 July 2009

  
(G. M. Shamsur Rahman)  
Director  
PMU-ESPP  
Signature and Seal of the Project Director/Manager

7. Remarks/Comments of Agency Head

Date : .....

Signature and Seal

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

Date :

Signature and Seal