

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



PROJECT COMPLETION REPORT

IMED 04/2003 (Revised)

Name of the Project : Protection of Coast Guard Station
of the Sangu River at Raipur,
Anowara, Chittagong.

Chittagong O&M Division-1
BWDB, Chittagong.

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 | : Protection of Coast Guard Station from erosion of the Sangu River at Raipur, Anowara, Chittagong. |
| 02. Administrative Ministry/Division | : Ministry of Water Resources |
| 03. Executing Agency | : Bangladesh Water Development Board. |
| 04. Location of the Project | : Fakirhat, UP Raipur, UZ Anowara Dist. Chittagong. |
| 05. Objective of the Project | :
The main objective of the project is to protect Coast Guard Station (CGS) from the erosion of Sangu river at Raipur union of Anowara Upazila in Chittagong district. Moreover the project will control the flash flood, improve drainage system, prevent saline water intrusion, protect monsoon crops & increase food production, save valuable cultivable lands, academic institutions, roads, infrastructures, homesteads and other public as well as Govt. properties lying within 6500 ha project area. |

Coast Guard is an important part of Ministry of Home Affairs which is playing a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu, which serves the above purpose. So it should be protected immediately for the greater interest of the Country.

06. Estimated Cost

:

(In lakh Taka)

	Original	Latest Revised
(a) Total	891.68	975.12
(b) Taka	891.68	975.12
(c) Foreign Currency	-	-
(d) Project Aid	-	-
(e) RPA	-	-

07. Date of Approval

:	PCP	PP
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(a) Original : - 24-10-2007

(b) Latest Revised : - 17-05-2009

08. Implementation Period

:

	Date of Commencement	Date of Completion
(a) Original	July 2007	June 2009
(b) Latest Revised	July 2007	June 2010
(c) Actual	July 2007	June 2010

09. Financing Arrangement (Source-wise) :

9.1 Status of Loan/Grant

a) Foreign Financing : N/A

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

b) GOB :

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4

975.12

-

975.12

9.2 Utilization of Project Aid : (Source wise) N/A

(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

9.3 Re-imbursible Project Aid (RPA): N/A

(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

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 2007-June 2009	July 2007-June 2010	July 2007-June 2010	50%	

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	891.68	975.12	972.61	9.08%	
TAKA	891.68	975.12	972.61	9.08%	
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)	5	-	5	-	5	
Staff(s)	8	-	8	-	8	
Total :	13	-	13	-	13	

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

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

b. Local

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

Items of work (as per PP)	Unit	Target (as per PP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
		3	4	5	6	
1	2	3	4	5	6	7
1. Survey & Investigation	L.S	1.00	L.S	0.71	L.S	
2. Fuel and Lubricant	L.S	1.00	L.S	0.95	L.S	
3. Stationary	L.S	1.00	L.S	0.91	L.S	
4. Repair of Transport and Vehicle	L.S	2.00	L.S	1.98	L.S	
5. Protection work	m	970.12	850 m.	968.06	850 m.	

(In lakh Taka)

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
Md. Mahabubur Rahman Executive Engineer, Tk. 22250-900x10- 31250	Yes	-	-	04-11-2007	15-09-2008	
Md.Ashraf Jamal Executive Engineer, Tk. 22250-900x10- 31250	Yes	-	-	15-09-2008	18-11-2008	
Amanullah Executive Engineer, Tk. 22250-900x10- 31250	Yes	-	-	18-11-2008	-	

07. Procurement of Transport (in Nos.) :N/A

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						
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: N/A

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
Bank Protective work from Km 30.550 to Km 30.916 =366.0 m along the right bank of Sangu River in UZ.Anowara, Dist.Chittagong	443.34	430.91	24-11-07	19-02-08	31-01-09	31-12-09
Bank Protective work from Km 30.916 to Km 31.310 =394.0 m along the right bank of Sangu River in UZ.Anowara, Dist.Chittagong	443.34	429.71	24-11-07	19-02-08	31-01-09	30-04-09

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

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 :

b) Local :

09. Construction/Erection/Installation Tools & Equipment : N/A.

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 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
2007-2008	446.34	446.34	-	50.056	378.79	378.79	-	38.85
2008-2009	445.34	445.34	-	49.944	486.34	486.34	-	49.87
2009-2010	-	-	-	-	109.99	109.99	-	11.28

(In lakh Taka)

(In lakh Taka)

[illegible]

D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT :

Objectives as per PP	Actual achievement	Reasons for shortfall, if any
(a) The main objective of the project is to protect Coast Guard Station (CGS) from the erosion of Sangu river at Raipur union of Anowara Upazila in Chittagong district. Moreover the project will control the flush flood, improve drainage system, prevent saline water intrusion, protect monsoon crops & increase food production, save valuable cultivable lands, academic institutions, roads, infrastructures, homesteads and other public as well as Govt. properties lying within 6500 ha project area.	Due to implementation of the river bank protection work on the right bank of Sangu river the in time Raipur union of UZ Anowara, Dist. Chittagong has been saved from severe erosion of the river lying at the concave bend. Otherwise it could devour huge quantity of land countryside causing agony for the people for ever. The most positive impact is that the socio-economic scenario has been changed. People living inside are now more secure and are now protected from flash flood, saline water intrusion, saving this valuable cultivable lands home stead, cyclone shelters, school, roads & others infrastructures. The land cost has been increased in the protected reach and river erosion laden migration has been stopped.	
(b) Coast Guard is an important part of Ministry of Home Affairs which is playing a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu, which serves the above purpose. So it should be protected immediately for the greater interest of the Country.	The Coast Guard Station, which is near in completion, is now well protected from river erosion and now could play a vital role of controlling piracy, smuggling, robbery and overall law & order situation of this coastal area.	

E. BENEFIT ANALYSIS

01. Annual Out-put: This a bank protection project. In this service type project the non-tangible benefits cannot be quantified.

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)			This project has attained the following benefits/ targets : - The project area has been provided. with tidal flood protection & erosion mitigation facilities against sea wave action. - It has ensured security of lives and properties from natural disasters. - Empolyment opportunities have been generated during construction period. Also better employment access in agriculture & other sectors has been enhanced.
(b)			
(c)			
(d)			

02. Cost / Benefit :

Item	Estimated	Actual
(1) Benefit cost ratio of the project		The project has just been completed. So, the BCR & IRR of the project will be calculated later on after years in operation /completion of the project .
(i) Financial	1.30 : 1.00	
(ii) Economic	1.65 : 1.00	
(2) Internal Rate of Return		
(i) Financial	16.25%	
(ii) Economic	21.01%	

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) <u>Ministry/Agency</u> :			
(b) <u>IMED</u> : -Mr.Doyananda Debnath DD, IMED	25-10-2008	i) The embankment of the proposed RBP work has been washed away and proposed coast guard building has not yet been constructed. ii) The issuance of the work order after washing out of the embkt due to cidr is not clear.	i) The implementation of the work is not justified to be continued. ii) The justification of issuance of the work order should be looked in to by the Ministry of Water Resources.
-Do-	24-07-2010		
(c) <u>Others:</u> (Please specify) -Md.Azizul Haque, Chief Engineer,SEZ & Mahboobur Rahman, Superintending Engineer	19-01-2009 25-03-2009	The stockpile of construction materials seems inadequate .	The stockpile of construction materials should be increased so that it does not hamper the progress.
Md.Abdul Mannan, Chief Engineer,SEZ & Mahboobur Rahman, Superintending Engineer	29-01-10	Expedite the work so as to complete the work in stipulated time.	To increase the monitoring of the work activity schedule.
Md. Aman Ullah, Superintending Engineer	22-04-10	The progress of earthwork is slow.	Engage more labour to complete the work
-Do-	10-06-10		

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
2007-08	23-3-2009	N/A	N/A
2008-09	11-05-2010	N/A	N/A

G. DESCRIPTIVE REPORT

1. General Observations/Remarks of the Project on :

1.1 Background

The project is located in Fakirhat area of Raipur union of Anowara Upazilla of Chittagong District. The Coast Guard regional station has been set up in this location at the right bank of the Sangu river. The location is a very strategic one in terms of the nature and the importance of the activities of the Coast Guard Forces. The outfall of the Sangu river into the Bay of Bengal is only about two kilometers from this location.

Bangladesh Coast Guard (BCG) has been strengthened in consideration to ensure security coastal area against piracy, robbery, smuggling, etc. as well as to restore security of local dwellers. The operational programme of Coast Guard has already been sustained through establishing 8 nos stations under 3 major Base. Location of these stations has been set up in consideration for easy as well as speedy navigation of water crafts and for observation on smuggled water crafts. The Coast Guard Sangu station (CGS) has been established on about 14.96 acres of land adjacent to Sangu River outfall at Raipur mouza under Anowara P/S in Chittagong District. Strategically this station is much significant with regards to its operational status for prevention of sea robbery and smuggling. The Coast Guard station which was vulnerable due to severity of erosion of the Sangu river has been saved by the implementation of the bank protection work.

1.2 Justification/Adequacy

Coast Guard is an important part of Ministry of Home Affairs which is playing a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu which serves the above purpose. So it should be protected immediately for the greater interest of the Country.

The Coast Guard Authority requested BWDB vide their memo no. CG/ME-214/13/1994 dated 31-05-2006 in reference with the Ministry of Home affairs (Memo no: Sha: Ma: Pari- 71/2002/120 dated 13-03-2006) to take appropriate measure to protect the Coast Guard Station and to prepare an estimate in this regard. As per their request an estimate has been prepared and submitted accordingly. However, Director General of BWDB has instructed field authority to prepare and submit a DPP. Later on the Secretary of the Ministry of the Home Affairs requested to take immediate measure to protect the Coast Guard's Sangu Station at Anowara, Chitagon in his D.O. letter to the Secretary of the Ministry of Water Resources vide Memo No.: Sha: Ma: (Sea-1)/Coga/Bibidha-1/95 (Part)/294 dated 15/11/2006. This DPP and RDPP has been prepared accordingly and submitted for government's approval. With a view to achieve the objective of the project the project has been implemented.

Cost of the project has been effective with tertiary socio-economic enhancement that will be targeted to be achieved against the said investment of the project (Tk.975.12 lakh). The protection works will help to stable and functioning of Coast Guard Station for achieving designed objectives. Huge immovable properties along the vicinity of erosion prone area which are supposed to be engulfed / damaged worth Tk. 5000.00 lakh at current market price has been saved from threat of severe river bank erosion and wave action in addition to the prevention of saline water intrusion, erosion control and drainage improvement thus ensuring a safe living and development environment in the project area as against proposed investment cost. The cost of the method (revetment) of erosion protection is comparatively less than the other practiced method (i.e., Spur, Groygne, etc)

1.3 Objectives

The main objective of the project is to protect Coast Guard Station (CGS) from the erosion of Sangu river at Raipur union of Anowara Upazilla in Chittagong district. Moreover the project will control the flush flood, improve drainage system, prevent saline water intrusion, protect monsoon crops & increase food production, save valuable cultivable lands, academic institutions, roads, infrastructures, homesteads and other public as well as Govt. properties lying within 6500 ha project area.

Coast Guard is an important part of Ministry of Home Affairs which is playing a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu, which serves the above purpose. So it should be protected immediately for the greater interest of the Country.

1.4 Project revision with reasons

In the space of time between the DPP approval and actual implementation of work, serious bank erosion took place in the vicinity of the site due to flood and successive tidal surge & cyclone (Nargis & Reshmi) causing morphological change of the river Sangu.

Moreover, the portion of embankment which was left out near the river bank then washed away by the river. In this changed situation, new cross-section was taken and sent to the design office. The design Engineers from Design Circle-IV visited the site and formulated a revised design of the river bank protection work of length 850m. (Design No- DC-IV/1819 Date- 18-10-2007).

According to this revised design, the estimate of the river bank protection work for length 850 meter comes to Tk. 975.12 lakh. But to keep the cost within DPP limit, river bank protection work of length 760m was undertaken for implementation instead of 850m. during 2008-09 and its cost comes to Tk. 882.39 lakh.

The aim of the project of protecting the river bank from erosion can only be achieved by implementing the river bank protection work in full length (850m). In order to achieve that additional 90m length of river bank protection work costing Tk. 109.50 lakh is to be executed during 2009-10.

Revised DPP cost of the project now comes to Tk. 975.12 lakh, which is 9.36% above than the approved DPP and revised implementation time is from July'2007 to June'2010.

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

It seems rationale to implement the proposed protective measures at said area in Chittagong district on an emergency basis. Urgent initiative to stop the erosion at the said area is required not only to protect Coast Guard station but also to protect Fakirhat Bazar, Upazilla infrastructures, educational institutions, huge homesteads and a big chunk of valuable agriculture and commercial lands.

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

◆ Project Identification

Coast Guard is an important part of Ministry of Home Affairs which is playing a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu, which serves the above purpose. So it should be protected immediately for the greater interest of the Country.

The location is a very strategic one in terms of the nature and the importance of the activities of the Coast Guard Forces. The outfall of the Sangu river into the Bay of Bengal is only about two kilometers from this location.

Bangladesh Coast Guard (BCG) has been strengthened in consideration to ensure security coastal area against piracy, robbery, smuggling, etc. as well as to restore security of local dwellers. The operational programme of Coast Guard has already been sustained through establishing 8 nos stations under 3 major Base. Location of these stations has been set up in consideration for easy as well as speedy navigation of water crafts and for observation on smuggled water crafts. The Coast Guard Sangu station (CGS) has been established on about 14.96 acres of land adjacent to Sangu River outfall at Raipur mouza under Anowara P/S in Chittagong District. Strategically this station is much significant with regards to its operational status for prevention of sea robbery and smuggling. At present this Coast Guard station has been vulnerable due to severity of erosion of the Sangu river.

◆ Project Preparation

The Coast Guard Authority requested BWDB vide their memo no. CG/ME-214/13/1994 dated 31-05-2006 in reference with the Ministry of Home affairs (Memo no: Sha: Ma: Pari- 71/2002/120 dated 13-03-2006) to take appropriate measure to protect the Coast Guard Station and to prepare an estimate in this regard. As per their request an estimate has been prepared and submitted accordingly. However, Director General of BWDB has instructed field authority to prepare and submit a DPP. Later on the Secretary of the Ministry of the Home Affairs requested to take immediate measure to protect the Coast Guard's Sangu Station at Anowara, Chitagon in his D.O. letter to the Secretary of the Ministry of Water Resources vide Memo No.: Sha: Ma: (Sea-1)/Coga/Bibidha-1/95 (Part)/294 dated 15/11/2006. This DPP has been prepared accordingly and submitted for

government's approval. It requires the project to be implemented urgently that is within July, 2007 to June, 2009 with a view to achieve the objective of the project.

◆ **Appraisal**

As per instruction of the Planning Commission, BWDB has constituted a technical committee comprising Design, Planning and Field Engineers to prepare a report along with recommendations base on the assessment of necessary activities required for the project. The committee has visited the project site and observed the riverbank erosion pattern and cross-section at the right bank of the Sangu river physically. The technical committee has submitted it's report containing the necessity, nature and importance of the project along with the magnitude of the work, suggested design section and tentative cost estimate. The DPP has been recast accordingly.

- ◆ **Credit Negotiation** : N/A
- ◆ **Credit Agreement** : N/A
- ◆ **Credit Effectiveness** : N/A
- ◆ **Loan Disbursement** : N/A
- ◆ **Loan Conditionalities** : N/A
- ◆ **Project Approval.** :

The DPP of the Project titled "Protection of Coast Guard Station from erosion of the Sangu River at Raipur, Anowara, Chittagong" was first formulated on September 2006. Afterwards the Recast DPP was approved by the honorable Planning Advisor on 10 October 2007.

Th administrative approval of the DPP was then givn by the MOWR on 24 October 2007.

The revised DPP was submitted to the MOWR on 07 January 2009. The DPEC meeting on this project was held on 11 March 2009 in the MOWR which was presided over by the Secretary, MOWR. The DPEC recommended the approval of th revised DPP of the project costing Tk.975.12 lakh.

The administrative approval of the RDPP was then given by the MOWR on 17 May 2009.

- ◆ **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.

This project has been taken over following the bottom-up planning approach rather than top down approach being followed by the BWDB earlier. The Coast Guard Authority requested BWDB to take appropriate measure to protect the Coast Guard Station and to prepare an estimate in this regard. Later on the Secretary of the Ministry of the Home Affairs requested to take immediate measure to protect the Coast Guard's Sangu Station at Anowara, Chitagong in his D.O. letter. The Coast Guard Station has been strengthened in consideration to ensure security coastal area against piracy, robbery, smuggling, etc. as well as to restore security of local dwellers.

Moreover the people of Polder 63/1A knows well that this project will control the flush flood, improve drainage system, prevent saline water intrusion, protect monsoon crops & increase food production, save valuable cultivable lands, infarstrues, homesteads and other public as well as Govt. properties lying within 6500 ha project area.

4.2 Programme for use of created-facilities of the project

This Coast Guard Station will play a vital role in Coastal area for controlling piracy, smuggling, robbery and overall law & order situation. CGS of Raipur, Anowara is situated in a very important location at the confluence point of Sangu, which serves the above purpose. So it has been protected for the greater interest of the Country.

The location is a very strategic one in terms of the nature and the importance of the activities of the Coast Guard Forces. The outfall of the Sangu river into the Bay of Bengal is only about two kilometers from this location.

4.3 O & M programme of the project.

Recurrent O&M works onward implementation of the project will be required for the sustainability of the project. Annual O&M cost estimated @ 3% (Tk. 27.00 lakh) of the executed works will be arranged from the regular O&M budget. The proposed recurrent O&M budget will have to be arranged for the effectiveness of the project.

4.4 Impact of the project -

4.4.1 Direct

This project will protect the Coast Guard Station from erosion of the Sangu river. In addition, the Polder area will be provided tidal flood control and erosion mitigation facilities against sea wave action, Saline water intrusion, protect monsoon crop & increase food production.

4.4.2 Indirect

It will ensure security of lives and properties from natural disasters;
Employment opportunities will be generated during construction period and annual O&M phase of the project. Also better employment access in agriculture, salt and shrimp field and tertiary sector will be enhanced.

Protect flood, improve drainage and reduce vulnerability;
Enhance access of the poor to water and common properties resources.

4.5 Transfer of Technology and Institutional Building through the project

At post project condition, due to protection of riverbank erosion and flood hazard, investment will be encouraged and productivity in all spheres will ultimately be increased. Also, after implementation of the project, financial security will be achieved and out of that institutional development like growth centres, educational institutions, health and family planning centres, industries and many more will definitely be established further.

4.6 Employment generation through the project.

Employment in business sector so created due to improvement of socio-economic condition, micro-financing activities will be facilitated. Project activities will also create employment opportunities during implementation period & recurrent O&M period and these will ultimately contribute to the achievement in poverty alleviation and national productivity.

4.7 Possibility of Self employment

Self employment opportunities has already been created due to implementation of the project. The people inside the polder has started small business by building shops near the protected embankment. The most encouraging is seen in the fisheries sector. The people inside are preparing their small ponds/ditches for fish cultivation.

4.8 Possibility of women-employment opportunity

Women and children are most vulnerable to any types of disaster, Post project condition will improve erosion hazards. Thus, ultimately create safe and healthy environment for women and children. As also, employment opportunity for women was enhanced at the construction phase of the project. Thus, the project will have positive impact on women and children.

4.9 Women's participation in development

The women participation in implementation was there right from the beginning. The employment opportunity for women will be enhanced. Thus, the project will have positive impact on women.

4.10 Probable Impact on Socio-Economic activity.

The socio-economic activity has been increased due to implementation of the project. Micro-financing activities will be facilitated. Also better employment access in agriculture, salt and shrimp field and tertiary sector will be enhanced.

4.11 Impact on environment

Project will not have any adverse impact on physical environment. Rather environmental upgradation will be supported through rehabilitation and protection of embankment by stopping bank erosion. Further, the protective works with locally available materials and manpower will be sustainable and environment friendly.

4.12 Sustainability of the project

To stop the erosion at the said area is required not only to protect Coast Guard station but also to protect Fakirhat Bazar, Upazilla infrastructures, educational institutions, huge homesteads and a big chunk of valuable agriculture and commercial lands. The implementation of the bank protection measure has made the erosion prone reach stable as well as secure and sustainable to natural hazards.

4.13 Contribution to poverty alleviation/reduction

Project activities has already created employment opportunities during implementation period. During recurrent O&M period will also create employment opportunities and these will ultimately contribute to the achievement in poverty alleviation and national productivity.

4.14 Opinion of the public representatives, local elite, local administration, teachers, religious leaders, women's representatives etc.

The honorable MP of this constituency Mr. Akhteruzzaman, Upazila Chairman, UNO, local representatives, local elites including local woman representatives visited the bank protection site during implementation and after completion. They have shown their positive reaction upon completion of the project and approaches to the field office to implement further erosion protection measure in the upstream and downstream reaches of this project.

4.15 Contribution of Micro-credit programmes and Comments on overlapping with any NGO activities.

The Micro-credit programs by the local NGOs were in operation before the project take off. As the socio-economic activity has been increased due to implementation of the project, micro-financing activities will be facilitated further. Also better employment access in agriculture, salt and shrimp field and tertiary sector will be enhanced by those credit programs but in no case will overlap with any other NGO activities.

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

- | | | | |
|-------------|---|---|---|
| 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 calamity | : | The progress was hampered due to natural disaster AILA occurred during 23-25 May 2009. The reach lying in from Km 30.550 to Km 30.916 which was scheduled to be completed in 2008-09 was then completed in 2009-10. |
| 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 | : | In the space of time between the DPP approval and actual implementation of work, serious bank erosion took place in the vicinity of the site due to flood and successive tidal surge & cyclone (Nargis & Reshmi) causing morphological change of the river Sangu.

Moreover, the portion of embankment which was left out near the river bank then washed away by the river. In this changed situation, new cross-section was taken and sent to the design office. The design Engineers from Design Circle-IV visited the site and formulated a revised design of the river bank protection work of length 850m. (Design No- DC-IV/1819 Date- 18-10-2007).

According to this revised design, the estimate of the river bank protection work for length 850 meter comes to Tk. 975.12 lakh. But to keep the cost within DPP limit, river bank protection work of length 760m was undertaken for implementation instead of 850m. during 2008-09 and its cost comes to Tk. 882.39 lakh.

The aim of the project of protecting the river bank from erosion can only be achieved by implementing the river bank protection work in full length (850m). In order to achieve that additional 90m length of river bank protection work costing Tk. 109.50 lakh is to be executed during 2009-10 |
| 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 bank protective work implemented on the concave bend of the right bank of Sangu river to protect Coast Guard Station from the severe erosion of Sangu river at Fakirhat of Raipur union of Anowara Upazilla in Chittagong district is functioning well.

Moreover, the people inside the Polder No.63/1A are much more secured due to the intervention which have direct impact in controlling the flash flood, prevent saline water intrusion, protect monsoon crops & increase food production, save valuable cultivable lands, infrastructures, homesteads and other public as well as Govt. properties.

The Fakirhat being situated near the estuary very close to the Bay of Bengal, the flushy Sangu river is causing erosion at the upstream and downstream reach of the completed protection works. The upstream reach from Km 29.650 to Km 30.550 of length 900m and downstream reach from Km 31.400 to Km 31.800 of length 400m needs immediate protection.

Date : 08-08-2010

Signature and seal of the Project Director/Manager

(Armanullah)
Executive Engineer
Chittagong C & M Division-I
BWDR, Chittagong.

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