

# BANGLADESH WATER DEVELOPMENT BOARD



## Project Completion Report: IMED 04/2003(Revised)

**Name of the Project** : River Bank Protection of Arjuna Area from the erosion of Jamuna River in Bhuanpur upazila of Tangail District (1<sup>st</sup> Revised).

**Implementation Period** : October, 2017 to June, 2022

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**Name of Ministry/Organization** : Ministry of Water Resources /Bangladesh Water Development Board.

**Name of BWDB Division** : Tangail Water Development Division, BWDB, Tangail.

**Name of BWDB Circle** : Tangail Water Development Circle, BWDB, Tangail.

**Name of BWDB Zone** : Central Zone, BWDB, Dhaka.

October 2022

**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 : River Bank Protection of Arjuna Area from the erosion of Jamuna River in Bhuanpur upazila of Tangail District (1<sup>st</sup> Revised).
02. Administrative Ministry/Division : Ministry of Water Resources (MoWR).
03. Executing Agency : Bangladesh Water Development Board (BWDB).
04. Location of the Project : Bhuanpur Upazila of Tangail District.
05. Objective of the Project :

- To protect the Arjuna and adjacent area of Bhuanpur upazila from the erosion of Jamuna River and also to protect Bhuanpur-Tarakandi link road cum flood control embankment from Jamuna river erosion.
- To implement River Bank Protective works for a length of 5.85 Km. and dredging of Jamuna River for the length 6.125 Km in order to increase the conveyance capacity of the river reach.
- In order to improve the life & livelihood and small-scale economy of the locality by protecting from the erosion of the Jamuna River.
- It is anticipated that huge immovable properties situated in and around the eroding bank of the river with approximate total worth of tk. 134965.00 lakh which are supposed to be adversely affected, will be saved by the proper implementation of the project.

06. Estimated Cost:

(In lakh Taka)

	Original	Latest Revised (1 <sup>st</sup> )
(a) Total	28157.15	32085.91
(b) Taka	28157.15	32085.91
(c) Foreign Currency	-	-
(d) Project Aid	-	-
(e) RPA	-	-

07. Date of Approval : 

PCP	PP
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- (a) Original : - 07/11/2017
- (b) Latest Revised (1<sup>st</sup>) : - 29/01/2020

## 08. Implementation Period :

	Date of Commencement	Date of Completion
(a) Original	October, 2017	June, 2020
(b) Latest Revised (1 <sup>st</sup> )	October, 2017	June, 2020
(c) No Cost Time Extension (1 <sup>st</sup> time)	October, 2017	June, 2021
(d) No Cost Time Extension (2 <sup>nd</sup> time)	October, 2017	June, 2022
(e) Actual	October, 2017	June, 2022

## 09. Financing Arrangement (Source-wise):

## 9.1 Status of Loan/Grant

## a) Foreign Financing: Not Applicable

Source (s)	Currency as per Agreement	Amount in US \$ (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
-----N/A-----							

## b) GOB:

(In lakh Taka)

Total amount	Loan	Grant	Cash Foreign Exchange
1	2	3	4
32085.91	-	32085.91	-

## 9.2 Utilization of Project Aid: (Source wise) Not Applicable

(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
-----N/A-----						

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

(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
-----N/A-----					

## **B. IMPLEMENTATION POSITION**

### **01. Implementation Period:**

Implementation Period as per DPP		Actual Implementation period	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
1	2	3	4	5
October, 2017 to June, 2020 (2 years 9 months)	October, 2017 to June, 2022 (4 years 9 months)	October, 2017 to June, 2022 (4 years 9 Months)	2.00 years (72.73%)	Due to morphological changes of Jamuna River, the approved design of river bank protection work, the main component of the project, had been revised which required to revision of the project's DPP. This is the main issue to extend the project implementation period. Covid'19 pandemic situation also affects on the implementation of the project component demanding 1 (one) year extension of the implementation period to finish the physical works completely. Though the physical works of the project were completed by June 2021, due to lack of adequate allocation on RADP of FY 2020-21, the project required additional time extension for a year for completing the financial activities.

### **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	28157.15	32085.91	26276.33	-6.68%	Due to the decrease of dredging work volume as per the post work survey during final measurement, the Cost of the whole project decreased by 6.68%
TAKA	28157.15	32085.91	26276.33	-6.68%	
PA	-	-	-	-	

### **03. Project Personnels:**

Sanctioned strength as per DPP	Manpower employed during execution	Status of the existing manpower			Manpower Employed	
		Manpower requirement for O & M as per DPP	Existing manpower for O & M	Others		
1	2	3	4	5	Male	Female
Officer (s) 12	The Project had been implemented by existing manpower of BWDB (Tangail O & M Division, BWDB) Tangail. No new/extra manpower had been appointed for the implementation of the project.					
Staff(s) 11						
Total : 23						

**04. Training of Project Personnel (Foreign/Local):** No training programme was included in the DPP of the project.

Field of Training /Study tour /workshop /Seminer etc.	Provision as per DPP		Actual		Remarks
	Number of persons	Man - months	Number of persons	Man - months	
1	2	3	4	5	6
a. Foreign	-----N/A-----				
b. Local	-----N/A-----				

**05. Component-wise Progress (As per latest Approved DPP):**

(In lakh Taka)						
Items of work (As per DPP)	Unit	Target (as per DPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
1	2	3	4	5	6	7
<b>A. Revenue</b>						
a) Travel allowance	L. S.	2.50	1 item	2.23	1 item	
b) Petrol & Lubricant	L. S.	3.50	1 item	3.46	1 item	
c) Gas & Fuel	L. S.	5.00	1 item	1.75	1 item	
d) Printing & Publication	L. S.	3.00	1 item	2.94	1 item	
e) Stationary, seal & stamps	L. S.	2.50	1 item	2.50	1 item	
f) Hydrological & Morphological study	L. S.	15.00	1 item	14.72	1 item	
g) Honorarium /remuneration [for PSC, PIC, TEC etc]	L. S.	8.00	1 item	5.45	1 item	
h) Honorarium for mid-term evaluation	L. S.	10.00	1 item	10.00	1 item	
i) Survey	L. S.	5.00	1 item	5.00	1 item	
j) Computer Accessories	L. S.	1.50	1 item	1.50	1 item	
k) Repair & maintenance of Vehicle	L. S.	5.00	1 item	5.00	1 item	
<b>Sub-Total (Revenue) =</b>		<b>61.00</b>		<b>54.55</b>		
<b>B. Capital</b>						
Computer & Accessories	L. S.	1.00	1 item	1.00	-	
a) Permanent Bank Protective Work at Arjuna Area	Km.	21074.04	5.85 Km.	19110.10	5.85 Km.	Lesser expenditure due to savings in tender process.
b) Dredging of Jamuna River by Dredger	Km. / Cum	10949.87	6.125 Km. / 5646324 cum	7110.68	6.125 Km. / 4834645 cum	Volume of dredging works decreased due to the bed erosion occurred naturally. The volume of

Items of work (As per DPP)	Unit	Target (as per DPP)		Actual Progress		Reasons for deviation (±)
		Financial	Physical (Quantity)	Financial	Physical (Quantity)	
1	2	3	4	5	6	7
						dredging works had been determined by Joint pre and post work Survey. Though the volume of dredging works decreased, the over all project goals didn't change or not interrupted.
Sub-Total (Capital) =		32024.91		26221.78		
Total (Revenue+Capital) =		32085.91	100.00%	26276.33	100.00%	

**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
A. H. M. Fakrul Islam Chief Engineer Pay Scale: 2 <sup>nd</sup> Grade BDT 66000- 76490/-	Yes	-	Yes	01 October, 2017	30 October, 2018	-
Akhil Kumar Biswas Addl Chief Engineer Pay Scale: 3 <sup>rd</sup> Grade BDT 56500-74400/-	Yes	-	Yes	14, January, 2019	19 May, 2020	-
Md. Abdul Matin Sarkar Chief Engineer Pay Scale: 2 <sup>nd</sup> Grade BDT 66000- 76490/-	Yes	-	Yes	21 July, 2020	till to date	-

**07. Procurement of Transport (in Nos.):** There had been no provision of any transport procurement in the DPP of the project.

Type of transport	Number as per D. 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
Jeep	-	-	-	-	-	-
Pick-up	-	-	-	-	-	-
Motor Cycle	-	-	-	-	-	-
Speed Boat	-	-	-	-	-	-



## 08. Procurement of Goods, Works and Consultancy Services:

### 08.1 Works of the Project costing above Tk. 200.00 lakh:

Description of procurement (works) as per bid document	Tender Cost (in crore Taka)		Tender		Date of completion of works	
	As per DPP	Contracted value	Invitation date	Contract signing	As per contract	Actual
1	2	3	4	5	6	7
(a) Bank Protective work along the left bank of Jamuna River from km 2.210 to km 2.500 = 290 m at Arjuna area. (Package No.-PWA-01/2017-18)	Original-10.33 Revised-8.19	Original-8.94 Revised-9.23	18-01-2018	17-05-2018	26-06-2019	25-04-2021
(b) Bank Protective work along the left bank of Jamuna River from km 2.500 to km 2.730 = 230 m at Arjuna area. (Package No.-PWA-02/2017-18)	Original-8.19 Revised-7.30	Original-7.24 Revised-7.56	18-01-2018	31-05-2018	26-06-2019	26-06-2019
(c) Bank Protective work along the left bank of Jamuna River from km 2.730 to km 2.960 = 230 m at Arjuna area. (Package No.-PWA-03/2017-18)	Original-8.19 Revised-7.61	Original-7.26 Revised-7.61	18-01-2018	21-05-2018	28-06-2019	28-06-2020
(d) Bank Protective work along the left bank of Jamuna River from km 2.960 to km 3.110 = 150 m at Arjuna area. (Package No.-PWA-04/2017-18)	Original-5.34 Revised-5.12	Original-4.93 Revised-5.12	05-04-2018	13-09-2018	28-06-2019	26-06-2019
(e) Bank Protective work along the left bank of Jamuna River from km 3.110 to km 3.260 = 150 m at Arjuna area. (Package No.-PWA-05/2017-18)	Original-5.34 Revised-4.94	Original-4.95 Revised-5.15	18-01-2018	20-05-2018	30-06-2019	30-06-2019
(f) Bank Protective work along the left bank of Jamuna River from km 3.260 to km 3.720 = 460 m at Arjuna area. (Package No.-PWA-06/2017-18)	Original-16.38 Revised-14.09	Original-14.75 Revised-14.65	18-01-2018	24-09-2018	30-06-2019	30-06-2019
(g) Bank Protective work along the left bank of Jamuna River from km 3.720 to km 4.010 = 290 m at Arjuna area. (Package No.-PWA-07/2017-18)	Original-10.32 Revised-9.20	Original-9.23 Revised-9.20	18-01-2018	15-04-2018	30-06-2019	30-06-2020
(h) Bank Protective work along the left bank of Jamuna River from km 4.010 to km 4.240 = 230 m at Arjuna area. (Package No.-PWA-08/2017-18)	Original-8.19 Revised-7.29	Original-7.31 Revised-7.29	04-02-2018	15-04-2018	30-06-2019	30-06-2020
(i) Bank Protective work along the left bank of Jamuna River from km 4.240 to km 4.390 = 150 m at Arjuna area. (Package No.-PWA-09/2017-18)	Original-5.34 Revised-4.72	Original-4.77 Revised-4.72	05-02-2018	09-04-2018	30-06-2019	30-06-2020
(j) Bank Protective work along the left bank of Jamuna River from km 0.640 to km 1.090 = 450 m at Arjuna area. (Package No.-PWA-10/2018-19)	Original-16.03 Revised-14.77	Original-14.42 Revised-15.49	04-07-2018	28-08-2018	30-06-2019	30-06-2020
(k) Bank Protective work along the left bank of Jamuna River from km 1.090 to km 1.380 = 290 m at Arjuna area. (Package No.-PWA-11/2018-19)	Original-10.33 Revised-9.81	Original-9.29 Revised-10.14	18-01-2018	24-09-2018	30-06-2019	30-06-2020
(l) Bank Protective work along the left bank of Jamuna River from km 1.380 to km 1.610 = 230 m at Arjuna area. (Package No.-PWA-12/2018-19)	Original-8.19 Revised-7.78	Original-7.37 Revised-8.06	02-07-2018	24-12-2018	30-06-2019	30-06-2020

Description of procurement (works) as per bid document	Tender Cost (in crore Taka)		Tender		Date of completion of works	
	As per DPP	Contracted value	Invitation date	Contract signing	As per contract	Actual
1	2	3	4	5	6	7
(m) Bank Protective work along the left bank of Jamuna River from km 1.610 to km 1.760 = 150 m at Arjuna area. (Package No.-PWA-13/2018-19)	Original-5.34 Revised-5.10	Original-4.81 Revised-5.27	18-01-2018	15-04-2018	01-05-2019	30-06-2019
(n) Bank Protective work along the left bank of Jamuna River from km 1.760 to km 2.210 = 450 m at Arjuna area. (Package No.-PWA-14/2018-19)	Original-16.02 Revised-14.67	Original-14.20 Revised-15.12	27-06-2018	28-08-2018	28-06-2019	31-12-2019
(o) Bank Protective work along the left bank of Jamuna River from km 4.390 to km 4.790 = 400 m at Arjuna area. (Package No.-PWA-15/2019-20)	16.80	15.12	01-12-2019	23-02-2020	30-06-2021	30-06-2021
(p) Bank Protective work along the left bank of Jamuna River from km 4.790 to km 5.190 = 400 m at Arjuna area. (Package No.-PWA-16/2019-20)	16.79	15.12	01-12-2019	27-02-2020	28-06-2021	28-06-2021
(q) Bank Protective work along the left bank of Jamuna River from km 5.190 to km 5.590 = 400 m at Arjuna area. (Package No.-PWA-17/2019-20)	16.79	15.12	01-12-2019	27-02-2020	30-06-2021	30-06-2021
(r) Bank Protective work along the left bank of Jamuna River from km 5.590 to km 5.990 = 300 m at Arjuna area. (Package No.-PWA-18/2019-20)	12.62	11.34	01-12-2019	24-02-2020	25-06-2021	25-06-2021
(s) Bank Protective work along the left bank of Jamuna River from km 5.890 to km 6.190 = 300 m at Arjuna area. (Package No.-PWA-19/2019-20)	12.62	11.35	01-12-2019	24-02-2020	30-06-2021	30-06-2021
(t) Bank Protective work along the left bank of Jamuna River from km 6.190 to km 6.490 = 300 m at Arjuna area. (Package No.-PWA-20/2019-20)	12.63	11.37	01-12-2019	25-02-2020	30-06-2021	30-06-2021
(i) Dredging of Jamuna River in Arjuna area from Km. 0.000 to Km. 1.650 (=1650 m) in C/W riverbank protection Project for the protection of Arjuna area from the erosion of Jamuna river in Bhuapur upazila of Tangail district under Tangail O & M Division BWDB Tangail during the year 2019-20. (Package No.DWA-01/2018-19.)	Original-36.79 Revised-34.19	30.77	05-09-2019	15-03-2020	30-06-2021	30-06-2021
(ii) Dredging of Jamuna River in Arjuna area from Km. 1.650 to Km. 3.300 1650 m in C/W riverbank protection project for the protection of Arjuna area from the erosion of Jamuna river in Bhuapur upazila of Tangail district under Tangail O & M Division BWDB Tangail during the year 2019-20. (Package No.DWA-02/2018-19.)	Original-36.79 Revised-31.73	Original-28.55 Revised-24.39	05-09-2019	22-12-2019	30-06-2021	30-06-2021
(iii) Dredging of Jamuna River in Arjuna area from Km. 3.300 to Km. 4.950 (=1650 m) in C/W riverbank protection work for the protection of Arjuna area from the erosion of	Original-36.79 Revised-30.10	28.60	05-11-2019	09-02-2020	30-06-2021	30-06-2021



Description of procurement (works) as per bid document	Tender Cost (in crore Taka)		Tender		Date of completion of works	
	As per DPP	Contracted value	Invitation date	Contract signing	As per contract	Actual
1	2	3	4	5	6	7
Jamuna river in Bhuapur upazila of Tangail district under Tangail O & M Division, BWDB, Tangail during the year 2019-20. (Package No.DWA-03/2018-19)						
(iv) Dredging of Jamuna River in Arjuna area from Km. 4.950 to Km. 6.125 (=1.175 Km) in C/W riverbank protection Project for the protection of Arjuna area from the erosion of Jamuna river in Bhuapur upazila of Tangail district under Tangail O & M Division BWDB Tangail during the year 2019-20. (Package No.DWA-04/2018-19)	Original-36.79 Revised-13.48	Original-13.14 Revised-14.68	14-01-2020	26-03-2020	30-06-2021	30-06-2021

## 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:	-----N/A-----			
(b) Local:	-----N/A-----			

## 09. Construction/Erection/Installation Tools & Equipment:

Description of items	Quantity (as per DPP)	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
-----N/A-----						

## C. FINANCIAL AND PHYSICAL PROGRAMME:

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

(In lakh Taka)

Financial Year	Financial provision & physical target as per original DPP				Financial provision & physical target as per latest revised DPP			
	Total	Taka	P.A.	Physical %	Total	Taka	P.A.	Physical %
1	2	3	4	5	6	7	8	9
2017-18	7788.82	7788.82	0.00	27.66%	400.00	400.00	0.00	1.25%
2018-19	12997.82	12997.82	0.00	46.16%	4685.32	4685.32	0.00	14.60%
2019-20	7370.51	7370.51	0.00	26.18%	27000.59	27000.59	0.00	84.15%
2020-21	-	-	-	-	-	-	-	-
<b>Total =</b>	<b>28157.15</b>	<b>28157.15</b>	<b>0.00</b>	<b>100.00%</b>	<b>32085.91</b>	<b>32085.91</b>	<b>-</b>	<b>100.00%</b>

**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
2017-18	400.00	400.00	0.00	1.25%	400.00	400.00	400.00	0.00	1.25%
2018-19	4700.00	4700.00	0.00	14.60%	4700.00	4685.30	4685.30	0.00	14.60%
2019-20	5700.00	5700.00	0.00	29.83%	3750.00	3749.71	3749.71	0.00	19.83%
2020-21	20000.00	20000.00	0.00	54.32%	10500.00	10491.81	10491.81	0.00	64.32%
2021-22	6971.00	6971.00	0.00	0.00%	6959.25	6949.51	6949.51	0.00	0.00%
<b>Total =</b>	<b>37771.00</b>	<b>37771.00</b>	<b>0.00</b>	<b>100.00%</b>	<b>26309.25</b>	<b>26276.33</b>	<b>26276.33</b>	<b>0.00</b>	<b>100.00%</b>

\*\* During FY 2019-20 & 2020-21 funds were not released as allocated. If it were released as per allocation, the project could have been completed by June 2021.

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

Objectives as per DPP	Actual achievement	Reasons for shortfall, if any
a) To arrest river bank erosion and flood protection coverage by construction of River Bank Protection works for a length of 5.85 km (from km 0.640 to km 6.49 at Arjuna area of Bhuiyanpur Upazila and dredging of Jamuna River from 0.000 km to 6.125 km at Arjuna covering area of 15000 ha. lands of Gopalpur, Bhuapur & Ghatail Upazila of Tangail district.	The river bank Protective Work along the left bank of Jamuna River of length 5.85 Km had been implemented and also 6.125 Km. long dredging work also implemented according to the target of the Project RDPP. Therefore, the achievement of Project objectives regarding implementation of Protective Work and Jamuna River dredging had been achieved successfully.	N/A
b) Safeguard the BWDB's Existing River Bank Protection Works at Nalin Bazar area upstream of Arjun area;	By implementing the Protective works at a length of 5.85 Km. the existing protective works and the immovable properties of local peoples' as well as public properties had been safeguarded against Jamuna River erosion.	N/A
c) Ensuring Safeguard against Jamuna River erosion of Tarakandi-Bhuapur Road cum Embankment from erosion & flooding of the Jamuna River; and	Tarakandi - Bhuapur road- cum - embankment had been safeguarded and secured by implementation of the protective work along the left bank of Jamuna River.	N/A
(d) It is anticipated that huge immovable properties situated in and around the eroding bank of the river with approximate total worth of Tk. 107765.00 lakh which are supposed to be adversely affected will be saved by the proper implementation of the project throughout construction of 5.85 km protective works under the project.	After implementing the protective work of a length of 5.85 Km along the left bank of Jamuna River, the immovable properties situated in and around the Jamuna river bank with approximate total worth BDT. 107765.00 lakh had been secured and safeguard has been ensured against river erosion of that area.	N/A

## 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 1 <sup>st</sup> year of operation at full capacity (or during, real production for newly completed project).
1	2	3	4
Ensured safeguard to river bank erosion of the following items:			
High School	Nos.	2	2
Govt. Primary school	Nos.	5	5
Culvert	Nos.	8	8
Bridge	Nos.	4	4
Shop (Building)	Nos.	110	110
Shop (Semi Pucca)	Nos.	150	150
Residential & Commercial Land	Ha.	550	550
Agricultural Land	Ha.	1550	1540
Mosque (Building & Semi Pucca)	Nos.	9	9
Community Clinic	Nos.	2	2
Police Station Building	No.	1	1
Post Office	No.	1	1
Madrasha	Nos.	3	3
Households (Building & semi paka)	nos.	1500	1500
Embankment cum village road	Km	30.00	30.00

### 02. Cost / Benefit:

Item	Estimated	Actual
1	2	3
(1) Benefit cost ratio of the project (i) Financial (ii) Economic	(1) B/C Ratio (i) 1.47: 1 (ii) 1.69: 1	Will be evaluated later by concern directorate of BWDB & IMED.
(2) Internal Rate of Return (i) Financial (ii) Economic	(2) Internal Rate of Return (i) 20.58% (ii) 24.55%	

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



## F. MONITORING AND AUDITING

### 0.1 Monitoring:

Name & designation of the inspecting official	Date of Inspection	Identified Problems	Recommendations
1	2	3	4
<b>(a) Ministry/</b>			
1. Md. Azadur Rahman Mallik, Joint Secretary (admin), MoWR.	28/08/2020	-	Necessary action should be taken to complete the Project within the stipulated time.
<b>Agency:</b>			
2. A. M. Aminul Haque, Director General, BWDB, Dhaka	20/08/2020		In the river reach of the ongoing packages of Protective Works, where the new sand bars have been formed by a considerable amount of siltation, there should not go for further geo-bag dumping. If the total dumping amount crosses 75% or more than the design volume, this instruction will be applicable.
3. Md. Abdul Matin Sarkar Chief Engineer, Central Zone, BWDB, Dhaka.	19/11/2020		Contractors of the on-going works have to increase their material stock, labour and dumping boat in order to complete the whole works with out any failure. The contractors of Jamuna River dredging works should mobilize immediately otherwise they can't reached in to their site with dredger after decreasing the required draft for the movement of dredger in the river.
4. Md. Shahjahan Siraj Superintending Engineer Mymensingh O & M Circle, BWDB, Mymensingh.	18/02/2021	-	The Dredging works contractors have to increase their dredger capacity by increasing working hour. Because the project completion time is up to June, 2021. Only few months are remaining. The whole work should be completed within the stipulated time.
<b>(b) IMED:</b>			
1. Md. Afzal Hossen Director, IMED	16/01/2019	-	<p>i) Manufactured c. c. block should be dumped or placed by proper co-ordination with BWDB taskforce.</p> <p>ii) The stone chips used for manufacturing of C. C. Block's should be washed properly before using in concrete</p> <p>iii) The dredging works to be implemented under the project should implement if it will effective. In that case, a technical committee should form in order to verify either it will effective or not.</p> <p>iv) In order to protect the reknown Kuthi Boyra Bazar and adjacent road, at least another 2000-meter new protective work length should include in the project RDPP if is justified.</p> <p>v) Monitoring of BWDB and MoWR should be strong in order to implement the physical works within the project period.</p> <p>vi) All physical works should be completed as per approved design and Specification.</p>



Name & designation of the inspecting official	Date of Inspection	Identified Problems	Recommendations
1	2	3	4
2. Khandakar Md. Ali Director, IMED	08/02/2020	-	<p>i) The physical and financial progress of the project is not satisfactory at all. Necessary initiative should be taken to achieve the physical progress as per target fixed.</p> <p>ii) The project period will end on June/2020. That means only four-month time is remaining. So, during this four month how will the remaining 79% physical work will be completed, a work plan regarding this have to sent to IMED immediately.</p> <p>iii) In case of c. c. block manufacturing, stone chips should wash properly and specified size of stone chips should be used.</p> <p>iv) In case of c.c. block placing, the khoa filter used above geo-textile filter, should be of good quality.</p> <p>v) The dredging works to be implemented under the project should implement if it will effective. In that case, a technical committee should form in order to verify either it will effective or not.</p> <p>vi) The monitoring of MoWR and BWDB should stronger.</p> <p>vii) All the physical works of the project should execute as per approved design &amp; specification.</p> <p>viii) Meeting of PSC and PIC committee should hold on time and the decisions should implement timely.</p> <p>ix) External &amp; internal Audit should complete timely.</p>
(c) Others: (Please specify)		-	

\*\* The Mid-term evaluation committee of the project has visited the project on 06/03/2021.

## 0.2. Auditing during and after Implementation:

### 2.1. Internal Audit: Not conducted.

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

### 2.2. External Audit:

Audit period	Date of submission of Audit Report	Major findings/ objections	Whether objections resolved or not.
1	2	3	4
2017-18	-	-	-
2018-19	-	-	-
2019-20	-	-	-
2020-21	-	-	-
2021-22	Yet to be conducted		

## G. DESCRIPTIVE REPORT

### 1. General Observations/Remarks of the Project on:

#### 1.1 Back ground:

Bangladesh is a riverine country having an area of 1,47,570 square kilometer. About 9734 square kilometer area of the country covered by river, haor, beel, jheel, khal and others open water body. About a half of the country's total area is situated at the downstream of GBM basin. On the other hand, about 80% of the total area of the country is flood plain. Regarding the climate change issues, three main seasons are summer, winter and rainy seasons exists in Bangladesh. The weather of Bangladesh is very suitable for human being, which is neither too hot nor too cold. But now-a-days, very frequently extreme weather launched almost all the year round, which is not suitable for the peoples of Bangladesh. The extreme weather conditions may have a considerable role to occurred disaster due to natural calamity which may extent up to a havoc. Due to the adverse effect of global climate change, floods occur almost every year during monsoon in Bangladesh. During the flooding time almost all over the flood plain area are submerged. Since, the morphological behaviour of the rivers in Bangladesh is mostly very unpredictable, during the water level rising and lowering just before and after the flooding time every year there will have some bank erosion occurred. In case of the mighty Ganges, Brahmaputra and Meghna River flooding period the bank erosion become very devastating and dangerous phenomena, which may occurred a natural disaster.

The Jamuna River is the single most significant cause of natural hazards. This is largely because the Jamuna River has been widening. This widening is a consequence of the Great Assam Earthquake in 1950, which dislodged some 45 billion cubic meters of sediment from the eastern Himalayan Mountain slopes. In Bangladesh, this sediment overloading triggered an increase in the average width of the Jamuna from 8 to 12 km. The braided characteristic is strongly associated with ever-changing channel patterns, which result in several thousand hectares of annual erosion. Local erosion eats laterally into the floodplain by as much as 1 km in one season. The extent and location of riverbank erosion along the Jamuna can be reasonably predicted only one year in advance. The annual-average erosion rates along the Jamuna Rivers have halved from approximately 6300 ha (from 1973 to 1997) to approximately 3300 ha (there after until 2019).

Devastating bank erosion occurred since June 2001 at the upstream parts of Jamuna River in Tangail District, i. e. the part of left bank of Jamuna River at Gopalpur & Bhuanpur Upazila. During the early 70s BWDB had been constructed a flood control embankment along the left bank of Jamuna River from Bhuanpur upazila headquarter to Tarakandi upazila of Jamalpur district by food for works scheme. This embankment had converted as upazila connecting roads in order to connect Bhuanpur and Tarakandi upazila and also to carrying fertilizer manufactured in Jamuna Fertilizer Company situated at Tarakandi Upazila of Jamalpur District. Considering the river erosion rate at these affected places, it seems that the said affected segment of Bhuanpur-Tarakandi embankment cum road are supposed to be washed out into the river unless the river bank protection works implemented immediately. This disastrous situation of Jamuna River Bank erosion had made the policy maker's to took decision to prepared a development project proforma which will be approved by the competent authority immediately after submission of the proposal. There was a responsive and emergency feedback from the government of Bangladesh in order to start the permanent revetment work construction within next financial year. The existing Bhuanpur- Tarakandi embankment cum road is the sole way of road communication network from entire Tangail district and Jamuna Fertilizer Industry towards northern & southern part of Bangladesh. In that situation, entire road communication of the region might be disrupted by the continuous threat of riverbank erosion at the affected place.

Besides, vast important local area under Gopalpur, Bhuapur, Modhupur, Ghatail & Kalihati Upazila in the Tangail district will be affected by the severity of seasonal floods. On the other hand, vast arable lands will be adversely affected for reduction of soil fertility by land deposition due to intrusion of flood water with sands.

On the basis of above-mentioned situation in the project area, the DPP of the project had been formulated and submitted to the competent authority. Since, Bank protection works at different segment of the erosion prone river bank had already been constructed and also in some segments were on-going stage in order to protect the public and private properties situated on and adjacent to river bank at Bhuapur and Gopalpur upazila of Tangail district. This proposal also considered as very necessary and adequate project proposal to fulfill the goals regarding protection against river bank erosion at the specified area. Therefore, the DPP of the project had been approved by ECNEC on 07 November, 2017 consisting of total project cost BDT 28157.15 Lakhs and project implementation period from October, 2017 to June, 2020.

### **1.2 Justification/Adequacy**

The morphologically active rivers of Bangladesh have very high rate of year-round fluctuation of water flow as well as sediment transportation. Consequently, erosion-deposition, channel shifting and bar development are common phenomena in large rivers of Bangladesh. About two-third area of the country lies within the GBM flood plain. Also, the density of population is about 1100 person per square kilometer. The natural resources scarcity as well as the existing underground resources can't explore or not capable of extract by own instrument make the country one of the most under developed one in the world. The natural disasters; like flooding, river bank erosion, saline water intrusion and cyclones etc. made Bangladesh as a showcase of disaster. The major problems responsible for poverty includes high level of landlessness due to river bank erosion (i.e. population displacement and potential erosion damages and losses to productive agricultural and urban land and severe damage to property and infrastructure), recurrent floods, unemployment, illiteracy and malnutrition. The population of the Project area is very dense (about 1085 per square kilometer) and landless population is about 20-30% who are now living as squatters in flood embankment and other Govt. owned land. Socio-economic development of the people through agriculture and business generation development providing protection of potential lands, infrastructures of urban and rural areas from the Jamuna River left bank erosion damages. This may result to achieve the main objective - alleviate poverty of the area. The proposed project would prevent the erosion loss of about 20000 ha of riparian land including about 1050 ha of urban and semi-urban built-up area in the vicinity of Arjuna Area of Bhuapur Upazilla of Tangail District and protect a population of about 150000 people from loss of land, livelihood, property, displacement and impoverishment. It would also prevent severe flood damage to crops, property and infrastructure as a result of embankment breached induced increased flooding from the Jamuna River.

The Project was also formulated as a non-hazardous or non-negative scheme regarding environmental screening, since its bank protective works by construction of improved bank revetment; do not create irreversible and diverse adverse physical and social impacts. Identifiable adverse impacts would be confined to the implementation period, and shall occur primarily in one or two construction seasons each lasting several months. As such, the proposed interventions by providing river bank protective work and development of embankment have very little impacts or no negative impacts in and around the area.



### 1.3 Objectives

Main objectives of the project are:

- To protect the Arjuna and adjacent area of Bhuanpur upazila from the erosion of Jamuna River and also to protect Bhuanpur-Tarakandi link road cum flood control embankment from Jamuna River erosion.
- To implement River Bank Protective works for a length of 5.85 Km. and dredging of Jamuna River for the length 6.125 Km in order to increase the conveyance capacity of the river reach.
- In order to improve the life & livelihood and small-scale economy of the locality by protect the erosion of the Jamuna River.
- It is anticipated that huge immovable properties situated in and around the eroding bank of the river with approximate total worth of tk. 134965.00 lakh which are supposed to be adversely affected, will be saved by the proper implementation of the project throughout construction of 5.85 km. protective works under the project.

### 1.4 Project revision with reasons

#### a. Changes in Jamuna River Morphology in Project Area:

The DPP of the project had been prepared on the basis of approved design and drawings which were also prepared and approved on the basis of design data & information collected by the concern field officials during the year 2014-15. The Government order (GO) of approving the DPP of the project had been issued on 16 Novemebr, 2017 maintaining the implementation period October 2017 to June 2020. It had been observed that huge amount of silt or sand deposition occurred within the area of the Launching apron of the Protective Work. Therefore, depth of water had also been decreased in the launching apron of the protective work in few segments of river reach. Also, in few segments, the river bed scoured severely which may creat a necessity of excess dumping material to be dumppped in the launching apron of the protective works. These caused an inconvenience regarding the dumping procedure according to the DPP provision of the project. This phenomenon comes in front including an obligation to prepare the variation proposal of the on-going contracts. The variation proposal consists of "Geo-bag dumping from engine boat positioned by a total station" instead of "Geo-bag dumping from Berge positioned by a total station" due to the decreased of flow depth in the zone of Geo-bag dumping in the Launching apron and vice-versa.

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

The geographical position of Bangladesh is at the outfall of the world's largest river basin known as GBM Basin. About 8% of the basin area lies inside the country's boundary. The other 92% area exists out side of country's boundary on which Bangladesh have no control in terms of both geo-graphically and hydrologically. Therefore, flood inundation, draught, rainfall-runoff; river bank erosion etc. are regular phenomena in Bangladesh. Almost every year at least one seasonal hazards occured either in disastrous or in non-disastrous terms regarding the loss livelihood, crops and property. In the project area of this project, the most vulnerable natural hazard is Jamuna River left Bank erosion. Therefore, the project main objective is set for stopped or reduce the bank erosion in order to reduce or stopped the loss of livelihood, properties and crops situated on and adjacent the river bank area. If the objective can achived, the people of that area will benefit regarding no loss of their household, crops and other properties both movable and immoable. The practice of implenting River Bank Protection Work (RBPW) in Bangladesh already have an sustainable form of protective measures which had been implemented at least for last 30 years. For the big mighty river such as Jamuna River, the permanent protective works had been



implemented in several sever erosion prone segment or river reach in Sirajgonj, Bogra, Kurigram and Gaibandha district of Bangladesh. In this project, also a highly recommended or sustainable form of protective works had been implemented by C. C. Block and Geo-Bags and combination of both as per the provisions of approved design.

Sine Bangladesh is densely populated with poor natural resources base. The major problem responsible for poverty includes high level of landlessness due to river bank erosion (i.e., population displacement and potential erosion damages and losses to productive agricultural and urban land and severs damage to property and infrastructure), recurrent floods, unemployment, illiteracy and malnutrition. The population of the Project area is very dense (about 1085 per square kilometer) and landless population is about 20-30% who are now living as squatters in flood embankment and other Govt. areas. Socio-economic development of the people through agriculture and business generation development providing flood control support and protection of potential lands, infrastructures of urban and rural areas from erosion damages is the main objective to alleviate poverty of the area.

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

#### ◆ Project Identification

The present project is located at the 11 Km. upstream of Bangabandhu Bridge and about 5 km north of Bhuanpur Upazila of Tangail district. The area is dispersed in the left bank of the Jamuna River. Along with the house-hold, crops and properties situated on and adjacent to the Arjuna area Bhuanpur-Tarakandi flood control embankment cum road is seriously threatened by continued bank erosion of Jamuna River left Bank at Arjuna area of Bhuanpur Upazila. To provide permanent protection of the above-mentioned infra-structures from the Jamuna River left bank erosion, the project was identified to implement improved bank revetment immediately. Since the Jamuna River morphology is very unpredictable, a continuous protection is necessary for the sustainability of the protective works. Therefore, the technical committee of BWDB has been identified the project in order to implement 3.75 km of Protective work which will ensure a continuous protection of about 15.00 km from the Pingna area of Sarishabari upazila of Jamalpur District up to Arjuna area of Bhuanpur upazila of Tangail district along the left bank of Jamuna River.

#### ◆ Project Preparation

The project is a committed project of honorable Prime Minister of peoples' republic of Bangladesh. The honorable Prime Minister of Bangladesh had been declared to implement Jamuna River Protection project in order to stopped the severe bank erosion of the area in a public meeting held at Hemnagar railway station of Gopalpur upazila of Tangail district on 30 June, 2012. Based on the honorable Prime Minister Commitment, BWDB and MoWR had been taken initiatives to formulate a river bank protection project.

In view of the above situation, proposed programme includes the physical components as under:

River Bank Protection Work	Segment	Length (km)	Estimated Cost (Lakh Tk.)
i) Permanent Bank Protective Work at Arjuna area from Km. 0.640 to Km. 4.39 = 3.75Km	Arjua Area	3.75 km	13355.63

ii) Dredging of Jamuna River from km 0.000 to 6.60 km = 6.60 km.	Arjuna And Char Gabsara union of Bhuanpur Upazila	6.60 km	14699.52
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◆ Appraisal

The Project appraisal meeting was held at the irrigation wing of Planning Commission on July, 2017. As per decision of appraisal Committee meeting DPP was recast and sent to the Ministry of Planning for approval and the Project was approved in ECNEC meeting held on 07.11.2017.

◆ Credit Negotiation

Not applicable

◆ Credit Agreement

Not applicable

◆ Credit Effectiveness

Not applicable

◆ Loan Disbursement

Not applicable

◆ Loan Conditionalities

Not applicable

◆ Project Approval.

The project had been approved by ECNEC on 07 November, 2017. The ECNEC took decision for approved the project proposal as this is very important and usefull to protect the divastating Jamuna River Erosion in the project area. The project is also a committed project of Honorable Prime Minister of Government of the Peoples' Republic of Bangladesh. Therefore, the project proposal had been approved by ECNEC without any delay or without putting any observation.

◆ 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**

The stockholders are directly taking advantages of the created facilities of the project.

**4.3 O & M programme of the project.**

Post Project recurrent O & M works will be done from the regular O & M allocation.

**4.4 Impact of the project -**

**4.4.1 Direct**

(1) Protection of river bank erosion and reducing the threat.

(2) The navigability and conveyance capacity of the Jamuna River has increased within the project area due to dredging.

(3) Bhuanpur-Tarakandi link road cum flood control embankment has been saved from river erosion. Thus, regional connectivity is sustained.

#### **4.4.2 Indirect**

Environmental enhancement from river erosion hazard consequently sustainable socio-economic enhancement.

#### **4.5 Transfer of Technology and Institutional Building through the project**

Not Applicable

#### **4.6 Employment generation through the project.**

Employment generation for skilled and unskilled about 18 lac mandays during the project period.

#### **4.7 Possibility of Self employment**

There are possibilities of self employment as existing commercial and business centres are protected from river bank erosion.

#### **4.8 Possibility of women-employment opportunity**

Possibility of the women employment is also there.

#### **4.9 Women's participation in development**

Yes.

#### **4.10 Probable Impact on Socio-Economic activity.**

Due to the protection of river bank erosion various types of infrastructures have been saved. Hence, socio-economic balance in the locality has been achieved.

#### **4.11 Impact on environment**

Environmental enhancement has been achieved through the implementation of the project. Bank erosion hazards of environment has been eradicated.

#### **4.12 Sustainability of the project**

The project will be sustainable provided some periodic maintenance is ensured.

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#### **4.13 Contribution to poverty alleviation/reduction**

The project fulfilled following benefits in compatible strategic goal i.e, a) reduction of vulnerability to water related disaster, b) manage erosion of Jamuna River and protect growth centres, government & non-government establishment and households insuring poverty alleviation as PRS.

- (1) The project ensures immovable properties of total worth of Tk. 134965.00 lakh.
- (2) It generated employment for skilled/unskilled during construction period and in annual O & M phase in project performance. Also, better employment access in business territory sectors is enhanced.
- (3) Natural security against river Bank erosion is restored.

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

Positive remarks regarding the Project.

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

Not Applicable.

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

- |   |   |
|---|---|
| 5.1 Project Management: <i>Didn't arise.</i>  | 5.12 Project aid disbursement and re-imbursement: <i>Not Applicable.</i>                  |
| 5.2 Project Director: <i>Didn't arise.</i>  | 5.13 Mission of the development partners. <i>Not Applicable.</i>                          |
| 5.3 Land Acquisition: <i>Not Applicable.</i>  | 5.14 Time & Cost Over-run: <i>Time over-run by 72.73% and cost over-run by (-) 6.68%.</i> |
| 5.4 Procurement: <i>Didn't arise.</i>   | 5.15 Project Supervision/Inspection: <i>Not arisen.</i>                                   |
| 5.5 Consultancy: <i>Not Applicable.</i>   | 5.17 Delay in Decision: <i>Not arisen.</i>  |
| 5.6 Contractor: <i>Didn't arise</i>   | 5.18 Transport: <i>Not Applicable.</i>  |
| 5.7 Manpower: <i>Didn't arise</i>   | 5.19 Training: <i>Not Applicable.</i>   |
| 5.8 law & Order: <i>Didn't arise</i>  | 5.20 Approval: <i>Did n't arise.</i>  |
| 5.9 Natural calamity: <i>Problem due to natural calamity was arisen from flood</i>  | 5.21 Others.: <i>None</i>   |
| 5.10 Project financing, allocation and Release: <i>Due to world Covid'19 pandemic project financing had been hampered during last two years of project implementation period.</i> |   |
| 5.11 Design formulation/approval: <i>Didn't arise.</i>  |   |

6. **Remarks & Recommendations of the Project Director:**

The physical components of the project have been implemented as per the approved design and specification. This is mainly a river bank protection project. A total of 5.85 km Bank protective works have been implemented along the left bank of Jamuna River. Another component is Jamuna River Dredging which is also implemented as per the provision of approved design and specification. The implemented dredging works already have formed a new channel and it is a continuation of another new channel had been formed by implementing dredging work under Kaolibari to Shakharia (Varua-Bot tola) Bank protection project, a GOB financed development project, completed during June, 2021. The newly formed Channel is about 10 km long and made the project objectives achieved successfully. But in order to achieve the sustainability of the dredging works a maintenance dredging works should implement after two to three years. As the mighty Jamuna River morphology is very unpredictable in nature, there must have siltation in the newly formed channel. Therefore, by implementing maintenance dredging works the channel will rehabilitate fully to flowing the Jamuna River discharge towards downstream.

Date: 17.10.2022

Signature and seal of the Project Director

(Md. Abdul Matin Sarkar)  
Chief Engineer  
Central Zone, BWDB  
Dhaka.

## 7. Remarks/Comments of Agency Head

This project was taken to protect the Arjuna and adjacent area of Bhuanpur Upazila from the erosion of the Jamuna River. It also protects the Bhuanpur-Tarakandi link road cum flood control embankment from the erosion of the Jamuna River. A total of 5.85 km of Bank protection works have been implemented along the left bank of Jamuna River which reduced the risk of river bank erosion. The implemented dredging works already have formed a new channel which is about 10 km long and thus achieved the project objectives successfully. Overall, the project is serving its intended purpose but requires maintenance dredging for the sustainability of project benefits.

Date: .....

 24/10/2022

Signature and Seal

(FAZLUR RASHID)  
Director General  
BWDB, Dhaka.

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

Under this project 6.125 km dredging work and 5.85 km permanent bank protection work has been implemented to protect Arjuna area in Bhupur upazila under Tangail District. The overall achievement of this project is to ensure safeguard from left bank erosion of Jamuna River which will protect the valuable proportion of that area. It will also improve the livelihood of the local people. But regular maintenance work is required for the sustainability of the project output.

Date: .....

Signature and Seal

