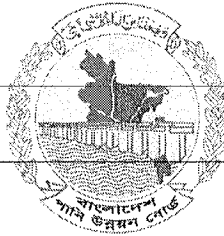


BANGLADESH WATER DEVELOPMENT BOARD



PROJECT COMPLETION REPORT: IMED-04/2024

**Name of the
Project:**

**Feasibility Study for Sustainable River Management in
Panchagarh and Thakurgaon District.**

PROJECT PERIOD: September 2022- June 2024

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Government of the People's Republic of Bangladesh
Ministry of planning
Implementation Monitoring and Evaluation Division

PROJECT COMPLETION REPORT (PCR): IMED 04/2024 (Revised)

A. PROJECT DESCRIPTION

01.	Name of the Project	:	Feasibility Study for Sustainable River Management in Panchagarh and Thakurgaon District.
02.	Administrative Ministry/Division	:	Ministry of Water Resources (MoWR)
03.	Executing Agency	:	Bangladesh Water Development Board (BWDB)
04.	Planning Commission Sector/Division	:	Sector: 09-Environment, Climate change and Water Resources Division: Agriculture, Water Resources and Rural Institutions Division
05.	Type of Project (Investment/Technical/Feasibility Study): Feasibility Study		
06.	Location of the Project (As per Project Document):		

Sl No.	Division	District	Upazila
1.	Rangpur	Panchagarh	Boda, Debianj, Tetulia,, Sadar , Otoari.
		Thakurgaon	Sadar, Pirganj, Baliadangi, Ranisongkoil, Horipur.
		Dinajpur	Birganj, Cirirbondor.

07. Estimated Cost, Implementation Period and Approval:

(In Lakh Taka)

Subject	Approved Estimated Cost				Implementation Period	Date of Approval	Approved by
	Total	GOB (Foreign Exchange)	PA (RPA)	Self-financ e			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Original	497.76	497.76	-	-	September 2022-June 2023	02 October 2022	MoWR
1 st Revised (if applicable)	-	-	-	-	-	-	-
2 nd Revised (if applicable)	-	-	-	-	-	-	-

1 st No Cost Extension (If Applicable)	497.76	497.76	-	-	September 2022-June 2024	12 March 2023	MoWR

A.

2 nd No Cost Extension (If Applicable)	-	-	-	-	-	-	-

Intercomponent Adjustment (If applicable)	-	-	-	-	-	-	-

08. Objective of the Project

Overall objective:

The main objective of the study is to identify all existing problems related to water resources management and find out no-regret solutions for sustainable development and management of the rivers in Panchagarh and Thakurgaon district in a holistic approach.

Specific Objectives (in bullets):

- Flood and erosion risk management of rivers within the project area;
- Improvement of water storage capacity of the rivers within the project area;
- Design of proposed interventions;
- Environmental and Social Impact Assessment;
- Preparation of DPP of the subsequent investment project.

09. Background of the Project (In brief):

Rivers of Panchagarh District: Panchagarh is the northern most district of Bangladesh and adjacent to the Bangladesh India border. About 33 rivers flow through this district in which Karatoa river is the major one. Originating from the Jalpaiguri district of India, the river enters Bangladesh at Vodreswar area of Vojonpur Union under Tetulia upazila of Panchagarh district. Later on, the river falls into the Atrai river at Birganj upazila of Dinajpur District. Most of the rivers in Panchagarh district are connected to the Karatoa river. Among the rivers of the district, Talma, Chawai and Ghoramara are three transboundary rivers those originate in India and later on falls into the Karatoa river. Other two transboundary rivers of the district are Borka and Dahuk river, both of these rivers originate in Bangladesh and later on, enter India. Pathraaj is another important river of Panchagarh which originates from the Maidan Dighee Beel under Boda upazila and later on falls in the Karatoa river at Sundardighee union in Debiganj upazila. Other rivers of the district are Buri Teesta, Tirnoi, Ronochondi, Berong, Petki, Kurum, Paam, Chatnai, Vullikhal etc. All of these rivers are experiencing flood and severe bank erosion due to excessive monsoon rainfall. Also, most of these rivers are having morphological changes due to sedimentation which results change of river courses and reduced water storage capacity.



These rivers are contributing to different irrigation projects of the area such as Ahmednagar 2, 3 Irrigation Project, Telipara Irrigation Project. Therefore, sustainable development and management of these rivers is the key factor of overall development of the area.

Rivers of Thakurgaon District: Thakurgaon district is located along Bangladesh-India border at the northern region of Bangladesh. Total 13 rivers flow through this district, the rivers are: Tangon, Kulic, Pathraaj, Chhoto Tapa, Shuk, Tirnoi, Senua, Chhoto Senua, Vulli, Aman Dhaman, Nona, Lacchi and Nagar river.

Among the rivers, Tangon, Kulic and Nagar are transboundary rivers. Originating in Bangladesh, both the Tangon and Kulic river enters India respectively through Bairchura union of Pirganj Upazila and Batuarua union of Haripur upazila of Thakurgaon district. The Nagar river originates in the West Bengal state of India and enters into Bangladesh in Panchagarh district. The river flows about 130 km along Bangladesh-India Border in Thakurgaon District, then again enters into India. The speciality of the Nagar river is most often its course indicates the Bangladesh-India border.

The characteristics of the rivers of Thakurgaon district are relatively lower average depth and steeper bed slope. Tangon, Shuk, Lacchi, Nona, Nagar, Kulic, Pathraaj and Vulli rivers are experiencing bank erosion along with sedimentation problem. The water storage capacity of these rivers are decreasing due to sedimentation which causes negative impact on the irrigation facilities of the area specially in the dry season. The Tangon Barrage Irrigation Project, Buribadh Irrigation Project, Vulli Irrigation Project and Rahmatpur FCDI project are totally dependent on these rivers. Therefore, water storage capacity of these rivers should also be increased.

In view of the above, Bangladesh Water Development Board (BWDB) has formulated the proposal to study all the rivers in Panchagarh and Thakurgaon district in a holistic approach to devise a sustainable river management plan of the area.

10. Major Activities:

a) Mathematical Modelling Component:

- Collection and review of existing data, maps, information and relevant available study, technical and project reports including study reports/ projects on wetlands in the study area ;
- Bathymetric and cross sectional survey of the selected reaches of the concerned river as per requirement of the morphological study;
- Primary data collection on water level, discharge and sediment concentration, bed material and existing bankline;
- Identification of the historical erosion trend and extent of erosion prone/ vulnerable locations of the study rivers;
- Determination of Environmental flow of study rivers;
- Propose water level, bed slope, discharge etc. of the study rivers on the basis of survey and historical data analysis;

- Preparation of Area Elevation Curve for the basin of the study rivers;
- Application of appropriate one-dimensional (1 D) and two-dimensional (2D) model for:
 - hydrological, hydraulic and morphological analysis of the study rivers;
 - identification of the vulnerable locations from the base model (without proposed measure condition);
 - assess the river bank protection strategy and to test its performance in terms of erosion restrain and sustainability;
 - investigation of alternative options to mitigate the erosion process such as dredging of existing islands/sand bars should be established using model results;
 - analysis of the impact of the existing and proposed interventions on the hydro-morphological aspects of the river;
 - Preparation of flood inundation map showing extent and depth of inundation;
 - Assessment of long term impacts of surface water retention on groundwater recharge through the development of integrated surface water - groundwater interaction model.
 - Calculation of surface water resources and sediment load balance at key locations (with and without proposed measure condition);
- Preparation of detailed engineering design & drawing of proposed interventions (bank protection work/ flood embankment (re-sectioning and new construction)/ regulators/ drainage canals/ water retention structures) and recommendation on hydraulic design parameters of the protective measure(s). Climate change impact should be incorporated in the design of flood embankment;
- Necessary soil boring and data analysis (c, Φ , liquid limit, plasticity limit etc.) regarding structures, embankment and protection work (for embankment: 1 boring/km, for protective work: 2 boring/km in which 1 in bank and 1 in L.W.L; for structure: minimum 3 boring);
- Preparation of dredged material management plan in consultation with local stakeholders.
- Plan for afforestation and exploration/development of park/ walkway for recreational purposes along bank protection works;
- Estimation of cost and financial & economic analysis i.e. Net Present Value (NPV), Benefit Cost Ratio (BCR), Internal Rate of Return (IRR) of proposed intervention;
- Conduction of on the job training of BWDB officials to share the application process of developed models;
- Arrangement of workshop to disseminate study outputs;
- Submission of reports including above findings.

Environmental and Social Study Component:

- Collection and review of existing data, maps, information and past relevant studies from the secondary sources, conduction of KII, FGD, workshop and discussion session for communicating with local beneficiaries and disseminating the study outputs, conduction of socio-environmental survey through appropriate tools & process to establish important environmental issues and to identify important environmental components;
- Plan for community based approach for internal water management, institutional development and early flood warning system, identification of important ecosystem (land/aquatic) and measures for conservation/restoring of those ecosystem, identification of rare species within the project area and propose community based ecosystem management plan for ecological equilibrium;
- Assessment of the quality of the surface water, ground water and soil sample of the study area;

- Selection of valued environmental and social components impacted by the existing and proposed interventions in the project area;
- Preparation of Terms of References (ToR) for ESIA and getting approval of the ToR from Department of Environment (DoE);
- Preparation of Environmental and Social Impact Assessment (ESIA) report containing Environmental Management Plan (EMP) for conservation of wetland, aquatic resources, fisheries resources, bird sanctuaries etc. and following approved format of DoE, presentation of EIA report at the DoE in getting requisite clearance certificate thereof;
- Identification of existing dams/barrages/ water retention structures in the territory of India of the transboundary rivers of the study area through analysis of satellite image;
- Preparation of Analysis for Environmental Sustainability, Climate and Disaster Resilience, analysis of the demand of the project components as well as identification of the strength, weakness, opportunities and threat (SWOT) of the proposed interventions, risk (uncertainty) and sensitivity analysis of the proposed interventions;
- Investigate the institutional and legal requirement during implementation of the proposed interventions.
- Analysis of the alignment of the project with the existing Policy, Plan and Act;
- Submission of reports including above findings.

11. Reasons for Revision (if applicable): **Not Applicable**

- 1st Revision:
- 2nd Revision

11.1 Reasons for No-Cost Time Extension (if applicable):

- 1st time No-Cost Time Extension:

Data collection and mathematical model development of the project required more time than planned for which the consultant could not accomplish the task as scheduled.

- 2nd time No-Cost Time Extension

12. Financing Arrangement (Source-wise):

12.1 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)

b) GOB:

Total amount	Loan	Grant	Cash Foreign Exchange
(1)	(2)	(3)	(4)
497.76	-	497.76	-

c) Self-finance/Equity: **Not Applicable**

Total amount	Self-finance	Equity	Cash Foreign Exchange
(1)	(2)	(3)	(4)

12.2 Utilization of Project Aid (Source wise): **Not Applicable**

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)

12.3 Reimbursable project Aid (RPA): **Not Applicable**

Source (s)	RPA Amount		Amount	Amount	Amount	Remarks
	As per Project Document	As per Agreement	Spent	Claimed	Re-imbrued	
(1)	(2)	(3)	(4)	(5)	(6)	(7)

B. IMPLEMENTATION POSITION

13. Implementation Period:

Implementation Period as per Project Document		Actual implementation	Time Over-run (% of original implementation period)	Remarks
Original	Latest Revised			
(1)	(2)	(3)	(4)	(5)
September 2022-June 2023 (10 months)	September 2022-June 2024 (22 months)	September 2022-June 2024 (22 months)	120%	Data collection and mathematical model development of the project required more time than planned for which the consultants could not accomplish the task as scheduled.

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14. Cost of the Project:

Description	Estimated Cost		Actual expenditure	Cost over-run (% of original cost)	Remarks
	Original	Latest revised			
(1)	(2)	(3)	(4)	(5)	(6)
TOTAL	497.76	-	452.98	(-9%)	The actual expenditure was less than the estimated cost.
TAKA	497.76	-	452.98		
PA	-	-	-		

15. Information regarding Project Director (s):

Name, Main Designation & Grade. Mobile Number (From Beginning)	Full time (Yes/No)	Part time (Yes/No)	Responsible for more than one project	Period		Remarks
				Joining	Transfer	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Md. Abu Sayeed Executive Engineer (Civil) Grade-5 Mobile: 01716243743	Yes	No	Yes	22 November 2022	18 September 2023	He was transferred to JRC.
Farzana Ahmed Executive Engineer (Civil) Grade-5 Mobile: 01969663092	Yes	No	Yes	12 October 2023	-	-

16. Personnel:

16.1 Personnel of Project implementation Unit (PIU): Manpower of the Planning Wing of BWDB were engaged for implementation of the project.

Sl. No.	Name of Post (Grade)	Approved Strength	Employed during Implementation
(1)	(2)	(3)	(4)
	-	-	-
Total=	-	-	-

16.2 Personnel Required after the Project Completion: **Not Applicable**

Sl. No.	As Proposed in Project Document (PD)		Recruited (Yes/No)	If not recruited explain reason and latest status
	Name of Post	Number		
(1)	(2)	(3)	(4)	(5)
Total=				

17. Training (Foreign/Local): An on-the job training for BWDB officials was arranged under this project.

Category	Sl. No.	No. of Days/Weeks/Months (D/W/M), Batch & Participants					
		As in Project Document			Achievement		
		D/W/M	Batch (s)	Participants(s)	D/W/M	Batch (s)	Participants(s)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Local Training	1.	2 Days	02	10	2 Days	01	10
Sub Total=		2 Days	02	10	2 Days	01	10
Foreign Training	1.	07 Days	01	04	-	-	-
Sub Total=		07 Days	01	04	-	-	-

(PD= Project Document)

18.Component-wise Progress (As per latest approved Project Document):

Name of Component	Unit	Quantity	Estimated Cost (Taka in Lac)					Actual Progress (Taka in Lac)				
			Total	GOB	PA	Self-finance	Others	Total	GOB	PA	Self-finance	Others
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(a) Revenue:												
Honorarium (for Tender/ Proposal Evaluation Committee)	LS	LS	1.00	1.00	-	-	-	0.560	0.560	-	-	-
Domestic Travel Expenses (TA & DA)	LS	LS	1.00	1.00	-	-	-	0.988	0.988	-	-	-
Printing and Binding	LS	LS	0.25	0.25	-	-	-	0.249	0.249	-	-	-
Consultancy	LS	LS	493.01	493.01	-	-	-	449.190	449.190	-	-	-
Repairs and Maintenance: Furniture (Cabinet to preserve project documents)	LS	LS	0.50	0.50	-	-	-	0.497	0.497	-	-	-
Repairs and Maintenance: Computers	LS	LS	0.50	0.50	-	-	-	0.499	0.499	-	-	-
Sub-total (Revenue)			496.26	496.26	-	-	-	451.983	451.983	-	-	-
(b) Capital												
Computers & Accessories (1 Laptop)	LS	LS	1.5	1.5	-	-	-	0.995	0.995	-	-	-
Sub-total (Capital)			1.5	1.5	-	-	-	0.995	0.995	-	-	-
Total a+b (Revenue+ Capital)			497.76	497.76	-	-	-	452.979	452.979	-	-	-

19. Procurement of Transport (in Nos.): **Not Applicable**

Type of transport	Number as per Project Document	Number Procured with date	Transferred to Transport Pool with date	Transferred to O & M with date	Condemned/ damaged with date	Returned or transferred to following project	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Car							
Jeep							
Microbus							
Minibus							
Bus							
Pick-up							
Truck							
Motor - Cycle							
By-cycle							
Speed Boat							
Launch							
Others with name							

20. Project Consultant (s) (Local/Foreign):

Name of the Field	Approved man month		Actual man month utilized	Number of Deliverables		Remarks
	As per Project Document	As per contract		As per Project Document	Actual	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
a) Local:	Mathematical Modelling Component: 42 man month	Mathematical Modelling Component: 42 man month	Mathematical Modelling Component: 42 man month	Inception Report, Draft Final Report, Final Report.	Inception Report, Draft Final Report, Final Report.	Mathematical Modelling Component was conducted by IWM and Environmental and Social Study Component was conducted by CEGIS.
	Environmental and Social Study Component: 18 man month	Environmental and Social Study Component: 18 man month	Environmental and Social Study Component: 18 man month	Inception Report, Draft Final Report, Final Report.	Inception Report, Draft Final Report, Final Report.	
b) Foreign:	-	-	-	-	-	-

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21. Infrastructure/Erection/Installation Tools & Equipment: **Not Applicable**

Description	Quantity (as per project document)	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)
-	-	-	-	-	-	-

22. Procurement of Goods, Works and Services:

22.1 Information on packages:

- a) Total number of packages as per Project Document: 5 (Goods- 4 Works- 0 Services-2)
- b) Total number of packages procured: 4 (Goods- 4 Works- 0 Services- 2)
- c) Reason for not procuring (if any): Not Applicable.
- d) Number of packages for which the estimated cost is more than 1% of the estimated cost of the project: 0 (Goods- 0 Works- 0 Services- 0): Not Applicable.

22.2 Detailed Package-wise information of Goods, Works and Services (For each case the highest 50 (fifty) packages) (Please use the format as in Annexure-I (a), I(b) and I(c))

C. FINANCIAL AND PHYSICAL TARGET AND PROGRESS

23. Original and Revised Financial Provision and physical Target (as per Project Document):

(BDT in lac)

Financial Year	Financial provision & physical target as per original Project Document						Financial provision & physical target as per latest revised Project Document					
	Total	GOB	P.A.	Self-finance	Others	Physical %	Total	GOB	P.A.	Self-finance	Others	Physical %
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2022-23	497.76	497.76	-	-	-	100%	-	-	-	-	-	-
and												
2023-24												
Total	497.76	497.76	-	-	-	100%	-	-	-	-	-	-

24. Revised ADP allocation and progress:

(BDT in lac)

Financial Year	Revised Allocation & target						GOB Release	Expenditure & physical progress						Unspent* GoB Released
	Total	GOB	P.A.	Self-Finance	Others	Physical %		Total	GOB	P.A.	Self-Finance	Others	Physical %	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)= 8-10
2022-23	148.00	148.00	-	-	-	30%	148.00	148.00	148.00	-	-	-	30%	-
2023-24	305.00	305.00	-	-	-	70%	305.00	304.98	304.98	-	-	-	70%	0.0206
Total=	453.00	453.00	-	-	-	100%	453.00	452.98	452.98	-	-	-	99.99%	0.0206

*Attach the Proof for Reconciliation of Unspent GOB Released

**To determine the physical quantity, use the formula as in the circular of Planning Division

D. ACHIEVEMENT OF OBJECTIVES OF THE PROJECT

25. Project objective, Actual achievement and Reason for shortfall (if any):

Objectives as per Project Document	Actual achievement	Reasons for shortfall (if any)
(a) Flood and erosion risk management of rivers within the project area	Completed. Dredging and bank protection works of concerned rivers as a means of flood and erosion protection of concerned rivers are incorporated in Section-4 and Section-10 of the final report.	-
(b) Improvement of water storage capacity of the rivers within the project area;	Completed. Dredging and provision of humps as a nature based solution for the improvement of water storage capacity are incorporated in Section 4 of the final report.	-
(c) Design of proposed interventions.	Completed. Design of all proposed interventions are incorporated as an appendix of the final report.	-
(d) Environmental and Social Impact Assessment.	Completed. A detailed ESIA is done and incorporated in Section-5 of the Final Report together with a separate ESIA report.	-
(e) Preparation of DPP of the subsequent investment project.	Completed. All necessary documents to prepare DPP are attached in the Final Report. The respective DPP will be prepared by the concerned field office of BWDB.	

A.

b) BENEFIT ANALYSIS

26. Annual Out-put: Not Applicable for the Study Project.

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

27. Cost/Benefit: Not Applicable (It is not an investment project, hence not applicable)

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

Please give reasons for shortfall, if any, between the estimated and actual benefit: **Not Applicable**

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c) **MONITORING AND AUDITING**

28. Monitoring: **Nil.**

Name & Designation of the inspecting official	Date	Identified Problems	Recommendations
1	2	3	4
a) IMED:			
b) Ministry/Agency:			
c) Others: (Please specify)			

29. Auditing during and after Implementation:

a. Internal Audit: **Not conducted yet.**

Period of Audit	Date of submission of Audit Report	Sl. No.	Major findings/objections and Money involved	Whether objections resolved or not (if not, mention status)
1	2	3	4	5
Total findings/objections and Money involved=				

b. External Audit: **Not conducted yet.**

Period of Audit	Date of submission of Audit Report	Sl. No.	Major findings/objections and Money involved	Whether objections resolved or not (if not, mention status)
1	2	3	4	5
Total findings/objections and Money involved=				

7.

d) POST-PROJECT REMARKS

30. General Observations/Remarks on the Project

a. Background

Panchagarh is the northern most district of Bangladesh and adjacent to the Bangladesh India border. About 33 rivers flow through this district in which Karatoa river is the major one. Originating from the Jalpaiguri district of India, the river enters Bangladesh at Vodreswar area of Vojonpur Union under Tetulia upazila of Panchagarh district. Later on, the river falls into the Atrai river at Birganj upazila of Dinajpur District. Most of the rivers in Panchagarh district are connected to the Karatoa river. Among the rivers of the district, Talma, Chawai and Ghoramara are three transboundary rivers those originate in India and later on falls into the Karatoa river. Other two transboundary rivers of the district are Borka and Dahuk river, both of these rivers originate in Bangladesh and later on, enter India. Pathraaj is another important river of Panchagarh which originates from the Maidan Dighee Beel under Boda upazila and later on falls in the Karatoa river at Sundardighee union in Debiganj upazila. Other rivers of the district are Buri Teesta, Tirnoi, Ronochondi, Berong, Petki, Kurum, Paam, Chatnai, Vullikhal etc. All of these rivers are experiencing flood and severe bank erosion due to excessive monsoon rainfall. Also, most of these rivers are having morphological changes due to sedimentation which results change of river courses and reduced water storage capacity. These rivers are contributing to different irrigation projects of the area such as Ahmednagar 2, 3 Irrigation Project, Telipara Irrigation Project. Therefore, sustainable development and management of these rivers is the key factor of overall development of the area.

Thakurgaon district is located along Bangladesh-India border at the northern region of Bangladesh. Total 13 rivers flow through this district, the rivers are: Tangon, Kulic, Pathraaj, Chhoto Tapa, Shuk, Tirnoi, Senua, Chhoto Senua, Vulli, Aman Dhaman, Nona, Lacchi and Nagar river. Among the rivers, Tangon, Kulic and Nagar are transboundary rivers. Originating in Bangladesh, both the Tangon and Kulic river enters India respectively through Bairchura union of Pirganj Upazila and Batuarua union of Haripur upazila of Thakurgaon district. The characteristics of the rivers of Thakurgaon district are relatively lower average depth and steeper bed slope. Tangon, Shuk, Lacchi, Nona, Nagar, Kulic, Pathraaj and Vulli rivers are experiencing bank erosion along with sedimentation problem. The water storage capacity of these rivers are decreasing due to sedimentation which causes negative impact on the irrigation facilities of the area specially in the dry season. The Tangon Barrage Irrigation Project, Buribadh Irrigation Project, Vulli Irrigation Project and Rahmatpur FCDI project are totally dependent on these rivers. Therefore, water storage capacity of these rivers should also be increased.

In view of the above, Bangladesh Water Development Board (BWDB) has formulated the proposal to study all the rivers in Panchagarh and Thakurgaon district in a holistic approach to devise a sustainable river management plan of the area.

b. Justification/Adequacy

The project is located under "Barind and Drought Prone Areas" which is one of the hotspots of Bangladesh Delta Plan 2100 (BDP 2100). The main strategy for development of the area as specified in the Delta Plan is balancing supply and demand for sustainable and inclusive growth, minimizing losses due to floods and drainage congestion and ensuring water supply and sanitation. Some measures to attain the strategy are extension of irrigation using the surface water, regulating ground water extraction, water retention for the dry season usage, reclaiming encroached river banks etc.

The concept of the project is in line with BDP2100. Particularly, the Project contributes to the following strategies and sub-strategies:

Strategy at National Level:

- Sub-strategy FR 2.5: River management, excavation and smart dredging preceded by appropriate feasibility study.
- Strategy FR 3: Safeguarding Livelihoods of Vulnerable Communities.
- Sub-strategy FR 3.7: River management as well as improved flood management, drainage, O&M and flow management.

Fresh Water (FW) Strategies:

- Sub-strategy FW 1.3: Excavation of local water reservoirs (canals, ponds, and baors) for restoration of water and rain water harvesting;
- Sub-strategy FW 1.7: Preserving ground water level by restriction on excessive extraction of ground water.

Hotspot Specific Strategies:

- Barind and Drought Prone Areas ;
- Protection of vulnerable communities from water induced disasters e.g. river bank erosion and wave erosion;
- Boosting up agricultural production through irrigation.

c. Objectives

(a) Overall objective:

The main objective of the study is to identify all existing problems related to water resources management and find out no-regret solutions for sustainable development and management of the rivers in Panchagarh and Thakurgaon district in a holistic approach.

(b) Specific Objectives:

- Flood and erosion risk management of rivers within the project area;
- Improvement of water storage capacity of the rivers within the project area;
- Design of proposed interventions;
- Environmental and Social Impact Assessment;
- Preparation of DPP of the subsequent investment project.

d. Project revision with reasons: Not Applicable.

31. Rationale of the project (Consider the following issues):

- a. Concept
- b. Design
- c. Location and
- d. Timing.

The project is located under “Barind and Drought Prone Areas” which is one of the hotspots of Bangladesh Delta Plan 2100 (BDP 2100). The main strategy for development of the area as specified in the Delta Plan is balancing supply and demand for sustainable and inclusive growth, minimizing losses due to floods and drainage congestion and ensuring water supply and sanitation. Some measures to attain the strategy are extension of irrigation using the surface water, regulating ground water extraction, water retention for the dry season usage, reclaiming encroached river banks etc. If the

project is implemented successfully, it would result in agricultural expansion. Also dependency on the surface water will be reduced and ground water will be recharged which would help to achieve the goals of BDP 2100.

32. Brief description on planning and financing of the project and its applicability (Consider the following issues):

a. Project Identification:

Most of the rivers in Panchagarh and Thakurga districts are experiencing flood and severe bank erosion due to excessive monsoon rainfall. Also, these rivers are having morphological changes due to sedimentation which results change of river courses and reduced water storage capacity. The decreased water storage capacity of these rivers causes negative impact on the irrigation facilities of the area specially in the dry season. The Ahmednagar 2, 3 Irrigation Project, Telipara Irrigation Project, Tangon Barrage Irrigation Project, Buribadh Irrigation Project, Vulli Irrigation Project and Rahmatpur FCDI project are totally dependent on these rivers. Therefore, BWDB formulated this study to devise a sustainable management plan for the rivers in Panchagarh and Thakurga districts.

b. Project Preparation:

BWDB prepared the PFS of the project and sent to the Ministry of Water Resources (MoWR) for approval.

- c. Appraisal: The Appraisal meeting was held on 27 April 2022 and DPEC meeting was held on 03/07/2022.
- d. Credit Negotiation: N/A
- e. Credit Agreement: N/A
- f. Credit Effectiveness: N/A
- g. Loan Disbursement: N/A
- h. Loan Conditions: N/A
- i. Project Approval: The AO regarding approval of the project was issued on 02 October 2022.
- j. Others(specify)

33. Analysis of the post- implementation situation and result of the project (Consider following issues):
Not Applicable for a study project.

- a. Whether the beneficiaries of the project have clear knowledge about the Target/Objectives of the project.
- b. Programme for use of created-facilities of the project
- c. O & M Program of the project.
- d. Impact of the project (Direct & Indirect)
- e. Transfer of Technology and Institutional Building through the project.
- f. Employment generation through the project.
- g. Possibility of Self employment.
- h. Possibility of Women-employment opportunity.
- i. Women's participation in development.
- j. Probable Impact on Socio-Economic activity.
- k. Impact on environment.
- l. Sustainability of the project.
- m. Contribution to poverty alleviation/reduction.
- n. Opinion of the public representatives, local elite, local administration, teachers, religious leaders, women's representatives etc.

o. Contribution of Micro-credit programs and Comments on overlapping with any NGO activities.

34. Problems encountered during Implementation (with duration & steps taken to resolve those) (Consider following issues): No such problems were occurred.

- a. Project management:
- b. Project Director:
- c. Land Acquisition:
- d. Procurement:
- e. Consultancy:
- f. Contractor:
- g. Manpower:
- h. Law & Order:
- i. Natural calamity:
- j. Project financing:
- k. Allocation and release:
- l. Design formulation/approval:
- m. Project aid disbursement and re-imbursement:
- n. Mission of the development partners:
- o. Time & Cost Over-run:
- p. Project Monitoring:
- q. Delay in Decision:
- r. Transport, Training:
- s. Approval and Others:

35. Remarks & Recommendations of the Project Director:

The study was approved by the Ministry of Water Resources (MoWR) vide memo number :42.00.0000.041.14.062.22-131, dated 02 October 2022. The project was accomplished on 30 June 2023.

The main objective of the study is to identify all existing problems related to water resources management and find out no-regret solutions for sustainable development and management of the rivers in Panchagarh and Thakurgaon district in a holistic approach.

The study has been framed to attain its objectives through two components: Mathematical Modelling Component and Environmental and Social Study Component. Under Mathematical Modelling Component, detail hydro-morphological analysis of the concerned rivers were done through mathematical modelling. Based on the outputs of the mathematical modelling, project interventions have been proposed. Under Environmental and Social Study Component of the project, detailed environmental and social impact assessment (ESIA) has been completed to analyse the impact of the proposed interventions on the environment and the society of the project area.

After assessing the field condition and model results, the study recommended A total of 73.310km of Bank Protection Works (BPW) at 129 locations among which 57.325km of BPW at 76 locations of Panchagarh district and 15.990 km of BPW at 53 locations of Thakurgaon district have been proposed is 3 phases. In the first phase 31.69km of BPW at Panchagarh district & 5.885 km of BPW at Thakurgaon district has

been proposed. Also, re-excavation of 14.60km of Kulic, 3.35km of Rangapani, 6.47km of Kurun, 1.609km of Dara, 1.755km of Kalidaha, 3.058km Ronochondi, 0.8km of Pathraj river and 6.00 km of Senua River are recommended in the study. The study also found, to maintain the “Environmental Flow” of the Karatoa river, maximum 6 cusecs from Ahmed Nagar-1, 4 cusecs from Ahmed Nagar-2, 4 cusecs from Ahmed Nagar-3, 32 cusecs from EB-1 (Boalmari), 64 cusecs from EB-3 (Telpara) & 64 cusecs from EB-4 (Laxminarayani) can be extracted from the Karatoa River, which would allow to irrigate 3641 ha during supplementary irrigation period and 1397 ha during dry season irrigation. And to maintain the “E-Flow” of the Talma River maximum 10 cusec of water can be extracted from the Talma River during dry season. This would allow to irrigate 209 ha during supplementary irrigation period and 80 ha during dry season irrigation using the water of the Talma River.

The proposed interventions are district-wise separated and recommended for preparation of DPP division-wise for smooth implementation of the project. It is anticipated that the study project output would help in DPP preparation and implementation of the subsequent investment project.

Date.....02/03/2025.....



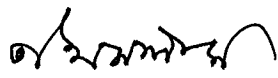
Signature and seal of the Project Director

(Farzana Ahmed)
Executive Engineer (Civil)
ID No: 851212001
Office of the Chief Engineer (Civil) Planning
BWDB, Pani Bhaban, Dhaka

36. Remarks/Comments of Agency Head:

The study aims to manage the rivers in Panchagarh and Thakurgaon districts in a sustainable manner. It is expected that implementation of the project based on the study outcomes would bring substantial benefits to the people living in the project area. Additionally, the project is anticipated to create a significant number of employment opportunities both during its implementation and in the post-project phase.

Date.....


03.03.25

Signature and seal of Agency Head

(A.K.M. Tahmidul Islam)
ID No. 660715001
Director General
BWDB, Dhaka.

37. Remarks/Comments of the Secretary/Senior Secretary of the Ministry/Division:

The study has been done successfully and subsequent investment project will be taken as per recommendations of the study.

Date.....

Signature and seal of Secretary

Information Related to Procurement of Goods:

As per Project Document		Description of Pack age	Estimated Cost. (Taka in Lac)	Procurement Method	Approving Authority	Date of Tender Invitation	Name of Newspaper	Date of Opening	Date of Approval	Date of NOA	Contract Price & Date	Actual Payment	Date of Completion	
Package No													As per Contract	Actual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
PANCHAGARH-PG01/22-23	Printing and Binding	Plan	DPM	As per DoFP	-		-	-	-	-	24960/-	-	-	
		Actual	DPM	PD	-		-	-	-	-				
		Deviation			-		-	-	-					
PANCHAGARH-PG02/22-23	Repair and Maintenance of Furniture (Cabinet to preserve project documents)	Plan	DPM	As per DoFP	-		-	-	-	-	49,740/-	-	-	
		Actual	DPM	PD	-		-	-	-	-				
		Deviation			-		-	-	-					
PANCHAGARH-PG03/22-23	Repair and Maintenance of Computers	Plan	DPM	As per DoFP	-	-		-	-	-	44940	-	-	
		Actual	DPM	PD	-		-	-	-	-				
		Deviation			-		-	-	-					
PANCHAGARH-PG04/22-23	Procurement of Computers and Accessories (1 Laptop)	Plan	RFQ	As per DoFP	14.09.22		19.09.22	19.09.22	21.09.22	150000/, 22.09.22	995000/-	04.01.22	12.06.24	
		Actual	RFQ	PD	02.06.24		05.06.24	06.06.24	09.06.24					
		Deviation			627		625	626	629					

* Please mention Dates for plan and actual

* Deviation in days (difference between plan and actual)

* Plan as per procurement plan described in project document

Information Related to Procurement of Works: Not Applicable

As per Project Document		Estimated Cost. (Taka in Lac)	Procurement Method	Approving Authority	Date of Tender Invitation	Name of Newspaper	Date of Opening	Date of Approval	Date of NOA	Contract Price & Date	Actual Payment	Date of Completion	
Package No	Description of Package											As per Contract (13)	Actual (14)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
		Plan											
		Actual											
		Deviation											
		Plan											
		Actual											
		Deviation											
		Plan											
		Actual											
		Deviation											

4.

* Please mention Dates for plan and actual

* Deviation in days (difference between plan and actual)

* Plan as per procurement plan described in project document

Information Related to Procurement of Services:

As per Project Document Package No	Description of Package	Estimated Cost. (Taka in Lac)	Procurement Method	Approving Authority	Date of Tender Invitation	Name of Newspaper	Date of Opening	Date of Approval	Date of NOA	Contract Price & Date	Actual Payment	Date of Completion As per Contract	Actual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
PANCHAGARH- PS01/22-23	Procurement of Consultancy Services (Mathematical Modeling Component) in connection with the project "Feasibility Study for Sustainable River Management in Panchagarh and Thakurgaon District"	377.03	SSS (National)	Competent Authority as per DoFP	15.09.22		17.10.22	25.10.22		3,57,83,505/- (03/01/2022)	3,38,66,838/-	30.06.2023	30.06.2024
	Actual	377.03	SSS (National)	ADG (Planning, Design and Research)	25.10.22		05.12.22	08.12.22	12.12.22				
	Deviation				40		56	44					
PANCHAGARH- PS01/22-23	Procurement of Consultancy Services (Environmental and Social Study Component) in connection with the project "Feasibility Study for Sustainable River Management in Panchagarh and Thakurgaon District"	115.98	SSS (National)	Competent Authority as per DoFP	13.01.23		15.02.23	22.02.23	-	1,10,52,770/- (03/01/2022)	1,10,52,770/-	30.06.2023	30.06.2024
	Actual	115.98	SSS (National)	ADG (Planning, Design and Research)	25.10.22		05.12.22	08.12.22	14.12.22				
	Deviation				-80		-72	-76					

* Please mention Dates for plan and actual

* Deviation in days (difference between plan and actual)

* Plan as per procurement plan described in project document

4

