

# Bangladesh Water Development Board Asian Development Bank

## Flood and Riverbank Erosion Risk Management Investment Program – Project 1

ADB Loan 3138-BAN (SF)/GON Grant 0396 (EF)

Institutional Strengthening and  
Project Management Consultant (ISPMC)

### QUARTERLY PROGRESS REPORT NO. 17

FOR

July - September 2019

Prepared by:

**FRERMIP**

**Flood and Riverbank  
Erosion Risk Management  
Investment Program**

**ISPMC**  
Institutional strengthening and  
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8 December, 2019

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**Subject: Submission of Quarterly Progress Report No. 17, July-September, 2019.**

**Reference: As per Institutional Strengthening and Project Management Consultant Service Contract, Clause 9 (i).**

Dear Sir,

Please find enclosed Quarterly Progress Report No. 17 for the period July-September 2019 for "Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP) – Project 1". This report has been prepared in close discussion with your office, using information available in the Revised (November 2018) Development Project Proforma and considering the Facility Administration Manual.

The quarterly progress report documents the status of project and progress made during the reporting quarter. When required, it identifies changes to the key assumptions and possible risks to project implementation. This report was prepared by ISPMC with contributions, assistance and cooperation of the Bangladesh Water Development Board (BWDB).

We look forward to further comments from BWDB, ADB and others on this report.

Yours sincerely,  
**JV Northwest Hydraulic Consultants – Euroconsult Mott MacDonald**

  
Sharif Al Kamal  
(Deputy Team Leader)

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## ABBREVIATIONS AND ACRONYMS

AP	-	Affected Person
ADB	-	Asian Development Bank
ADP	-	Annual Development Program
BDPC	-	Bangladesh Disaster Preparedness Center
BDT	-	Bangladesh Taka
BDRCS	-	Bangladesh Red Crescent Society
BRM	-	Bangladesh Resident Mission
BWDB	-	Bangladesh Water Development Board
CbFRM	-	Community-based Flood Risk Management
CCL	-	Cash Compensation under Law
CDMU	-	Community Development Medical Unit
CEGIS	-	Center for Environmental and Geographic Information Services
CRO	-	Chief Resettlement Officer
CV	-	Community Volunteer
DG	-	Director General
DDM	-	Department of Disaster Management
DMC	-	Disaster Management Committee
DPP	-	Development Project Proforma
EKN	-	Embassy of the Kingdom of the Netherlands
EP	-	Entitled Person
FRERMIP	-	Flood and Riverbank Erosion Risk Management Investment Program
GAP	-	Gender Action Plan
GFM	-	Grout Filled Mattress
GOB	-	Government of Bangladesh
GON	-	Government of the Netherlands
ha	-	hectare
IMED	-	Implementation Monitoring and Evaluation Division
INGO	-	Implementing Non-Government Organization
ISPMC	-	Institutional Strengthening and Project Management Consultant
JLB-2	-	Jamuna Left Bank 2 Sub-Project
JRB-1	-	Jamuna Right Bank 1 Sub-Project
JMREMP	-	Jamuna-Meghna River Erosion Mitigation Project (2002-2011)
JVT	-	Joint Verification Team
km	-	Kilometer
LA	-	Land Acquisition
LAP	-	Land Acquisition Plan
MDIP	-	Meghna-Dhonagoda Irrigation Project (1977-1983)
Mil	-	Million (1,000,000)
MIS	-	Management Information Systems
MoDMR	-	Ministry of Disaster Management and Relief
MoWR	-	Ministry of Water Resources
O&M	-	Operation and Maintenance
PD	-	Project Director (BWDB)
PM	-	Project Manager (DDM)
PIRDP	-	Pabna Irrigation and Rural Development Project (1978-1992)
PLB-1	-	Padma Left Bank 1 Sub-Project
PMO	-	Project Management Office (BWDB)
PMU	-	Project Management Unit (DDM)

PPTA	-	Project Preparatory Technical Assistance
PVAT	-	Property Valuation Advisory Team
QPR	-	Quarterly Progress Report
SCME	-	Senior Community Mobilization Expert
SMO	-	Sub-Project Management Office
TN	-	Technical Note
ToR	-	Terms of Reference
ToT	-	Training of Trainers
UDMC	-	Upzilla Disaster Management Committee
USD	-	United States Dollars
VDP	-	Village Defense Party
VRDS	-	Voluntary Rural Development Society

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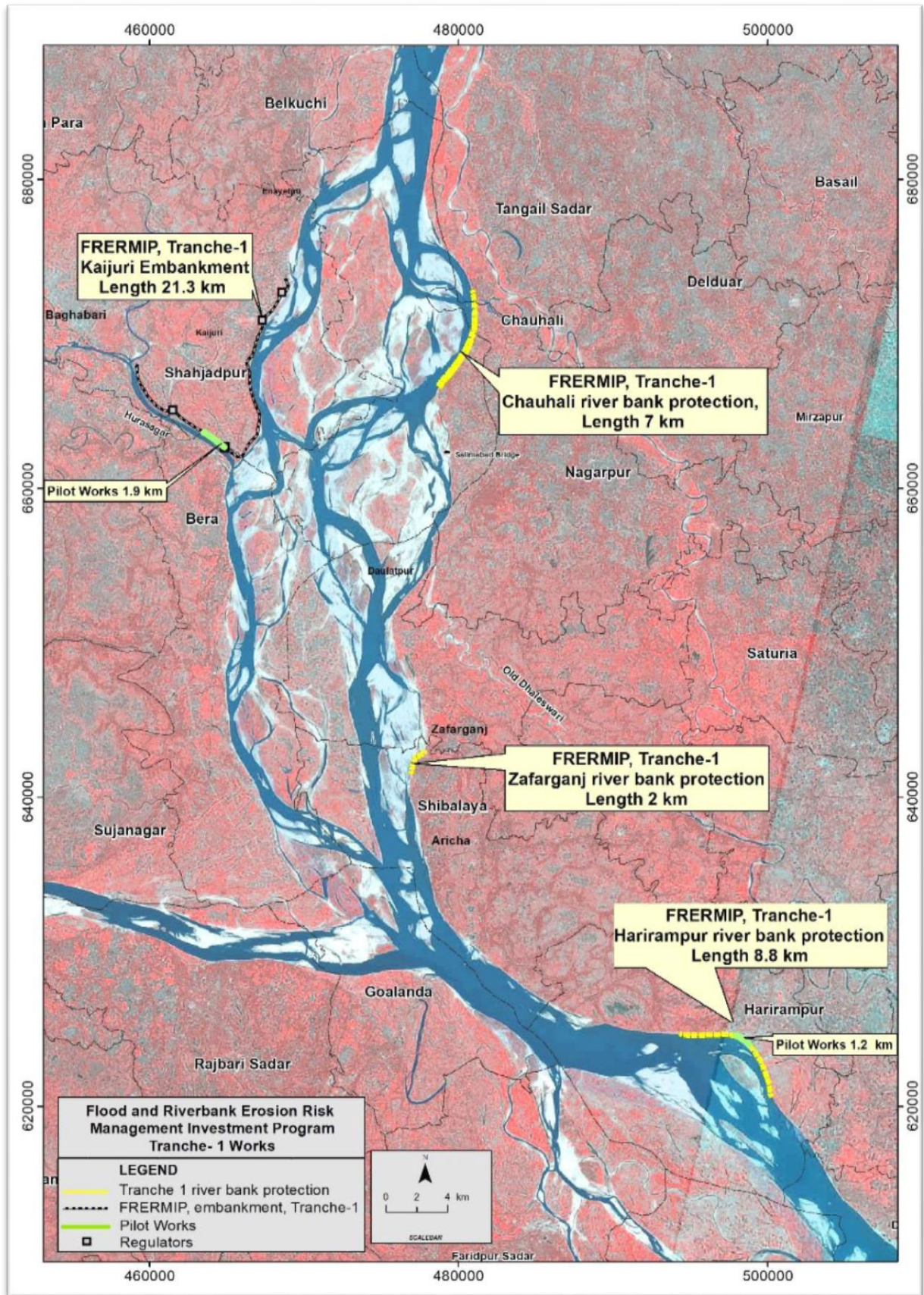


Figure 0-1 Index Map (Tranche-1)

**Table 0-1 Project Progress at a glance**

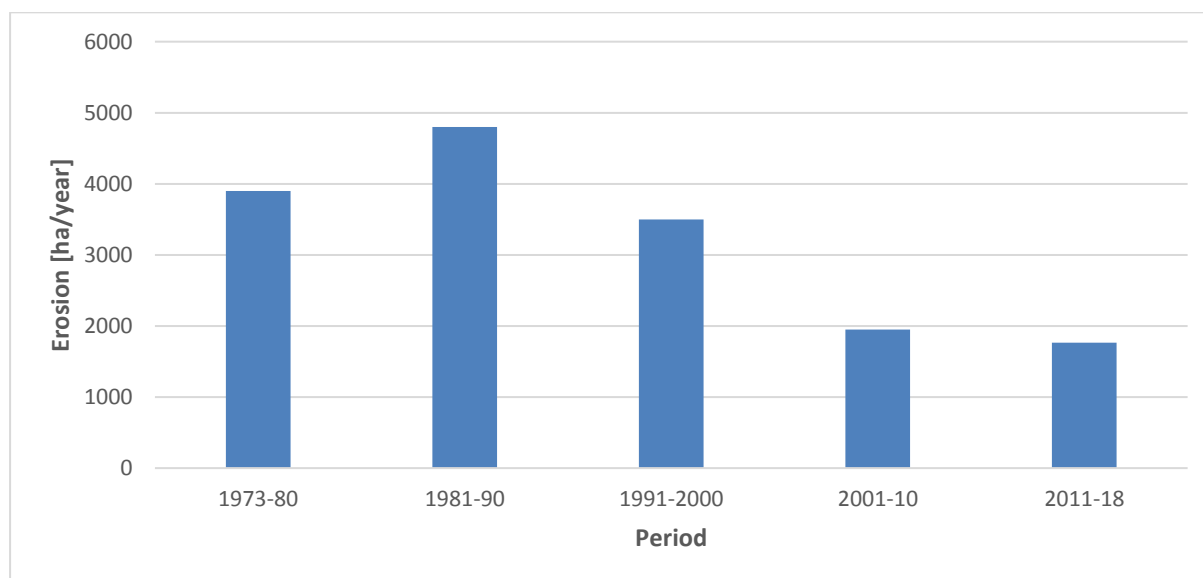
1. Basic Data						
ADB Loan Agreement Number	3138-BAN(SF)					
GON Grant Agreement Number	0396-BAN(EF)					
Project Name	Flood and Riverbank Erosion Risk Management Investment Program - Tranche 1					
Country	Bangladesh					
Borrower	People's Republic of Bangladesh					
Executing Agency	Bangladesh Water Development Board					
Implementing Agency	Department of Disaster Management					
2. Financing Plan						
Modality and Sources	Tranches (\$ million)			Amount (\$ million)		
	I	II	III			
Government of Bangladesh (GOB)	23.3	45.3	34.8	103.4		
Asian Development Bank (ADB)	65	100	90	255		
Government of The Netherlands (GON)	15.3	0	0	15.3		
<b>Total</b>	<b>103.6</b>	<b>145.3</b>	<b>124.8</b>	<b>373.7</b>		
3. Milestones						
Milestone	Date					
	Approval	Signing	Effectiveness			
ADB Loan Agreement	2014 June 27	2014 August 14	2014 September 17			
Milestone	Project					
	I	II	III			
Estimated Completion Date	2020 June 30	2023 December 31	2024 August 31			
Milestone	Date					
Last ADB Review Mission	24-26 September 2019					
4. Assets and Physical Progress						
Proposed Project Assets	Goods	Services	Works	eXtra	Total	Available
Project Program Best Estimate (Tk Mil)	1360	1116	3609	2589	8674	8674
Primary Component	Secondary Component	Assigned Weight (%)	Progress			
			Actual (%)	Weighted (%)		
1. Establishment & Recruitment	1.1 PMO Establishment and Staffing	2	100	2.00		
	1.2 ISPMC Consultants Recruitment	2	100	2.00		
	1.3 NGO Recruitment	2	100	2.00		
2. Implementation; Tranche-1	2.1 Detailed Design	2	100	2.00		
	2.2 Tender Documents Preparation	6	100	6.00		
	2.3 Tendering and Contract Award	6	100	6.00		
	2.4 Land Acquisition and Resettlement	8	96	7.68		
	2.5 Project Management	6	84	5.04		
	2.6 Physical Completion of Works	32	95	30.40		
	2.7 Financial Disbursements	4	92	3.68		
3. Knowledge Base & Capacity	3.1 Knowledge Base & Tech. Studies	4	95	3.80		
	3.2 CBFRM Activities	6	100	6.00		
	3.3 MIS Project Mgmt Module	4	75	3.00		
4. River Study, Piloting & Master Plan	4.1 Long-term stabilization study	4	85	3.40		
5. Preparation; Project-2	5.1 Feasibility Study; Project-2	6	100	6.00		
	5.2 Detailed Design; Project-2	4	100	4.00		
<b>Totals</b>		<b>100</b>		<b>94.72</b>		
5. Financial Progress						
Financial Indicator	BDT Million	US\$ Million	% of Total			
Estimated Project Cost (Source: DPP Page 1)	8,674	108.43	100			
PMO Expenditures	7,299	91.24	84			
ADB and GON Disbursement	5,413	67.66	92			
Total Reimbursement	4,683	58.54	79			

\*1 USD= 80 Taka ( Source : Revised Devised Development Project Performa (Page-2)

## 1. INTRODUCTION

### 1.1 Background

The people in Bangladesh are often detrimentally affected by flooding and riverbank erosion along its four main rivers: Jamuna, Ganges, Padma and Meghna. Even though the erosion rates of floodplain land have reduced from nearly 5000 hectares per year to less than 2,000 hectares (Figure 1-1), ten thousand people are affected annually.



**Figure 1-1 Decadal erosion rates of the Jamuna-Ganges-Padma River ( Source: CEGIS 2019)**

The risk associated with flooding and riverbank erosion increases with the growth of the population, and the high population density of Bangladesh restricts the scope for moving people away from disaster prone areas. Riverbank erosion increasingly threatens embankments required for flood protection, as the setback distances from the riverbank become increasingly smaller. The threat of flooding and riverbank erosion discourages investment and leads to lower economic growth in riverine areas. Effective riverbank erosion and flood protection management is essential for the economic growth and poverty reduction in affected areas.

The BWDB undertook the 'Jamuna-Meghna River Erosion Mitigation Project ' (JMREMP) with financial assistance from ADB in 2001, having the dual purpose to firstly mitigate riverbank erosion at the Pabna Irrigation and Rural Development Project (PIRDP) and the Meghna-Dhonagoda Irrigation Project (MDIP) through sustainable and cost-effective protective works; and secondly to develop a framework for a sustainable erosion risk management system to be applied elsewhere in the country. JMREMP has developed the concept of phased planning (based on erosion prediction, river surveys, and flexible fund allocations) and implementation to adapt to changing river condition known as adaptive management. The most important development of the project is a special method of construction of underwater revetment by dumping sand filled geo-textile bags from positioned barges. Between 2004 and 2011, this protection method was used along 17 km of the lower Jamuna River and some 11 km around the MDIP. Geobag revetments were incorporated into the 'Guideline for Riverbank Protection' approved by the BWDB in 2010. The Project Preparatory Technical Assistance (PPTA), implemented from 2012 to 2013, provides the key concept for FRERMIP and is documented in the Final Report,



Feasibility Study, 2013 (NHC, 2013). This initiative includes recovering floodplain land lost during the widening process which has persisted since the 1960s<sup>1</sup>. The ADB Facility Administration Manual, June 2014 (ADB, 2014) is the key document prescribing the loan objectives and procedural details.

The loan for Project-1 of the Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP) was signed on 14 August 2014, and the contract with the main consultant (ISPMC) was signed on 8 September 2015. The first 17.80 km of riverbank protection, concentrating on the critical underwater part, was completed during the dry season 2016/17. This first project lays the foundation for systematic river stabilization supported by FRERMIP over three successive projects to be implemented over a period of around ten years. The first project, scheduled to be completed in June 2020, will provide structural and non-structural flood and riverbank erosion risk management measures in three high priority sub-projects: Jamuna Left Bank 2 (JLB-2), Jamuna Right Bank 1 (JRB-1) and Padma Left Bank 1 (PLB-1); refer to ADB, 2014. Subsequent projects will extend the protected reaches with the goal to substantially stabilize the lower Jamuna and parts of the Padma River, based on an adaptive approach with designs adjusted to changing river conditions.

FRERMIP will contribute to providing a defined boundary between river and floodplain, and thus contribute to a more secure and improved livelihood for people living along the main rivers of Bangladesh, which will trigger faster economic growth and accelerate poverty reduction. The outcome of the program will be reduced flood and riverbank erosion risks in the targeted sub-project reaches.

## **1.2 The Project**

The project has three funding partners including two international development partners: Asian Development Bank (ADB), Government of Netherlands (GON) plus the local counterpart: Government of Bangladesh (GoB).

The project scope and implementation arrangements have not fundamentally changed from those outlined in the ADB Report and Recommendation of the President (ADB, 2014), except for the postponement of some activities due to the reduction of available loan financing. The anticipated outputs of the project are to provide:

1. flood and riverbank erosion risk mitigation functioning at priority river reaches
2. a strengthened institutional system for flood and riverbank erosion risk management

Under Project-1, nearly 17.80 km of riverbank protection and 21.30 km of flood embankments (rehabilitation and new; refer to the Project Map( **Figure 0-1**) were implemented. Adding to that, 4.4 km of grout filled jute mattress pilot work is under implementation as wave protection at two project sites. Project outputs also include social and environmental safeguards; institutional, knowledge-base, capacity development; and community-based flood risk management activities.

The project will result in an improved knowledge base and enhanced institutional capacity in sustainable asset management, and better strategic management of the main rivers. The project will actively promote a sound and sustainable program management system which will facilitate the implementation process. Table 0-1 placed at the beginning of the report, provides a summary of project information including salient reference data, estimates of project assets, plus physical and

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<sup>1</sup> ADB 2014. Report and Recommendation of the President to the Board of Directors, Proposed Multitranches Financing Facility, People's Republic of Bangladesh: Flood and Riverbank Erosion Risk Management Investment Program, June.

financial progress indicators, in Bangladesh Taka (BDT), US dollars (USD) and percent completion. The project has been extended until June 2020 to complete the activities, namely, the embankment construction and pilot works including monitoring during the 2019 flood season. The ADB has approved the extension of one-year on 15 November 2018. After the first revision of the Development Project Proforma (DPP), approved on 15 June 2017, the Project Management Office (PMO) has revised the DPP as second time, which was approved on 1<sup>st</sup> November 2018. The revised DPP, amongst others, increases the budget for land acquisition and resettlement to complete the embankment works, without increasing the overall amount. The 2nd revised DPP also excluded work packages W-12 and W-13 and service packages S-03, S-05 and S-07. A first zero-cost Variation Order for the ISPMC was accepted on 27 July 2017, a second zero cost variation, extending the consulting services to May 2019, was signed on 10 June 2018. The 3rd zero cost variation was approved on 23 March 2019 and it extends the consultancy services until December 2019.

The PMO is expecting that the modified Project outputs (Appendix-A, Table A-5) can be fully achieved by 30 June 2020.

### **1.3 Overall Progress**

Project-1 successfully completed its core activities, of:

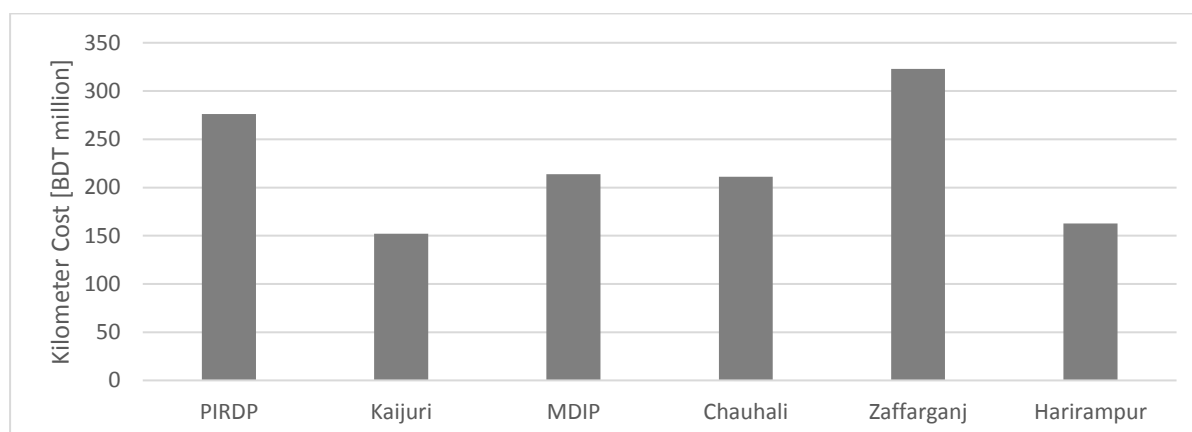
- (i) the construction of riverbank protection, during the dry season 2014/15, completed during the 2016/17 dry season with a total length of 17.80 km, and
- (ii) the construction of 21.3 km of flood embankment, contracted during the dry season 2017/18 and substantially constructed during the dry season 2018/19, with minor finishing works outstanding

While the underwater protection has performed very well, despite deep scouring to, in places, 28 m below the low water level and 25 m below the original apron setting level, a number of surficial failures occurred at Chauhali mostly after placing the final wave protection in 2017. Initial repair and adaptation works were conducted during the 2018 dry season for a total length of some 3.8 km under existing work packages as well as a dedicated adaptation package. No further damages were observed in the adapted areas during the course of the 2018 and 2019 flood season. Only the downstream end section of the works failed after the river scoured to - 33m+PWD or 11 m below design scour level in 24 September 2018. No adaptation works were required for Harirampur and Zafarganj riverbank protection as no major erosion or river deepening occurred at those sites.

Over the years, geotextile bag revetments have been built at a stable cost level for around USD 3 million or BDT 24 Crore per kilometer in 2018 prices (Figure 1-2). It is noteworthy that only the works built at Kaijuri between 2009 and 2011, which were some 40% below this average construction cost, shows some damages, while the rest is performing well. Overall, geotextile bag revetments appear to be the most cost-effective and sustainable solution built till date, even below spur cost, historically considered more cost effective than continuous revetment works. Riverbank protection advances have been documented widely, including a number of memos and reports authored by the ISPMC FRERMIP. A list of memos is attached in Appendix-I.

The construction of 21.30 km embankment from Kaijuri to Verakhola including 4 regulators has started on 15 February 2018 for contract packages W-01 to W-05. While only very little progress was achieved prior to the 2018 flood season, , all five contract packages achieved 85% progress for embankment and 89% for regulator by 30 September 2019 as per Implementation Monitoring and Evaluation Division (IMED) report, Sep-2019. Delays accrued particularly from repeated tendering and land

acquisition and resettlement issues, which required additional funding to be sanctioned through the second revision of the DPP. Construction activities are expected to be completed in early 2020.



**Figure 1-2 Kilometer cost of geotextile bag revetments implemented in Bangladesh (in 2018 prices)**

The contractor for the pilot works package W-14 has completed the work under the first grout-filled jute mattress contract, including the installation of piezometers and inclinometers at both sites. No significant excess pore water pressure was noted at either of the sites. At Shahjadpur the contractor started the grout filled jute mattress works from 30th April, 2019 and completed 89% of the length by the end of July. Delays were encountered because the embankment adjacent to the regulator was not yet completed. The overall progress of the pilot works contract W-14 by length is approximately 94% up to the end of this quarter.

The overall weighted project progress is presented in Table 0-1 and shows that the weighted progress achieved to the end of the reporting period is around 88% of the total time<sup>2</sup>. Compared with the total estimated projected cost, the physical progress is 94.72%, PMO expenditure is 84%, ADB (plus GON) disbursement is 74% of the total value of the project, 91% of the total aid, and the total reimbursement is 79%.

The following Table 1-1 shows the relative comparison between the total project cost, ADB loan amount and the comparative percentage progress.

**Table 1-1 Comparative Project Cost and ADB Disbursement Progress (until 30 September 2019)**

Total Project Cost (BDT Million)	Project Aid (ADB and GoN) (BDT Million)	ADB and GoN Disbursement Progress compared to the total cost (%)	ADB and GoN Disbursement Progress compared to the Aid amount (%)
8674.444	5907.485	74	91

<sup>2</sup> The revised project end date results in 75 months for implementation (April 2014 to June 2020) out of which 66 months (April 2014 until Sep 2019) have passed.



## 1.4 This Report

Quarterly Progress Report No. 17 covers the period 01 July 2019 to 30 September 2019. The report describes activities carried out during the quarter, which primarily included: discussions relating to the SESA and its preparation, feasibility study report approval 8 September 2019 and progress of land acquisition, implementation of resettlement activities. Some progress has been made in the installation of monitoring in the Kojjuri embankment pilot works and the construction of the clay cladding on the embankment from the last quarter until work stopped in mid-July due to heavy rains. In addition, the print version of the first volume (out of eight) of the river stabilization plan was submitted on 22 September 2019, and the first ADB review mission in 2019 occurred on 24 September to 03 October 2019.

## 2. PROJECT ACTIVITIES

### 2.1 Introduction

The BWDB FRERMIP Project Management Office (PMO) started functioning in April 2014. In 2014/15 was initially engaged in preconstruction and procurement activities, and since November 2015 with construction activities at three sites (through two Sub-Project Management Offices (SMOs) at Tangail and Manikganj). After the riverbank construction was completed in 2016/17 adaptation works was implemented at Chauhali in 2017/18 and the Kojjuri embankment construction started at which point a third Sub-Project Management Office in Koitala was activated. During the 2018/19 dry season work concentrated on the Kojjuri embankment and pilot works. The PMU DDM has implemented the CbFRM component from 30 August 2018 until 30 June 2019.

The Joint venture of Northwest Hydraulic Consultants (nhc) and Euroconsult Mott Macdonald (EMM) is working as Institutional Strengthening and Project Management Consultant (ISPMC) since 8<sup>th</sup> September 2015 and has completed the following activities: prepared the Project Inception and Mid-Term reports, a number of technical memos, summary study team and draft feasibility reports; supported overall project management and capacity building activities; advised on design, construction and resettlement activities during implementation; prepared management support tools including data bases; provided regular quarterly progress reports; and prepared the terms of reference for several supporting studies.

The status of implementation activities in the reporting quarter is discussed in the following sections, and summary and detailed tables are provided in Appendix-A and Appendix-B, respectively.

Table 2-1 provides the status of annual ADP expenditures. It is expected that the completion of the last remaining embankment construction work as well as the last pilot work contract (W16) will complete the Tranche-1 construction activities in February 2020. The PMO expects to spend the remaining fund allocation within June 2020.

**Table 2-1 Annual ADP allocation and disbursement (in BDT million)**

Fiscal Year	ADP/RADP/RADP Reallocation	Actual expenditure	Percentage of Budget Utilization
2014/15	311.20	217.78	66.20/70.00
2015/16	2108.20	2074.34	90.33/98.39
2016/17	2290.80	2246.11	86.26/98.05

2017/18	1331.50	1106.21	40.65/80.08
2018/19	1676.30*	1633.77	81.16/97.46
2019/20	1007.0	-	-

\*Up to September 2019, Fiscal Year Ongoing; Source: IMED Report 03/2003

## 2.2 PROJECT ASSET IMPLEMENTATION

### 2.2.1 Introduction

Tables A-1 and A-2 show the type, number and total cost of the project according to 2<sup>nd</sup> revised DPP. The cost of the 21.30 km of embankment (plus associated structures) amounts to BDT 1,202.943 million, as per awarded contract (Table A-5). The 17.8 km of riverbank revetment cost BDT 1,863 million (work contracts), plus BDT 1,054 million for geo-bags (supply contracts). In line with the 2<sup>nd</sup> revised DPP (September 2018) the best estimate of the final cost for all project assets currently amounts to BDT 8,674.44 million (Goods BDT 1,360.26 million, Services BDT 1,116.08 million and Works BDT 3,609.24 million, plus BDT 2,588.86 million (source, PMO December 2019) of additional assets included in the DPP, primarily for land acquisition). The total estimated expenditure may vary due to some contract variations and actual field demand.

Using cross-link tables that connect these category items (and Asset Types) with other financial indicators, it is relatively easy to produce tables which show project progress based on ADB Financial Categories (Table A-3) or DPP Components (Table A-4 and A-5). Table A.2 and Table A.5 shows the detail breakdown of RDPP budget estimation.

The second revised DPP was approved by the Planning Commission on 1 November 2018 with the administrative approval letter issued on 19 November 2018. The revised budgetary allocations are incorporated in the quarterly progress report since the period October to December 2018.

### 2.2.2 Bidding Activities

Bidding for the last remaining work package W16 (pilot works) closed on 22 July 2019. Bidders submitted their tender and tender was awarded on 17 September 2019. Bidding details are provided in Table B-2 of Appendix-B.

### 2.2.3 Design Activities

The design work for Tranche-1 is complete with the exception of minor modifications to the second pilot work contract.

### 2.2.4 Implementation Activities

The following work contracts are complete or under implementation:

**Table 2-2 Summary of Implementation activities – up to 30 September 2019**

Contract	Locations	Start date	Completion date	Contract Amount in Lac	Amount paid in Lac	Percent completed
W-6 & W-7	Chauhali	25-10-15	15-04-18	8895.6	8293.58	100
W-8	Zaffarganj	20-02-16	20-01-18	4850.00	4668.69	100

W-9 & W 10	Harirampur	15-01-16	09-02-18	5705.15	5673.15	100
W-01 to W-05	Kaijuri	15-03-18 27-02-18 08-03-18	31-05-19	12029.43	9102.06	88
W-14	Pilot	16-09-18	30-06-19	3218.79	1932.136	94
W-15	Inspection Bungalow	10-06-18	31-05-19	70.452	46.35468	78
W-11	Chauhali	20-03-18	31-01-19	670.119	639.4695	100
W-16	Pilot	17-09-19	16-03-2020	1232.19		5

Details of the ongoing contract works are:

Construction work under contract packages W-01/2016-17 to W-05/2016-17 has stopped in early July following the start of the flood season. The progress for construction remains largely as per the previous quarterly progress report. The Contractors are expected to remobilize in late November/early December 2019. Temporary wooden boards were used in regulators under Package W-01 to prevent flood water entering them during the flood season.

Under package W-14/2017-18 only 200m adjacent to the regulator under package W-04/2016-17 remains outstanding to be completed after the flood season following the completion of the embankment. Inclinometers and piezometers for flood season performance monitoring were installed in the last week of August. Some photos are added in Appendix L.

The W-16/2018-19 package is expected to start on 18 Sep 2019 the next quarter. The works of this package comprise 1.3 km of grout filled jute mattress on the embankment slope between chainage 16.73 to 18.03 km at Shahajadpur. Flood season surveys were also included in this package comprising of: full river bathymetry survey, ADCP survey at 14 locations two times, float track along full river one time, 58 km single beam site surveys and 28 km multibeam survey at different sites.

## **2.3 OTHER PROJECT ACTIVITIES**

Other project activities that are documented in the following sections include:

1. Supporting Service studies
2. Environmental Management
3. Resettlement Services
4. Gender and Development
5. Community-based Flood Risk Management
6. Capacity Building
7. Data Inventory Development
8. River Study
9. Feasibility Study for Tranche-2 Project
10. ISPMC performance compliance with ToR

### **2.3.1 Supporting Service Studies**

The project comprises four service contracts for supporting Project activities, two have been deferred to Tranche-2. The status of the four ongoing supporting services are summarized in Table 2-3.

**Table 2-3 Supporting Service Studies**

Pkg.	Service Name	Present Status
S-01	Institutional Strengthening and Project Management Consultant (ISPMC)	The ISPMC signed a contract with BWDB on 08 September 2015, and their work is estimated to be around 80 % complete. The contract has been extended until December 2019, with another extension into 2020 planned as documented in the aide memoire of the September ADB mission.
S-02	Resettlement Plan Implementation	The Resettlement INGO signed a contract with BWDB on 16-Mar-2016, and their work is estimated to be 96 percent complete. Details are provided in Section 2.3.3.
S-04	NGO Service for Community based Flood Risk Management (DDM)	The contract was signed on 30 August 2018 with implementation starting on 01 September, 2018. The contract has ended in 30 June 2019. More details are provided in Section 2.3.5.
S-06	Erosion Prediction	CEGIS has completed the contracted work under this project in April, 2018.

### 2.3.2 Environmental Management

The National Environmental Specialist prepared Semi-annual Environmental Monitoring Report for the period January 2019- July 2019 and submitted it to the PMO on 08 July 2019 for final submission to ADB. The National Environmental Specialist also submitted the monitoring report of EMP compliance for the embankment construction packages at W-01/2016-2017 (Md. Moyenuddin (Bashi)-Golam Rabbani const. Ltd, JV) W-02/2016-2017 (Taher Brothers Ltd.- M.A Enterprise, JV), W-03/2016-2017 (Taher Brothers Ltd.- M.A Enterprise, JV), W-04/2016-2017 (HB-SSECL, JV), W-05/2016-2017 (Md. Moyenuddin (Bashi)-Golam Rabbani const. Ltd, JV) and the embankment slope protection piloting works with grout filled jute mattresses along the left bank of Hurasagar river W-14/2017-2018 (Khondaker Shaheen Ahmed- M.A Enterprise, JV) on 08-Jul-19, letter reference ISPMC-FRERMIP-621.

Field work on the 'Baseline Study on Certain Environmental/Fisheries Aspects in the FRERMIP Operational Area' was completed and the draft report was submitted for review within the ISPMC team. The international Environmental Specialist reviewed the fisheries field report on possible FRERMIP impacts. The report will be incorporated into the Technical Annex of the River Stabilization Plan.

### 2.3.3 Resettlement Services

There was some progress in resettlement service during this quarter.

A total of 2956 affected people ( Notice holders) received Cash Compensation under Law (CCL) following the GoB acts and rule from respective DC office. A total of 1628 affected persons received resettlement grant and replacement cost. The following **Error! Reference source not found.** summarizes the compensations received by the Affected Persons and the list of awareness meetings held .

**Table 2-4 Summary of Resettlement Grant Received by the AP**

SI No	Location of Intervention with sub-reaches	Upazilla/District	Type of Loss	Approved by PVAT & JVT	No. of APs & CPR Title/ Non-title/Tenants					Affected Households		Status of Compensation	
					Title	Non Title	Tenants	CPR	Total	Male	Female	Cumulative up to Sep 2019	
												CCL	Resettlement Grant
1	Embankment (Kojjuri to Hurasagor) incl. 4 regulators in JRB-1	Shajadpur of Sirajgonj and Bera of Pabna	Residence & Business structure, Business loss,	JVT on Squatters done on 30/08/2017	949	1305	56	12	2322 <sup>3</sup>	2081	229	90% CCL payment for structure holders done & 80% CCL	2124 EPs received Resettlement Grant
2	Riverbank protection work at Chauhali JLB-2	Chauhali of Sirajgonj; Nagorpur & Sadar of Tangail	Residence & Business structure, Business loss, Agriculture plot	Approved by JVT	176	14	00	01	191	179	11	85% CCL payment done at Tangail part. 72% CCL payment done at Sirajganj part	Resettlement Grant among 52 EPs on 16/07/17 Replacement Cost (RC) for 36 APs
3	Riverbank protection work at Zafarganj JLB-2 (1.4 Km)	Shibaloy of Manikganj	Residence & Business structure, Business loss, Agriculture plot	Approved by JVT	38	40	12		90 <sup>4</sup>	77	13	50% CCL payment done	Resettlement Grant distributed among 90 EPs and replacement cost for 8 APs
4	Riverbank protection work at Zafarganj JLB-2 (0.6 km)	Shibaloy, Manikganj	Residence & Business structure, Business loss, Agriculture plot	Approved by JVT	26				26	22	04	55% CCL payment done	Resettlement Grant distributed among 26 EPs
5	Riverbank protection work at Harirampur PLB-1	Harirampur, Manikganj	Residence & Business structure, Business loss, Agriculture plot	Not Done	66	13		02	81	72	07	Yet not Start	Yet not start
	Total				1255	1372	68	15	2710			2956	

The NGO distributed an Information Brochure detailing the documents needed for payment of Cash Compensation under Law (CCL) payment to all APs during public consultation meetings. INGO has formed 60 groups each consisting of 20 members (total 1200 members) to facilitate income generating activities.

### 2.3.4 Gender and Development

There was no significant progress in gender and development during this quarter.

The progress report is compiled as per approved revised GAP which is provided in Appendix F.

### 2.3.5 Community-based Flood Risk Management (CbFRM)

All the CbFRM components were successfully completed in the last quarter. Table 2-5 shows the list of locations covered by CDMU's, **Error! Reference source not found.** shows detail list of the villages and Figure 2-1 shows the location of the CDMU's. The list of all the location which was covered by CDMU's are provided in Appendix J.

**Table 2-5 Summary Table for name of Villages Covered by CbFRM**

District	Upazila	CDMU	Union	Ward	Village
Manikganj	Daulatpur	6	4	16	40
	Harirampur	9	6	48	72
	Shibalaya	6	4	20	51
Sirajganj	Shahzadpur	7	5	18	25
	Chowhali	10	7	41	52
Tangail	Nagarpur	1	1	5	10
	Sadar	1	1	3	10
Total	7	40	28	151	260



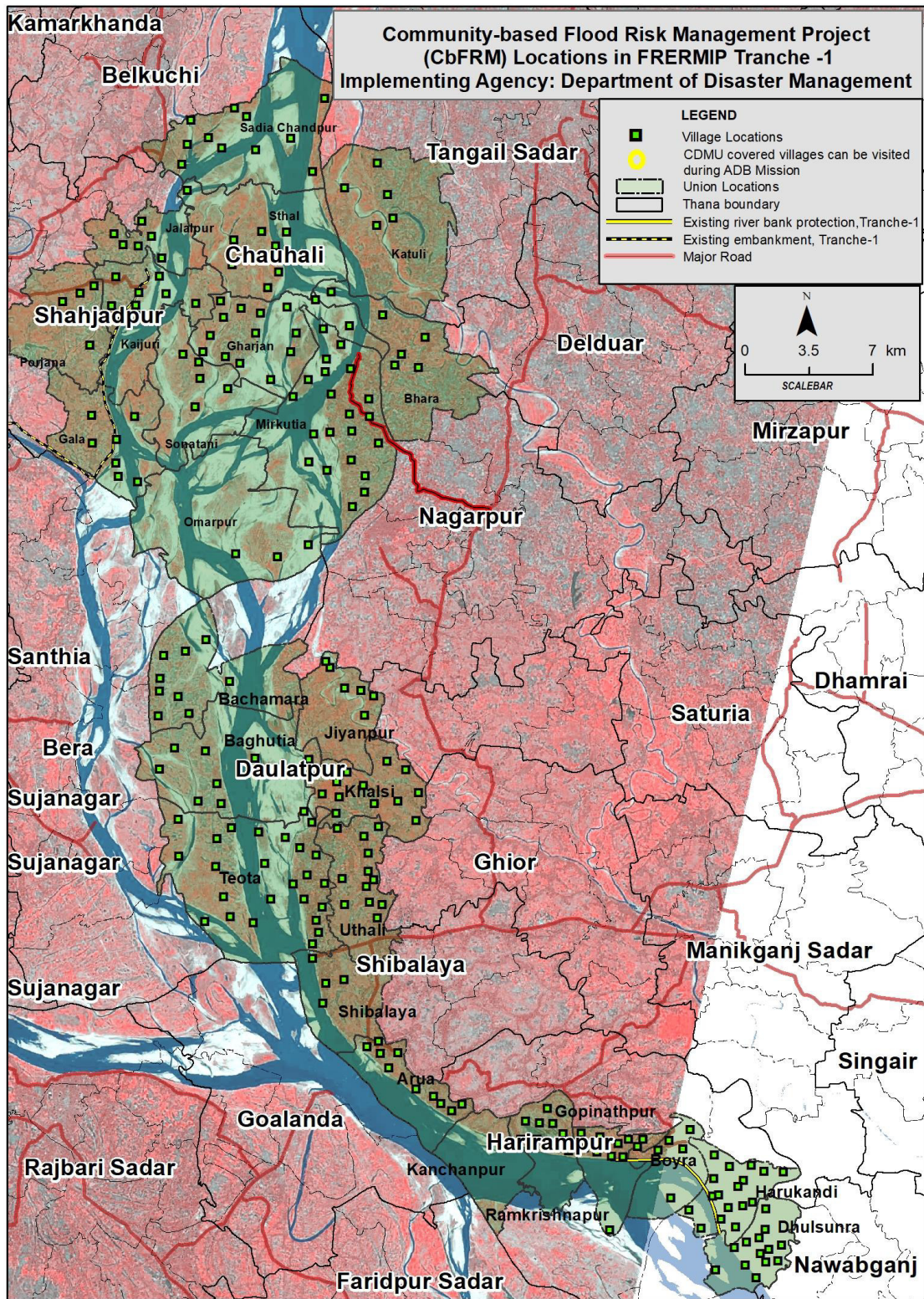


Figure 2-1 Location of the CDMU's

### 2.3.6 Capacity Building

In this quarter no capacity development took place.

Table 2-6 summarises the total number of trainings so far conducted.

**Table 2-6 Capacity Building Progress as per RDPP (2nd Revised)**

Item	Total	Completed	Remaining
A. Local Training	7	6	1
B. Overseas Training/Study Tour	9	6	3
<b>Total</b>	<b>16</b>	<b>12</b>	<b>4</b>

### 2.3.7 MIS Development Activities

No additional survey data was added to the database in this quarter.

A current summary list of all surveys in the River Survey (2288) and ADCP (237) database is presented in Appendix - H.

### 2.3.8 River Study

Significant progress was made on the 37 Supplementary Annexes (SAs) during the reporting quarter. Draft reports were completed for 2 Supplementary Annexes (D1 and F6), and report formatting was completed for 20 Supplementary Annexes (A1, A2, A4, B1, B2, B3, B4, B5, E1, E2, F1, F2, F3, F4, F5, F7, F8, F9, G1, G2).

The formatting was reviewed for 6 supplementary annexes and annex reference SA A2 was renumbered to SA A4. The SESA report (SA A3) has been updated for the final review by the NCEA including a summary technical description of the River Stabilization Plan to make it a stand-alone document.

It is expected that final reports for 3 Supplementary Annexes (D1, D3 and F6) will be completed by mid-December 2019. Once the prerequisite report on the River Stabilization Plan (D1) is completed, work on the Economic Assessment (G3) will be able to resume.

The individual status of all 37 Supplementary Annexes is available in Appendix-D.

### 2.3.9 Feasibility Study Design

The Tranche 2 feasibility report was approved on 8th September 2019 after it was recommended by Mr. Motaher Hossain, Chief Engineer Design in a meeting held in the Chief Engineer's conference room. Mr. Motaher Hossain, Chief Engineer Design; Mr. Harun-ar Rashid, Superintendent Engineer of Design; Mr. Md. Rafiqul Islam Choubey, Project Director, FRERMIP; Mr. Jahangir Alam, Executive Engineer and Mr. Md. Arif Uddin, Assistant Engineer also attended this meeting to review the final Feasibility Report.



### 2.3.10 ISPMC Performance Compliance with ToR

So far, the ISPMC has complied with the terms and conditions defined in the Terms of Reference (ToR) of the consultancy contract. The compliance of ISPMC with the ToR was discussed by the PD, FRERMIP before the Planning Commission. Appendix-E presents a detailed summary of the ISPMC performance so far in accordance with the tasks defined in the ToR of the consultancy contract.

## 3. ADMINISTRATIVE ARRANGEMENTS

### 3.1 Establishment of Project Offices

The PMO and ISPMC offices are fully operational. The project management team of the ISPMC and the BWDB PMO Office are both located in the Firoz Tower, 152/3/B Bir Uttam, Kazi Nuruzzaman Road (Green Road), Dhaka-1205; on the 12th and 7th floor respectively.

While the PMO and the three SMOs are understaffed, the present staff strength is sufficient to complete the remaining works. The following tables show the current staff employment status compared to the approved setup.

**Table 3-1 PMO-FRERMIP Staffing**

Post Name	No. of Posts in the approved setup	Currently appointed in the post	Vacant post
Project Director	1	1	0
Superintending Engineer	2	1	1
Executive Engineer	4	1	3
System Analyst	1	0	1
Sub-Divisional Engineer	2	1	1
Assistant Engineer	2	2	0
Assistant Director	1	1	0
Accounts Officer	1	1	0
Accounts Assistant	1	1	0
Data Entry Operator	2	1	1
Driver	2	2	0
Guard	2	2	0
MLSS	4	4	0
<b>Total</b>	<b>25</b>	<b>18</b>	<b>7</b>

**Table 3-2 SMO-Koitola Staffing**

Post Name	No. of Posts in the approved setup	Currently appointed in the post	Vacant Post
Executive Engineer	1	1	0
Sub-Divisional Engineer	1	0	1
Assistant Engineer	1	1	0
Sub-Assistant Engineer	3	3	0
Accounts Assistant	1	0	1
Data Entry Operator	1	0	1

Revenue Surveyor	1	0	1
Work Assistant	3	1	2
Guard	2	2	0
MLSS	1	1	0
<b>Total</b>	<b>15</b>	<b>9</b>	<b>6</b>

**Table 3-3 SMO-Tangail Staffing**

Post Name	No. of Posts in the approved setup	Currently appointed in the post	Vacant Post
Executive Engineer	1	1	0
Sub-Divisional Engineer	1	1	0
Assistant Engineer	1	0	1
Sub-Assistant Engineer	2	1	1
Accounts Assistant	1	1	0
Data Entry Operator	1	1	0
Revenue Surveyor	1	1	0
Work Assistant	2	1	1
Guard	1	1	0
MLSS	2	2	0
<b>Total</b>	<b>13</b>	<b>10</b>	<b>3</b>

**Table 3-4 SMO-Manikganj Staffing**

Post Name	No. of Posts in the approved setup	Currently appointed in the post	Vacant Post
Executive Engineer	1	1	0
Sub-Divisional Engineer	2	1	1
Assistant Engineer	1	1	0
Sub-Assistant Engineer	3	3	0
Accounts Assistant	1	1	0
Data Entry Operator	1	1	0
Revenue Surveyor	1	1	0
Work Assistant	3	3	0
Guard	1	0	1
MLSS	2	2	0
<b>Total</b>	<b>16</b>	<b>14</b>	<b>2</b>

Appendix-C Utilization of Consultant Person-Months details the man-months spent by all international and national specialists to the end of the reporting period, which includes information from the approved Variation Order-3 (VO) for the ISPMC.

### **3.2 Compliance with Loan and Grant Agreement Covenants**

Schedule 5 of the FRERMIP Loan Agreement (Ref. 6) contains a set of 32 specific covenants to be followed during project implementation. These 30 covenants are documented in Appendix-G, together with a column for compliance, and a column that provides evidence to support the compliance value.

### **3.3 Important Events During This Quarter**

- 24-25 July 2019 – Emergency survey was conducted at Chauhali.
- 25-27 July 2019 – Emergency survey was conducted at Chauhali.
- 28 July 2019 – Emergency survey was conducted at Zafarganj.
- 01 August 2019 – Bid document was published on ADB website for inviting bidders to compete.
- 22 August 2019 – Last date of submitting tender for W16.
- 1 September – a high level committee visits around 110 km of Jamuna and Padma Rivers including FRERMIP works.
- 5 September 2019 – A meeting was held in the design circle 2 on the Final Feasibility Report for Tranche 2. Mr. Motaher Hossain, Chief Engineer Design; Mr. Harun-ar Rashid, Superintending Engineer of Design; Mr. Md. Rafiqul Islam Choubey, Project Director, FRERMIP; Mr. Jahangir Alam, Executive Engineer; Mr. Md. Arif Uddin, Assistant Engineer were attended this meeting to overview the final Feasibility report and after the meeting Mr. Motaher Hossain, Chief Engineer Design recommended this report for approval.
- 5 September 2019 – A test multi-beam echosounder survey was conducted at Harirampur and Dhulsora area by IWM.
- 8 September 2019 – Mr. Md. Mahfuzur Rahman, Director General, BWDB approved the Feasibility Report for Tranche 2.
- 24 September to 3 October 2019 – ADB review mission.
- 24-26 September 2019 – Field trip of ADB mission at Koijuri, Chauhali and Zafarganj.

## **4. FINANCIAL ARRANGEMENTS**

### **4.1 *Statements of Expenditure***

Using the project implementation database, and with help from the PMO- FRERMIP, the ISPMC generate reports on project financial progress including: all ADB (and GON) disbursements (deposits) to the project, PMO- FRERMIP expenditures paid to contractors and suppliers, and all reimbursement bill applications approved by ADB.

Table A-5 shows cumulative totals up to 30 September for progress, expenses and reimbursements, for all DPP categories. This table also includes the 2018/19 fiscal targets (and fiscal progress) as defined in the provisional ADP (Annual Development Program).

PMO- FRERMIP expenditures by individual contract are provided in Table B-4. Only the total expenditure values are exactly correct. The individual developing values have been calculated using total expenditure values and the percent distribution by financial component.

Reimbursement values (BDT) are also summarized by ADB Financial Category (Table A-3), and by DPP Component (Table A-4 and A-5).

## **5. ISSUES FOR DISCUSSION AND AGREEMENT**

Following the flood season, a full site walkover should be carried out along the embankment to identify rain cuts and ensure proper repairs of any damages due to lack of timely vetiver plantation

or cambering in accordance with the contract. Regular monitoring is needed for the embankment to review performance and identify any repairs or maintenance required, particularly the presence of rain cuts or damage. Vetiver cutting should be carried out after the flood season to facilitate this inspection and reduce the likelihood of the vetiver attracting rodents.

Pilot Works failures occurred at Harirampur in early August 2019. An inspection of the works is to be carried out by Proserve Ltd once the flood waters have receded and a technical note assessing the performance of the pilot works will be developed.

The publication of a number of documents during the year 2019, relevant to the river stabilization plans, requires the review of the current work to incorporate aspects of the alternative activities.

The relevant documents are:

- (i) Yellow River Engineering Consulting Co., Ltd: Planning for Flood Management in Bangladesh (Ganges and Brahmaputra Basin), Final Report, May 2019
- (ii) BWDB – BUET IWFM: Concept Paper on Managing Brahmaputra – Jamuna river System, Final Report, September 2019
- (iii) Institute of Water Modelling: Brahmaputra – Jamuna River Economic Corridor Development Program, Draft Final Report, November 2019

Two failures of the pilot works at Harirampur constructed under package W14-2017-2018 occurred at chainages 6300 and 6320. The failure cause will be investigated after the water level in the river is low enough for the works to be inspected. This is planned for early December 2019, followed by repair works.

## 6. REFERENCES

CEGIS 2019. Prediction of Riverbank erosion along the Jamuna. The Ganges and the Padma rivers in 2019” Table E.1, Page xii.

ADB 2018: Aide Memoire of Midterm Review Mission (15-26 February 2018), Asian Development Bank, Loan No. 3138 (SF)/Grant No. 0396 – Ban: Flood and Riverbank Erosion Risk Management Investment Program – Project 1, April 2014

ADB, 2012: Involuntary Resettlement Safeguards, A Planning and Implementation Good Practice Sourcebook – Draft Working Document, Asian Development Bank, 2012 November

ADB, 2014: Facility Administration Manual, Bangladesh: Multi-Project Financing Facility - Flood and Riverbank Erosion Risk Management Investment Program, 2014 June

ADB, 2014: Loan Agreement, Flood and Riverbank Erosion Risk Management Investment Program - Project 1, between People's Republic of Bangladesh and Asian Development Bank, 2014 August 14

ADB, 2014: Report and Recommendation of the President to the Board of Directors, Proposed Multi-Project Financing Facility People's Republic of Bangladesh: Flood and Riverbank Erosion Risk Management Investment Program, 2014 June

BWDB 2015: Contract for Consultancy Services (Time Based) for Institutional Strengthening and Project Management Consultant (ISPMC) between Bangladesh Water Development Board and Northwest Hydraulic Consultants Ltd. Joint Venture with Euroconsult Mott Macdonald, September 2015

BWDB 2019: Implementation Monitoring and Evaluation Division Report (IMED 05/2003), Implementation Monitoring and Evaluation Division, Ministry of Planning, Government of the People's Republic of Bangladesh, June 2019

BWDB, 2018: Revised Development Project Proforma/Proposal on Flood and Riverbank Erosion Risk Management Investment Program (Tranche-1) (2nd Revised), Bangladesh Water Development Board, Ministry of Water Resources, Government of the People's Republic of Bangladesh, November 2018

ISPMC, 2016: Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP) Project-1, Inception Report, 2016 March

NHC, 2013: Project Preparatory Technical Assistance 8054 BAN, Main River Flood and Bank Erosion Risk Management Program, Main Report, 2013 December

# Appendices



## Appendix-A Work Program Summaries

Table A-1 Project Program Summary Quantity (Units)

Component	Asset Type	Units	BWDB	DDM	MAN	KOI	TAN	Totals
<b>A: Civil Works</b>								
<b>A1: Embankment &amp; Regulator Works</b>	New: Embank	km	0.0	0.0	0.0	12.5	0.0	<b>12.5</b>
	Cons/ReCon: Embank	km	0.0	0.0	0.0	8.8	0.0	<b>8.8</b>
	New: Insp.Banglow	BDTM	0.0	0.0	7.8	0.0	0.0	<b>7.8</b>
	New: Regulator	Nos.	0.0	0.0	0.0	4.0	0.0	<b>4.0</b>
<b>A2: Riverbank Prot Works</b>	New: Revetment	km	0.0	0.0	10.8	0.0	7.0	<b>17.8</b>
<b>A3: Emerg &amp; Adaptation</b>	Emerg: AdpRivProt	BDTM	0.0	0.0	0.0	0.0	67.0	<b>67.0</b>
<b>A4: Pilot Land Recovery</b>	New: RivTrnWrk	BDTM	330.0	0.0	0.0	146.0	0.0	<b>476.0</b>
<b>B: Materials</b>								
<b>B1: Geotextile, Riverbank Prot.Works</b>	Procure: GeoBag	Mil Nos.	0.0	0.0	3.2	0.0	1.5	<b>4.6</b>
<b>B2: Geotextile, Adaptation</b>	Procure: AdpGeoBag	Mil Nos.	0.0	0.0	1.3	0.0	0.0	<b>1.3</b>
<b>C: Vehicles &amp; Equipment</b>								
<b>C1: Vehicles/Transport</b>	Procure: Veh/Trans	Nos.	15.0	0.0	0.0	0.0	0.0	<b>15.0</b>
<b>C2: Office Equipment</b>	Procure: Equip	BDTM	4.4	0.0	0.0	0.0	0.0	<b>4.4</b>
<b>C3: Survey Equipment</b>	Procure: Equip	BDTM	6.7	0.0	0.0	0.0	0.0	<b>6.7</b>
<b>C4: DDM Office Eqpt</b>	Procure: Equip	BDTM	0.0	0.5	0.0	0.0	0.0	<b>0.5</b>
<b>D: Consulting/NGO Services</b>								
<b>D1: ISPM; Consultant Serv.</b>	Service: 1 Impl.Consult	BDTM	387.0	0.0	0.0	0.0	0.0	<b>387.0</b>
	Service: 2 River.Stabil	BDTM	461.0	0.0	0.0	0.0	0.0	<b>461.0</b>
	Service: 3 Feasi.Study	BDTM	170.0	0.0	0.0	0.0	0.0	<b>170.0</b>
<b>D2: INGO BWDB</b>	Service: Resettle.S	BDTM	16.2	0.0	0.0	0.0	0.0	<b>16.2</b>
<b>D3: INGO DDM</b>	Service: CbFRM	BDTM	0.0	50.5	0.0	0.0	0.0	<b>50.5</b>
<b>D4: Survey &amp; Investigation</b>	Service: Eros.Pred	BDTM	28.9	0.0	0.0	0.0	0.0	<b>28.9</b>
<b>E: Capacity Development</b>								
<b>E1: BWDB Training &amp; Study</b>	Service: Training	BDTM	76.9	0.0	0.0	0.0	0.0	<b>76.9</b>
<b>F: Land Acqn &amp; Resettle</b>								
<b>F1: Land Acquisition</b>	Compensate: Land.Acqu	BDTM	2,083.	0.0	0.0	0.0	0.0	<b>2,083.0</b>
<b>F2: Resettle Benefits</b>	Compensate: Resettle.B	BDTM	90.0	0.0	0.0	0.0	0.0	<b>90.0</b>
<b>G: Program Management</b>								
<b>G1: Staff Salaries BWDB</b>	Service: Prog.Mngt	BDTM	83.7	0.0	0.0	0.0	0.0	<b>83.7</b>
<b>G2: Honorarium Allowance</b>	Service: Honor.Allow	BDTM	0.8	0.0	0.0	0.0	0.0	<b>0.8</b>
<b>G3: Office Opns BWDB</b>	Service: Prog.Mngt	BDTM	32.3	0.0	0.0	0.0	0.0	<b>32.3</b>
<b>G4: Office Opns DDM</b>	Service: Prog.Mngt	BDTM	0.0	2.1	0.0	0.0	0.0	<b>2.1</b>
<b>G5: BWDB Surveys</b>	Service: Land/Riv.Surv	BDTM	8.0	0.0	0.0	0.0	0.0	<b>8.0</b>
<b>X: Misc. Costs</b>								
<b>X1: Misc. Costs</b>	Misc. Costs: CD&VAT	BDTM	12.1	0.0	0.0	0.0	0.0	<b>12.1</b>
	Misc. Costs: Service Charge	BDTM	199.2	0.0	0.0	0.0	0.0	<b>199.2</b>

## Abbreviations:

DDM - Department of Disaster Management

MAN - Manikganj WD Division, BWDB (SMO-FRERMIP)

KOI - Koitola WD Division, BWDB (SMO-FRERMIP)

TAN - Tangail WD Division, BWDB (SMO-FRERMIP)

The unit BDTM refers to an estimated cost of Bangladesh Taka 1 Million.



Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP), Project-1

Table A.2 - RDPP estimates of the project according to IMED Report		all values in BDT lacs				
Sl no	Category	GoB fund	Project Aid RPA			Total
			GOB	Special Account	DPA	
<b>(a) Revenue Cost</b>						
1	Salary & allowances for support staffs	836.60	0.00	0.00	0.00	836.60
2	Honorarium Allowances	8.00	0.00	0.00	0.00	8.00
3	Resettlement Support Program	0.00	0.00	900.00	0.00	900.00
4	BWDB Capacity Development Program	46.13	0.00	722.75	0.00	768.88
5	Implementation Consultant	503.46	0.00	3369.36	0.00	3872.82
6	River Stabilization and Land Recovery	599.60	0.00	4012.71	0.00	4612.31
7	Feasibility Study of Tranche 2/3 Project	220.58	0.00	1476.16	0.00	1696.74
8	Resettlement Implementation Support	22.75	0.00	152.25	0.00	175.00
9	Community based Disaster Management Program (DDM)	65.78	0.00	440.12	0.00	505.90
10	Land/River Survey and Data Processing	10.40	0.00	69.60	0.00	80.00
11	Survey and Inverstigation/Data Processing	37.51	0.00	251.04	0.00	288.55
12	PMO Operational expenses	38.75	0.00	284.18	0.00	322.93
13	PIU-DDM Operational expenses	2.52	0.00	18.48	0.00	21.00
14	ADB loan interest during implmentation and service charge for Netherlands grant	0.00	0.00	0.00	1992.00	1992.00
15	Sub-total Revenue Component of (a)	2392.08	0.00	11696.65	1992.00	16080.73
<b>(b) Capital Component</b>						
17	CD/VAT	120.74	0.00	0.00	0.00	120.74
18	Construction of Inspection banglow at Manikganj	7.04	0.00	71.17	0.00	78.21
19	Regulator/ Sluice (new construction 4 nos) in JRB subproject area	222.93	0.00	2254.08	0.00	2477.01
20	21.30 km embankment along the Right Bank of Jamuna and left bank of Baral-Hurasagar	859.72	1625.70	7067.00	0.00	9552.42
21	Riverbank Protective Works	2094.24	0.00	27110.10	0.00	29204.34
22	Adaptive Protection and Emergency Works	380.82	0.00	2874.53	0.00	3255.35
23	Land Recovery/ River training pilot works	421.11	0.00	4257.87	0.00	4678.98
24	Transport vehicles	334.11	0.00	15.37	0.00	349.48
25	Computer and office Equipment	2.09	0.00	41.54	0.00	43.63
26	Computer and office Equipment (DDM)	0.25	0.00	4.74	0.00	4.99
27	Survey equipment	3.37	0.00	64.10	0.00	67.47
28	Land acquisition (136.00 ha)	20831.09	0.00	0.00	0.00	20831.09
29	Sub-total revenue component (b)	25277.51	1625.70	43760.50	0.00	70663.71
	Sub total a+b	27669.59	1625.70	55457.15	1992.00	86744.44
30	Physical contingency ©	0.00	0.00	0.00	0.00	0.00
31	Price Contingency (d)	0.00	0.00	0.00	0.00	0.00
	<b>Grand total (a+b+c+d)</b>	<b>27669.59</b>	<b>1625.70</b>	<b>55457.15</b>	<b>1992.00</b>	<b>86744.44</b>

**Table A-3 ADB Categories: Reimbursed Amount, by Development Partner**

Component Code	Categories	Total Cost Est	Value of Physical Progress	PMO expenses	Reimbursed Amount – Until 30 Sep 2019		
					ADB	GON	Total
1	Works	3609	3222	3183.97	2465	76.2	2541.2
2	Materials	1312.8	1312.8	1312.9	1247.1	0	1247.1
3A	Vehicles-BWDB	34.9	34.5	34.9	1.5	0	1.5
3B	Equipment -BWDB	11.1	11.1	11.1	10.6	0	10.6
3C	Equipment -DDM	0.5	0.5	0.5	0.5	0	0.5
4	Resettlement	90	79.2	78.76	27.7	0	27.7
5	Training	76.9	63.8	64.02	57.8	0	57.8
6A	Consulting Services- Project Management BWDB	1018.2	868.2	788.1	78.74	668.71	747.45
6B	Consulting Services- INGO/ Erosion Prediction Services -BWDB	45.1	42.9	39.2	26.8	0	26.8
6C	Consulting Services- Project Management DDM	50.5	37.4	30	0	0	0
7A	Project Management - BWDB	32.29	30.6	28.96	21.7	0	21.7
7B	Project Management - DDM	2.1	1.5	1.53	0.4	0	0.4
8	Service Charge of ADB loan & GoN Grants	199.2	149.4	170	0	0	0
9	Unallocated	2191	1775.7	1555.28	0	0	0
							0
	Grand Total	8674	7630	7299	3938	745	4683

**Table A-4 RDPP Categories: Reimbursed Amount by Development Partners**

Sl no	Economic Code	Category	PMO expenses	Reimbursed Amount – Until 30 Sep 2019		
				ADB	GON	Total
		<b>(a) Revenue Cost</b>				
1	3111201, 3111301, 3111325, 3111335	Salary for support staffs	4.97	0	0	0
2	3111332	Honorarium Allowances		0	0	0
3	3211103	Resettlement Support Program	78.76	27.7	0	27.7
4	3231101, 3231201	BWDB Capacity Development Program	64.02	57.8	0	57.8
5	325701	Implementation Consultant	376.87	139.74	250	389.74
6	325701	River Stabilization and Land Recovery	287.13	139.82	297.4	437.22
7	325701	Feasibility Study of Tranche 2/3 Project	124.07	7.32	121.4	128.72
8	325701	Resettlement Implementation Support	12.27	5.9	0	5.9
9	325701	Community based Disaster Management Program (DDM)	29.99	0	0	0
10	3257104	Land/River Survey and Data Processing	7.48	0.4	0	0.4
11	3257104	Survey and Investigation/Data Processing	28.77	21		21
12	3111302, 3111329, 3111332, 3111338, 3211119, 3211125, 3211128, 3211129, 3241101, 3243101, 3243102, 3255101, 3255105, 3256101, 3258104, 3258107, 3258129, 3258140, 3258129, 3255102, 3255104	PMO operational expenses	23.98	21.3	0	21.3
13	Same as PMO expenses	PIU-DDM Operational expenses	1.54	0.4		0.4
14	3221110, 3411101	ADB loan interest during implementation and service charge for Netherlands grant	170.00	0		0
15		Sub-total Revenue Component of (a)	1209.85	421.38	668.8	1090.18
16		<b>(b) Capital Component</b>				0
17						0
18	3821104, 3821101	CD/VAT		0	0	0
19	4111201	Construction of inspection bungalow at Manikganj	53.86	0.6	0	0.6
20	4111307	Regulator/Sluice gate in JRB1 subproject area	212.12	31.2	0	31.2
21	4111321	21.30 km embankment along the Right Bank of Jamuna and left bank of Baral-Hurasagar	818.30	107.3	0	107.3
22	4111321	Riverbank Protective Works	2920.43	3125.2	0	3125.2
23	4111321	Adaptive Protection and Emergency Works	322.47	239.7	0	239.7
24	4111321	Land Recovery/ River training pilot works	220.85	0	76.2	76.2
25	4112101	Transport vehicles	34.94	1.5	0	1.5
26	4112202, 4112310, 4113301	Computer and office Equipment	4.40	4.2	0	4.2
27	4112202, 4112310, 4113301	Computer and office Equipment (DDM)	0.50	0.5	0	0.5
28	4112304	Survey equipment	6.70	6.4	0	6.4
29	4141101	Land acquisition (136.00 ha)	1543.16	0	0	0
30		Sub-total revenue component (b)	6089.29	3516.6	76.2	3592.8
31		Sub total a+b	7298.99	3937.98	745	4682.98
32		<b>Physical contingency ©</b>	0.00	0		0
33		<b>Price Contingency (d)</b>	0.00			0
34		<b>Grand total (a+b+c+d)</b>	<b>7299.21</b>	3938	745	4683

Table A-5 DPP Categories: Financial and Physical Progress Indicator

Sl no	Economic Code	Category	Budget	Fiscal year 2019/20		Progress up to the month of September 2019	
				Financial	Physical %	Financial	Physical %
		<b>(a) Revenue Cost</b>	<b>RDPP</b>	<b>Provisional Target</b>			
1	3111201, 3111301, 3111325, 3111335	Salary for support staffs	83.7	3.288	94.05	4.97	5.95
2	3111332	Honorarium Allowances	0.8	0.8	100		
3	3211103	Resettlement Support Program	90	0.9	12.48	78.76	87.52
4	3231101, 3231201	BWDB Capacity Development Program	76.9	10.097	16.73	64.02	83.27
5	325701	Implementation Consultant	387.3	10.13	2.69	376.87	97.31
6	325701	River Stabilization and Land Recovery	461.2	172.525	37.75	287.13	65.25
7	325701	Feasibility Study of Tranche 2/3 Project	169.7	45.246	26.87	124.07	78.13
8	325701	Resettlement Implementation Support	17.5	1.675	11	12.28	89.80
9	325701	Community based Disaster Management Program (DDM)	50.6	7.414	40.7	30.00	59.30
10	3257104	Land/River Survey and Data Processing	8	0.4	6.44	7.48	93.56
11	3257104	Survey and Investigation/Data Processing	28.9			28.77	100.00
12	3111302, 3111329, 3111332, 3111338, 3211119, 3211125, 3211128, 3211129, 3241101, 3243101, 3243102, 3255101, 3255105, 3256101, 3258104, 3258107, 3258129, 3258140, 3258129, 3255102, 3255104	PMO operational expenses	32.3	7.43	25.73	23.98	74.27
13	Same as PMO expenses	PIU-DDM Operational expenses	2.1	0.29	26.67	1.54	73.33
14	3221110, 3411101	ADB loan interest during implementation and service charge for Netherlands grant	199.2	29.2	14.66	170.00	85.34
15		Sub-total Revenue Component of (a)	1608.1	2975	24.76	1209.91	77.29
16		<b>(b) Capital Component</b>					
17							
18	3821104, 3821101	CD/VAT	12.1	10.1	100		
19	4111201	Construction of Inspection bungalow at Manikganj	7.8	2.33	22	5.39	88.00
20	4111307	Regulator/Sluice gate in JRB1 subproject area	247.7	35.4	11	212.12	92.00
21	4111321	21.30 km embankment along the Right Bank of Jamuna and left bank of Baral-Hurasagar	955.2	135.27	15	818.30	86.00
22	4111321	Riverbank Protective Works	2920.4			2920.43	100.00
23	4111321	Adaptive Protection and Emergency Works	325.5			322.47	100.00
24	4111321	Land Recovery/ River training pilot works	467.9	246.42	35.18	220.85	65.12
25	4112101	Transport vehicles	34.9			34.94	100.00
26	4112202, 4112310, 4113301	Computer and office Equipment	4.4			4.40	100.00
27	4112202, 4112310, 4113301	Computer and office Equipment (DDM)	0.5			0.50	100.00
28	4112304	Survey equipment	6.7			6.70	100.00
29	4141101	Land acquisition (136.00 ha)	2083.1	279.95	8	1543.16	92.60
30		Sub-total revenue component (b)	7066.4	709.5	2.53	6089.29	97.96
31		Sub total a+b	8674.4	1007	6.28	7298.99	94.72
32		Physical contingency ©	0			0.00	
33		Price Contingency (d)	0			0.00	
34		<b>Grand total (a+b+c+d)</b>	<b>8674.4</b>	<b>1007</b>	<b>6.28</b>	<b>7299.21</b>	<b>94.72</b>

## Appendix-B Work Program Details

### Table B-1 Design Progress Details

Description	Design Data Collection			Prog (%)		Remarks	
	Total	Surv	Hydraul	Geotech	Desn		Dwg
<b>Component A: Civil Works</b>							
<b>BWDB PMO</b>							
New: RivTrnWrk: 330 BDTM: River Training Pilot Work; & Land Recovery	c	c	na		100	100	Desn. & Dwg. Complete
<b>BWDB PMO Totals</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	
<b>Koitola SMO</b>							
Cons/ReCon: Embank: 4.8 km: Embankment Reconst. (4.8 km): Baghabari - Verakhola; km 12.5-17.3	c	c	na		100	100	Desn. & Dwg. Complete
Cons/ReCon: Embank: 4 km: Embankment Reconst. (4 km): Baghabari - Verakhola; km 17.3-21.3	c	c	na		100	100	Desn. & Dwg. Complete
New: Embank: 3.5 km: Embankment (3.5 km): Bhatpata - Gala; km 5-8.5	c	c	na		100	100	Desn. & Dwg. Complete
New: Embank: 5 km: Embankment (5 km): Kajjuri - Bhatpara; km 0-5	c	c	na		100	100	Desn. & Dwg. Complete
New: Embank: 4 km: Embankment (4 km): Gala - Verakhola; km 8.5-12.5	c	c	na		100	100	Desn. & Dwg. Complete
New: Regulator: 1 Nos.: Kajjuri Reg 2V 1.5x1.8m: Kojjuri	c	c	c		100	100	Desn. & Dwg. Complete
New: Regulator: 1 Nos.: Rohindakandi Reg 2V 1.5x1.8m: Ruhindakandi	c	c	c		100	100	Desn. & Dwg. Complete
New: Regulator: 1 Nos.: Verakhola Reg 2V 1.5x1.8m: Verakhola	c	c	c		100	100	Desn. & Dwg. Complete
New: Regulator: 1 Nos.: Andhar Manik Reg 4V 1.5x1.8m: Andharmanik	c	c	c		100	100	Desn. & Dwg. Complete
New: RivTrnWrk: 146 BDTM: Piloting Work; Jute Mattress: Shahzadpur	c	c	c		100	100	Dwgs Complete
<b>Koitola SMO Totals</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>10</b>	
<b>Manikganj SMO</b>							
New: Insp.Banglow: 7.8 BDTM: Construction of Inspection Banglow	c	na	na		100	100	Desn. & Dwg. Complete
New: Revetment: 2 km: Revetment (2 km): Zaffarganj; km 6.1-8.1	c	c	na		100	100	Desn. & Dwg. Complete
New: Revetment: 3.6 km: Revetment (3.6 km): Harirampur; km 0-3.5	c	c	na		100	100	Desn. & Dwg. Complete
New: Revetment: 5.2 km: Revetment (5.2 km): Harirampur; km 3.5-7	c	c	na		100	100	Desn. & Dwg. Complete
<b>Manikganj SMO Totals</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	
<b>Tangail SMO</b>							
New: Revetment: 2.5 km: Revetment (2.5 km): Chauhali; km 0- 2.5	c	c	na		100	100	Desn. & Dwg. Complete
New: Revetment: 4.5 km: Revetment (4.5 km): Chauhali; km 2.5-7.0	c	c	na		100	100	Desn. & Dwg. Complete
Emerg: AdpRivProt: 67 BDTM: Emergency/Adaptive 1: Riverbank Protection	c	c	na		100	100	Desn. & Dwg. Complete
<b>Tangail SMO Totals</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	
<b>Component Totals</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>18</b>	

## Legend:

n - not commenced    c - completed  
p - partially completed    na - not applicable/required

Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP), Project-1

Table B-2 Tender Progress Details

Project Code	Description	Dates												
		ISPMC ToR	ADB ToR	Eol Notice	Eol Received	BWDB Eol Eval	ADB Eol Eval	ADB Bid Doc	Tender Notice	Tender Received	Eval Comp	ADB Consur	Appr. Compl, Authority	Notif. Award
<b>Goods; B: Materials</b>														
G-01	Supply of Geobags; Chauhali & Sirajganj							26Dec14	31Dec14	19Feb15	04Aug15	29Apr15	07Jan15	01Jul15
G-02	Supply of Geobags; Zaffarganj, Harirampur & Manikganj							26Dec14	31Dec14	19Feb15	04Aug15	29Apr15	07Jan15	01Jul15
G-03	Supply of Geobags; Harirampur & Manikganj							19May15	19May15	06Jul15	08Dec15	27Aug15	22Sep15	27Sep15
G-04	Supply of Geobags; Chauhali, Harirampur, Kojjuri & Benotia							13Sep16	27Sep16	14Nov16	19Dec16	20Jan17	31Jan17	12Feb17
<b>Component Totals</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Goods; C: Vehicles &amp; Equipment</b>														
G-05	2016 Supply of Jeep;							26Feb16	29Feb16	31Mar16	13Apr16	19Apr16	19Apr16	07Jun16
G-06.1	2015 Supply of Jeeps;								01Jun16	05Jun16	09Jun16	12Jun16	16Jun16	30Jun16
G-06.2	2016 Supply of Jeep;								10Mar16	24Mar16	14Apr16	21Apr16	28Apr16	05May16
G-06.3	2016 Supply of Motorcycles;								10Mar16	24Mar16	14Apr16	21Apr16	28Apr16	05May16
G-07.1	2015 Office Equipment; BWDB PMO								13Apr15	17May15				28May15
G-07.2	2016 Office Equipment; BWDB PMO							10Apr15	03Jan16	04Feb16	29Feb16	28Mar16	28Mar16	30Mar16
G-08	2016 Supply of Survey Equipments;							10Apr15	03Jan16	04Feb16	29Feb16	14Mar16	14Mar16	16Mar16
G-09	2017 Supply of Office Equip; DDM								01Jun17	08Jun17	08Jun17	15Jun17	22Jun17	22Jun17
<b>Component Totals</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>8</b>
<b>Services; D: Consulting/NGO Services</b>														
S-01	ISPMC;			23Oct14	15Dec14					01Apr15	01Jun15			08Sep15
S-02	Resettlement Impl.Support; Sirajganj, Tangail, Manikganj		22Apr15	09Jun15	09Jul15	24Aug15		22Oct15	11Nov15	10Dec15	11Jan16	04Mar16	15Mar16	16Mar16
S-04	Community Based Flood Risk Mngmt; DDM	30Sep15	01Mar16	28Mar16	26Apr16	27Mar17	23Oct17	23Oct17	12Nov17	17Dec17	05Aug18	28Aug18		30Aug18
S-06.1	2015 Erosion & Morphological Chg;								23Dec14	01Jan15				29Jan15
S-06.2	2016, 2017 & 2018 Erosion Prediction;		23Feb16						23Feb16	15Mar16	24Mar16	28Mar16	09May16	10May16
<b>Component Totals</b>		<b>1</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>5</b>
<b>Works; A: Civil Works</b>														
W-01	Embankment, & 2 Reg.; km 0-5								06Nov17	07Nov17	11Dec17	27Dec17	21Jan18	12Feb18
W-02	Embankment; km 5-8.5								06Nov17	07Nov17	11Dec17	27Dec17	21Jan18	23Jan18
W-03	Embankment; 8.5-12.5								06Nov17	07Nov17	11Dec17	27Dec17	21Jan18	23Jan18
W-04	Embankment & 1 Regulator; km 12.5-17.3								06Nov17	07Nov17	11Dec17	27Dec17	21Jan18	12Feb18
W-05	Embankment & 1 Regulator; km 17.3-21.3								06Nov17	07Nov17	11Dec17	27Dec17	29Jan18	20Feb18
W-06	Revetment; Jamuna at Chauhali, R1; km 0-2.5							30Mar15	04May15	08Jun15	28Jul15	14Aug15	22Sep15	23Sep15
W-07	Revetment; Jamuna at Chauhali, R2; km 2.5-7.0							30Mar15	04May15	08Jun15	28Jul15	14Aug15	22Sep15	23Sep15
W-08	Revetment; Jamuna at Zaffarganj, km 6.1-8.1							11May15	22Jun15	27Jul15	08Oct15	04Dec15	03Feb16	03Feb16
W-09	Revetment; Padma at Harirampur, R1; km 6.7-10.2							11May15	22Jun15	27Jul15	04Nov15	10Dec15	30Dec15	30Dec15
W-10	Revetment; Padma at Harirampur, R2; km 3.2-6.7							11May15	22Jun15	27Jul15	04Nov15	10Dec15	30Dec15	30Dec15
W-11	Emergency/Adaptive 1; Riverbank Protection							31Dec17	14Jan18	15Feb18	25Feb18	01Mar18	14Mar18	19Mar18
W-14	Piloting Work; Manikganj, Tangail, Sirajganj	04Oct17						21May18	21May18	25Jun18	28Jun18	30Jul18	29Aug18	30Aug18
W-15	Construction of Inspection Banglow; Manikganj		05Apr18					15Apr18	15Apr18	17May18	29May18	07Jun18	11Jun18	11Jun18
W-16	Piloting Work; Shahzadpur							1Aug19	1Aug19	22Aug19		09Sep19	11Sep19	11Sep19
<b>Component Totals</b>		<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>	<b>13</b>
<b>Project Totals</b>		<b>2</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>22</b>	<b>30</b>	<b>30</b>	<b>27</b>	<b>27</b>	<b>26</b>	<b>30</b>
Abbreviations:		<b>ADB - Asian Development Bank</b>		<b>Concur. - Concurrence</b>		<b>Eol - Expression of</b>								
		<b>BDT - Bangladesh Taka</b>		<b>Doc. - Document</b>		<b>Interest</b>								
		<b>Comp. - Completion</b>		<b>Eval. - Evaluation</b>		<b>Notif. - Notification</b>								

Table B-3 Implementation Progress Details, by Contract

Contract code	Description	Contractor	Best Estimate of Final Cost (BDT Mil)	Value of Cumulate Progress					Remarks
				during Mth%	30-Jun-19		30-Sep-19		
					%	(BDT Mil)	%	(BDT Mil)	
<b>Goods</b>									
<b>B: Materials</b>									
G-01	Supply of Geobags: Chauhali & Sirajganj	BJ Geo-Textile	322.5	100	100	322.5	100	322.5	Financially Complete
G-02	Supply of Geobags: Zaffarganj, Harirampur & Manikganj	BJ Geo-Textile	417.8	100	100	417.8	100	417.8	Financially Complete
G-03	Supply of Geobags: Harirampur & Manikganj	DFL-DCTL(JV)	314	100	100	314	100	314	Financially Complete
G-04	Supply of Geobags: Chauhali, Harirampur, Kojhuri & Benotia	DIRD	258.5	100	100	258.5	100	258.5	Implementation Complete
<b>Component Totals</b>			<b>1,312.80</b>			<b>1,312.80</b>		<b>1,312.80</b>	
<b>C: Vehicles &amp; Equipment</b>									
G-05	2016 Supply of Jeep:	Pacific Motors Ltd.	5.5	100	100	5.5	100	5.5	Implementation Complete
G-06.1	2015 Supply of Jeeps:	Progoti Industries	20.8	100	100	20.8	100	20.8	Implementation Complete
G-06.2	2016 Supply of Jeep:	Progoti Industries	6.9	100	100	6.9	100	6.9	Implementation Complete
G-06.3	2016 Supply of Motorcycles:	Atlas Bangladesh Ltd.	1.3	100	100	1.3	100	1.3	Implementation Complete
G-07.1	2015 Office Equipment: BWDB PMO	Logitech Computer Ltd.	2.2	100	100	2.2	100	2.2	Implementation Complete
G-07.2	2016 Office Equipment: BWDB PMO	Source & Service	2.2	100	100	2.2	100	2.2	Implementation Complete
G-08	2016 Supply of Survey Equipments:	Logitech Computers Ltd.	6.7	100	100	6.7	100	6.7	Implementation Complete
G-09	2017 Supply of Office Equip: DDM	DDM	0.5	100	100	0.5	100	0.5	Implementation Complete
<b>Component Totals</b>			<b>46.1</b>			<b>46.1</b>		<b>46.1</b>	
<b>Goods Totals</b>			<b>1,358.90</b>			<b>1,358.90</b>		<b>1,358.90</b>	
<b>Services</b>									
S-01	ISPMC:	NHC (JV) Mott MacDonald	1,018.20	77	87	785.5	88	896.6	Satisfactory Progress
S-02	Resettlement Impl.Support: Sirajganj, Tangail, Manikganj	VRDS-HCL-JV	16.2	87	89	14.1	100	16.2	Implementation Ongoing
S-04	Community Based Flood Risk Mngmt: DDM	BDPC	37.4	59	100	22.1	100	37.4	Implementation Ongoing
S-06.1	2015 Erosion & Morphological Chg:	CEGIS	4.6	100	100	4.6	100	4.6	Implementation Complete
S-06.2	2016, 2017 & 2018 Erosion Prediction:	CEGIS	24.3	100	100	24.3	100	24.3	Implementation Complete
<b>Component Totals</b>			<b>1,100.70</b>			<b>850.5</b>		<b>979.1</b>	
<b>Services Totals</b>			<b>1,100.70</b>			<b>850.5</b>		<b>979.1</b>	
<b>Works</b>									
<b>A: Civil Works</b>									
W-01	Embankment, & 2 Reg.: km 0-5	Md. Moyenuddin (Bashi)-Gol	323	19	90	258.2	100	323	Satisfactory Progress
W-02	Embankment: km 5-8.5	Taher Brothers Ltd.-MA Ente	118.2	15	90	114.7	100	118.2	Construction Ongoing
W-03	Embankment: 8.5-12.5	Taher Brothers Ltd.-MA Ente	112.3	15	85	108.9	100	112.3	Construction Ongoing
W-04	Embankment & 1 Regulator: km 12.5-17.3	HB-SSECL (JV)	362.4	18	88	271.8	100	362.4	Construction Ongoing
W-05	Embankment & 1 Regulator: km 17.3-21.3	Md. Moyenuddin (Bashi)-Gol	287.1	18	87	232.5	100	287.1	Satisfactory Progress
W-06	Revetment: Jamuna at Chauhali, R1; km 0-2.5	I-J (JV)	422.7	100	100	422.7	100	422.7	Financially Complete
W-07	Revetment: Jamuna at Chauhali, R2; km 2.5-7.0	I-J (JV)	407.2	100	100	407.2	100	407.2	Financially Complete
W-08	Revetment: Jamuna at Zaffarganj, km 6.1-8.1	WEL-NZK-PTSL (JV)	466.9	100	100	466.9	100	466.9	Financially Complete
W-09	Revetment: Padma at Harirampur, R1; km 6.7-10.2	M.M.Builders & Engineers Lt	309	100	100	309	100	309	Financially Complete
W-10	Revetment: Padma at Harirampur, R2; km 3.2-6.7	M.M.Builders & Engineers Lt	258.3	100	100	258.3	100	258.3	Financially Complete
W-11	Emergency/Adaptive 1: Riverbank Protection	M/S. Hassan & Brothers	62.7	100	100	62.7	100	62.7	Construction Complete
W-14	Piloting Work: Manikganj, Tangail, Sirajganj	JV Khondoker Shaheen Ahm	330	63	92	303.6	100	330	Construction Ongoing
W-15	Construction of Inspection Banglow: Manikganj	MS Builders	7	13	88	5.5	90	6.3	Construction Ongoing
W-16	Piloting Work: Shahzadpur		137.9	0	5	0	0	0	Construction Ongoing
<b>Component Totals</b>			<b>3,604.70</b>			<b>3,222.00</b>		<b>3,466.10</b>	
<b>Works Totals</b>			<b>3,604.70</b>			<b>3,222.00</b>		<b>3,466.10</b>	
<b>Project Totals</b>			<b>6,064.30</b>			<b>5,431.50</b>		<b>5,804.10</b>	

**Table B4 ADB & GON Disbursement Details (until 30 September)**

<b>ADB Disbursements</b>				
<b>ADB Loan Account</b>				
<b>Appl. No</b>	<b>Date</b>	<b>US\$</b>	<b>Rate</b>	<b>BDT</b>
WL001	09/Dec/2014	3,682,433.00	77.85	286,677,409
WI007	17/Dec/2015	11,069,711.00	78.70	871,186,256
BW006	15/Oct/2015		77.80	
BW008	20/Dec/2015	1,198,478.59	78.70	94,320,265
BW013	30/Jun/2016	3,889,762.94	78.40	304,957,414
BW011	02/Oct/2016	1,627,548.73	78.40	127,599,820
BW017	27/Nov/2016	3,567,316.77	78.65	280,569,464
BW018	04/May/2017	10,263.46	78.40	804,655
BW020	02/May/2017	6,561,484.21	78.84	517,307,415
BW023	22/Jun/2017	1,746,397.55	78.84	137,685,983
BW029	06/Nov/2017	4,715,885.93	80.51	379,675,976
BW030	22/Dec/2017	1,148,309.32		17,370,057
BW034	12/Sep/2018	1,708,882.48	80.85	138,163,149
BW037	05/Dec/2018	3,546,512.56	80.85	286,735,540
BW042	19/Feb/2019	510,691.00	80.85	41,289,367
BW042	19/Feb/2019	510,691.00	80.85	41,289,367
		<b>44,983,677.54</b>		<b>3,525,632,138.80</b>
<b>Grant Imprest Account</b>				
<b>Appl. No</b>	<b>Date</b>	<b>US\$</b>	<b>Rate</b>	<b>BDT</b>
WG002	09/Dec/2014	1,189,354.00	77.85	92,591,208.90
WG007	17/Dec/2015	20,651.00	78.70	1,625,233.70
WG008	04/Oct/2016	319,995.00	78.40	25,087,608.00
ED002	24/Nov/2016	43,392.97	78.63	3,411,989.23
ED006	24/Nov/2016	341,134.29	78.63	26,823,389.22
ED007	04/May/2017	58,422.77	78.40	4,580,345.17
ED008	02/May/2017	349,549.87	78.84	27,532,857.98
ED011	22/Jun/2017	160,051.52	78.84	12,618,462.00
ED015	10/Nov/2017	435,718.95	80.66	35,145,342.16
ED016	22/Dec/2017	218,279.52	77.58	17,647,898.88
ED019	08/Aug/2018	163,006.74	80.85	13,179,094.93
ED021	10/Oct/2018	164,795.19	80.85	13,323,691.11
ED024	19/Dec/2018	656,219.52	80.85	54,511,119.84
ED027	24/May/2019	1,090,542.52	83.95	91,549,128.14
ED030	11/Sep/2019	805,534.72	84.35	67,950,398.37
		<b>6,016,648.58</b>		<b>487,577,767.63</b>
<b>Reimbursement</b>				
<b>Dir.Pay</b>			<b>ADB &amp; GoN</b>	
<b>Appl. No.</b>	<b>Date</b>	<b>Category</b>	<b>US\$</b>	<b>(BDT)</b>
BW002	22/Sep/2015	2	355,602	27,665,835
BW003	22/Sep/2015	2	460,513	35,827,904
BW009/BW010	23/Feb/2016	6A	204,145	15,836,549
BW012/ED003	20/Mar/2016	6A	302,979	23,503,567
BW015/ED004	29/Jun/2016	6A	374,096	29,020,474
BW016/ED005	29/Jun/2016	6A	306,512	23,777,655
BW021/ED009	10/Mar/2017	6A	410,184	31,819,987



BW022/ED010	06/Apr/2017	6A	689,589	53,499,087
BW025/ED012	07/Jun/2017	6A	290,620	22,544,814
BW026/ED013	22/Jun/2017	6A	199,295	15,460,289
BW027/ED014	06/Jul/2017	6A	74,843	5,805,907
BW028	06/Jul/2017	2	94,000	7,520,000
BW031/ED017	12/Jan/2018	6A	110,260	8,553,382
BW032	01/Feb/2018	5	52,910	4,232,857
BW033/ED018	12/Mar/2018	2	485,343	37,650,474
BW035/ED020	08/Jun/2018	6A	61,161	4,744,577
BW036	18/Jul/2018	5	37,601	3,029,546
BW038	12/Oct/2018	5	15,246	1,250,199
BW039	17/Oct/2018	5	35,231	2,888,974
BW040/ED022	14/Nov/2018	6A	408,413	31,682,607
BW041/ED023	21/Nov/2018	6A	495,613	38,447,167
BW043	04/Jan/2019	5	23358.81	1,915,422
BW045/ED026	30/May/2019	6A	220448.22	17,101,271
BW046	05/Jul/2019	5	23404.7	1,977,697
BW047/ED028	30/Jun/2019	6A	414965.46	32,190,946
BW048/ED029	18/Jul/2019	6A	109534.2	8,497,116
BW044				
<b>Totals</b>			<b>15,151,261</b>	<b>1,178,932,663</b>
<b>Total Disbursement</b>				
<b>Currency</b>	<b>ADB &amp; GON</b>			
<b>BDT Mil</b>	5,338			
<b>US\$ Mil</b>	68.47			

**Total Disbursement is the sum of the ADB Loan and Grant Imprest Account deposits, plus the total ADB & GoN Reimbursement amount.**

## Appendix-C

Table C-1: Staff Deployment Sheet Updated September 2019

No.	Position	Firm	Name	Person-Months - updated for month of September - 2019				
				Contract	VO-3	Used	Balance VO-3	
<b>MAIN TEAM - INTERNATIONAL</b>								
I-1	Team Leader / River Management Specialist	NHC	Knut Oberhagemann	35.0	34.50	34.62	-0.12	Knut Oberhagemann
I-2	Institutional Development Specialist/	EMM	Robert A. van de Putte	5.0	2.51	2.51	0.00	Robert A. van de Putte
I-3	Morphologist	DELTARES	Erik Mosselman	5.0	5.00	4.83	0.17	Erik Mosselman
I-4	River Engineer	NHC	Bruce Walsh	10.0	5.23	5.21	0.02	Bruce Walsh
I-5	Construction / Quality Control Engineer	EMM	Basistha Adhikari	24.0	0.87	0.87	0.00	Basistha Adhikari
I-6	Flood Risk Management Specialist	NHC	Dave Burkholder	12.0	11.05	11.30	-0.25	Dave Burkholder
I-7	Social Development / Resettlement Specialist	EMM	Jean Louis Leterme	8.0	11.00	10.52	0.48	Jean Louis Leterme
I-8	Economist	NHC	John D. M. Roe	3.0	2.40	1.92	0.48	John D. M. Roe
	CRVA (Climate Risk and Vulnerability Assessment)					0.45	-0.45	
I-9	Financial Management Specialist	EMM	J. Spurr	1.5	0.00	0.00	0.00	J. Spurr
I-10	Hydrologist	NHC	Derek Stuart	3.0	7.90	7.87	0.03	Derek Stuart
I-11	Environmental Specialist	EMM	Wandert Benthem	7.0	4.20	3.47	0.73	Wandert Benthem
I-12	Information and Data Management Specialist	NHC	Dave Burkholder	4.0	8.50	7.98	0.52	Dave Burkholder
I-13	Unallocated Engineering Services	NHC	TBN					TBN
I-13-1	Int'l Construction Advisor-Engineer	NHC	Graeme Vass	3.0	3.00	3.00	0.00	Graeme Vass
I-13-2	Junior Engineer	NHC	Jesper Mathiesen	4.0	17.15	18.83	-1.68	Jesper Mathiesen
	CRVA (Climate Risk and Vulnerability Assessment)					0.36	-0.36	
I-13-3b	Geotextile Specialist (Unallocated)	NHC	Michael Heibaum		0.65	0.65	0.00	
I-13-3	Numerical Modeler	NHC	Angela Thompson	5.0	10.20	9.70	0.50	Angela Thompson
I-13-4	Unallocated Engineering Services	NHC	Seth Bryant		4.00	3.95	0.05	Seth Bryant
I-13-5	Unallocated Engineering Services	NHC	TBN/Brecht D'Haeyer		2.50	2.55	-0.05	TBA
I-16	Geotechnical/Construction Engineer	EMM	Hiba Khan		13.00	11.38	1.62	Hiba Khan
I-14	Senior Geotechnical Engineer	NHC	Dr. Horst Kramer		1.20	1.04	0.16	Dr. Horst Kramer
I-15	River Engineer	NHC	Brad Hall		6.40	6.48	-0.08	Brad Hall
I-17	Water Resources Specialist	NHC	Marieke Nieuwaal		0.00	0.00	0.00	Marieke Nieuwaal
I-13	Design and Specification Engineer	EMM	John Prytherch		4.00	3.03	0.97	John Prytherch
			<b>Totals</b>	<b>129.50</b>	<b>155.26</b>	<b>132.39</b>	<b>2.73</b>	
<b>Main Team National</b>								
N-1	DTL / Flood & Erosion Risk Management Spec.	EMM	Sharif Al Kamal	41.5	42.00	42.06	-0.06	Sharif Al Kamal
N-2	Institutional / Capacity Development Specialist	RPMC	Dr. M. A. Qassem	10.0	9.86	9.86	0.00	Dr. M. A. Qassem
N-3	River Engineer (Morphologist)	CEGIS	Dr. Maminul Haque Sarker	8.0	7.00	6.83	0.17	Dr. Maminul Haque Sarker
N-4	Community-based Flood Risk Mngt. Spec.	RPMC	Quazi Towfique Islam	36.0	38.0	37.27	0.73	Quazi Towfique Islam
N-5	Resettlement Specialist	EMM	Shireen Akhter/Begum S. Nahar	15.0	16.50	16.45	0.05	Shireen Akhter/Begum S. Nahar
N-6	Project Economist	RPMC	Aminul Islam	7.0	10.00	9.14	0.86	Aminul Islam
N-7	Procurement Specialist	RPMC	A. Abdullah Chowdhury / Md Abdullah Sadeque	10.0	1.90	1.89	0.01	A. Abdullah Chowdhury / Md Abdullah Sadeque

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N-8	Construction Engineer	RPMC	Mirza Harunar Rashid	32.0	33.94	34.94	-1.00	Mirza Harunar Rashid
N-9	Financial Management Specialist	EMM	Md. Habibur Rahman/ <b>Ektedar Rahman</b>	12.0	10.50	10.39	0.11	Md. Habibur Rahman/ <b>Ektedar Rahman</b>
N-10-1	River Engineer Flood Management Infr.- 1	RPMC	Mukhles uz zaman	12.5	13.74	13.74	0.00	Mukhles uz zaman
N-10-2	River Engineer Flood Management Infr. -2	RPMC	Md. Motiur Rahman	12.5	18.00	18.01	-0.01	Md. Motiur Rahman
N-11	Social Development and Gender Specialist	EMM	Ruh Afza Ruhi/ <b>Begum S. Nahar</b>	12.0	9.5	9.36	0.14	Ruh Afza Ruhi/ <b>Begum S. Nahar</b>
N-12	Environment Specialist	RPMC	Dr. Md. Nurul Islam/ <b>Md. Amir Faisal</b>	16.0	18.0	16.56	1.44	Dr. Md. Nurul Islam/ <b>Md. Amir Faisal</b>
N-13	Training Coordinator	EMM	Jahangir Kabir/ <b>Shameem Ahmed</b>	14.0	19.3	19.29	0.01	Jahangir Kabir/ <b>Shameem Ahmed</b>
N-14	Information and Data Management Specialist	EMM	Asrafuzzamen	15.0	0.00	0.00	0.00	Asrafuzzamen
N-15	Hydraulic Structural Engineer	RPMC	Md. Dabir Uddin/ <b>Aminul Haque Shah</b>	10.0	3.00	3.02	-0.02	Md. Dabir Uddin/ <b>Aminul Haque Shah</b>
N-16	Road Engineer	RPMC	Zakir Hossain	6.0	4.21	4.21	0.00	Zakir Hossain
N-17	Geotechnical Engineer / <b>Geotechnical Expert (Local)</b>	EMM	Md. Korban Ali / <b>Md. Shamsul Islam</b>	7.0	8.50	8.08	0.42	Md. Korban Ali / <b>Md. Shamsul Islam</b>
N-18-1	Site Engineer 1 (PRB-1)	RPMC	Md. Nurul Amin	36.0	41.00	40.68	0.32	Md. Nurul Amin
N-18-2	Site Engineer 2 (JLB-2 Chauhali)	RPMC	KM Nazmul Haque/ <b>Ekram Sarder/Mainul Islam</b>	36.0	14.50	14.24	0.26	KM Nazmul Haque/ <b>Ekram Sarder</b>
N-18-3	Site Engineer 3 (JLB-2 Zaffarganj)	EMM	Md Faridul Alam/Moin Uddin/ AZM Abdullah	36.0	35.00	34.98	0.02	AZM Abdullah
N-18-4	Site Engineers 4 (PLB-1 Harirampur)	EMM	Abdul Jalil/ <b>Saiful Islam</b>	36.0	8.04	8.04	0.00	Abdul Jalil/ <b>Saiful Islam</b>
N-19	Surveyor	EMM	Osman Ghani		14.00	13.07	0.93	Osman Ghani
N-20	Unallocated Engineering Services	RPMC	TBN Mukhles uz zaman		1.50	1.00	0.50	Mukhles uz zaman
N-21	Morphologist	CEGIS	Sudipta Kumar Hore		5.00	4.76	0.24	Sudipta Kumar Hore
						0.00		
			<b>Totals</b>	<b>420.50</b>	<b>382.99</b>	<b>377.87</b>	<b>5.12</b>	

Table C-1 Utilization of Consultant Person-Months continued ...

	<b>RIVER STUDY TEAM - INTERNATIONAL</b>							
IR-1	Task Leader / Flood & River Management Spec.	NHC	Carsten Stuab	10.0	10.98	10.98	0.00	Carsten Stuab
IR-2	Institutional Development Specialist/ <b>Capacity Development Specialist.</b>	EMM	Robert A. van de Putte	3.0	0.50	0.50	0.00	Robert A. van de Putte
IR-3	Morphologist	DELTARES	Sanjay Giri	7.0	6.50	6.17	0.33	Sanjay Giri
IR-4	River Engineer (River Training)	NHC	Gerrit Klaassen	7.0	10.50	10.33	0.17	Gerrit Klaassen
IR-5	Water Resources Management Specialist	DELTARES	W. J. Oliemans	5.0	2.80	2.76	0.04	W. J. Oliemans
IR-6	Economist	EMM	Alexander Mueller/ <b>John D.M. Roe</b>	4.0	2.30	2.47	-0.17	Alexander Mueller/ <b>John D.M. Roe</b>
	CRVA (Climate Risk and Vulnerability Assessment)				0.00	0.00		
IR-7	Social / Regional Development Specialist	NHC	Mark Hopkins	5.0	6.37	6.15	0.22	Mark Hopkins
IR-8	Environmental Specialist	EMM	Wandert Benthem	4.0	4.00	4.01	-0.01	Wandert Benthem
IR-9	Hydrologist	NHC	Malcolm Leytham	5.0	3.80	2.92	0.88	Malcolm Leytham

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	CRVA (Climate Risk and Vulnerability Assessment)				0.73	-0.73	
IR-10	Climate Change Specialist	NHC	Mariza Costa-Cabral		2.05	1.98	0.07
	CRVA (Climate Risk and Vulnerability Assessment)					0.07	-0.07
IR-11	Dredging Specialist	NHC	Pieter Van Groen		2.11	2.11	0.00
IR-12	urban & Master Planner	NHC	Dr. Douglas Webster		3.20	2.82	0.38
IR-13	Morphologist Modeler	DRS	Mohammed Yossef		1.40	1.38	0.02
IR-1	Sedimentologist	NHC	Dan Haught		1.40	1.42	-0.02
IR-2	Geomorphologist	NHC	Andrew Nelson		1.50	1.64	-0.14
IR-3	Community Development/ Flood Management Specialist	EMM	Judith de Bruijne		0.18	0.18	0.00
IR-4	Report Editor	NHC	Dr.Sara Bennett,		2.00	0.53	1.47
IR-5	Report Publisher	NHC	Sabrina Asche		5.00	5.78	-0.78
			<b>Totals</b>	<b>50.00</b>	<b>66.59</b>	<b>64.93</b>	<b>1.66</b>
			<b>Grand Total International</b>	<b>179.5</b>	<b>221.9</b>	<b>197.32</b>	<b>4.39</b>
<b>RIVER STUDY TEAM - NATIONAL</b>							
NR-1	Water Resources Management Specialist	RPMC	G M Akram Hossain	10.0	9.92	9.92	0.00
NR-2	Flood Management Specialist	RPMC	Md. Makbul Hossain	6.0	7.51	7.55	-0.04
NR-3	River Engineer (Morphologist)	CEGIS	Dr. Maminul Haque Sarker	9.0	4.00	3.97	0.03
NR-4	Economist	EMM	Dr. Shaker Ahmed	4.0	0.03	0.00	0.03
NR-5	Regional / Spatial Planner	RPMC	Dr. Shamim M Haque	4.0	3.37	3.37	0.00
NR-6	Institutional Development Specialist	RPMC	Dr. M. A. Qassem	4.0	3.94	3.94	0.00
NR-7	River Engineer	RPMC	Md. Motiur Rahman Jewel	8.0	11.7	11.70	0.00
NR-8	Hydrologist	EMM	Imdadul Haque Siddiqui	6.0	0.00	0.00	0.00
NR-9	Social Development and Gender Specialist	EMM	Ruh Afza Ruhi/Begum S. Nahar	5.0	4.00	3.99	0.01
NR-10	Environment / Climate Change Specialist	EMM	Md. Rakibul Haque/Amir Faisal	5.0	2.50	2.49	0.01
NR-11	Water Supply and Water Quality Specialist	EMM	Md. Mozammel Hossain/ Dr. Khairul Bashar	5.0	3.63	3.63	0.00
NR-12	Agriculture Specialist	RPMC	Dr Quazi Reasul Islam	4.0	3.34	3.34	0.00
NR-13	Fishery Specialist	RPMC	Dr. Md. S. Howlader	3.0	6.00	6.00	0.00
NR-14	Environmental Advisor	EMM	Dr. Alnun Nishat		0.50	0.18	0.32
						0.00	
			<b>Totals</b>	<b>73.00</b>	<b>60.44</b>	<b>60.09</b>	<b>0.35</b>
			<b>Grand Total National</b>	<b>493.5</b>	<b>443.43</b>	<b>351.88</b>	<b>5.47</b>

## Appendix-D

Table D-1 Status of River Study Supplementary Annexes – 30 September 2019

New Number	Old Number	Title	Main Author(s)	Review/Approval	A	B	C	D	E	F	G	Status
					Background information	Morphology - General	Morphology - Bifurcations & Offtakes	River Engineering	Water Resources and Flood Modelling	Social and Environmental Impacts	Land Use & Economic Benefits	
A1	1	Background data, river use, studies and plans	MH	CS	x							Formatting completed.
A2	40	Master Plan	DW	KO	x							Formatting completed.
A3		Strategic Environmental and Social Assessment	WB	NCEA								currently under review by the Netherlands Commission for Economic Assessment prepared
A4		Inland Navigation and Dredging	HK	KO	x							Formatting completed.
B1	2	Holistic river morphology analysis for the Brahmaputra river system	MHS	CS/EM		x						Formatting completed.
B2	44	Long term view of Brahmaputra/Jamuna channel planform	AN	EM		x						Formatting completed.
B3	39	Cross-Section Analysis on Brahmaputra, Jamuna and Padma Rivers	MRJ	GJK		x						Formatting completed.
B4	5	Char characteristics and dynamics – past and present conditions on basis of satellite imagery	MHS	GJK		x						Formatting completed.
B5	4	Upper Meghna - present conditions and issues	JAA/MHS	CS		x						Formatting completed.
C1	6	River bifurcations: Theory and model experience	EM	KO			x					Formatting Reviewed.
C2	7	Ana branching Channels of the Jamuna and Padma Rivers	MHS	CS			x					Formatting Reviewed.
C3	8	River bifurcations: Simplified numerical modelling	AT	SG/GJK			x					Formatting Reviewed.
C4	9	Reach 3 and bifurcation: numerical modelling	AT/SG	EM			x					Formatting Reviewed.
C5	10	Offtake and Flow Dynamics of the Major Rivers	MHS	CS			x					Formatting Reviewed.
C6	11	Offtakes part 2 Numerical model studies and generic guidelines	MY	EM			x					Formatting Reviewed.
D1	13	River Stabilization Plan - Technical Basis	GJK	KO				x				Final expected by mid-December-2019.

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D2	14	River stabilization of other main rivers	GJK/BH/EM	BH/GJK									Completed; 04-Jan-2019.
D3	15	Earlier proposals and attempts for stabilization of Jamuna River (include capital dredging)	MZ/BW	KO									Final expected by mid-December-2019.
D4	1	Intermediate and final planform alternatives	MRJ	GJK									Final expected by end-December-2019.
D5	18	Feasible techniques and methods for riverbank protection and future channel narrowing	AN	BH									Revised Appendix Completed; 14-Feb-2019.
D6	16	Underwater Apron for Chandpur Confluence	MRJ/AT	SG									Completed
E1	19	Main river flood risk and management	Mho/DS	DS									Formatting completed.
E2	20	Flooding numerical modelling	DS	BH									Formatting completed.
F1	23	Socio-economic Aspects	MH/SN	JLL									Formatting completed.
F2	24	Environmental and social aspects of river stabilization: Remedial measures	WB/MH	CS									Formatting completed.
F3	25	Fisheries Impacts of FRERMIP and their Management: A Pre-project Status Review	SH	CS/WB									Formatting completed.
F4	27	Long-term effects of river narrowing on water levels	EM	KO									Formatting completed.
F5	36	Effects of sinuosity on channels and bars	MY	EM									Formatting completed.
F6	26	River stabilization and Sediment Management	GJK	BH									Final expected by mid-Jul-2019.
F7	43	Char Stabilization Impact Modelling	SB/GJK	EM									Formatting completed.
F8	37	Impact of Earthquake Induced Sediment Supply Variability	EM/AN	GJK/BH									Formatting completed.
F9	28	Future conditions affecting flows	MCC	ML									Formatting completed.
G1	21	Distributaries: Water resources preparation and baseline	WO/ML	ML									Formatting completed.
G2	22	Potential Impacts of Flow Augmentation and Study Needs	WO/ML	EM									Formatting completed.
H1	29	Planning the Use of Stabilized and Reclaimed Land, Procedure and Issues	MH	CS									Completed
H2	30	Char land amelioration and agriculture development	QRI/AC	AC									Completed; 10-June-2018
H3	31	Economic Assessment of River Stabilization	JR/AI	KO									Work on report suspended, pending prerequisite data from TN-D1.

**Abbreviations**

:

AC = Alan Clark	DW = Doug Webster	KO = Knut Oberhagemann	MZ = Mukhles uz Zaman
AF = Amir Faisal	EM = Erik Mosselman	MCC = Mariza Costa-Cabral	QRI = Qazi Reasul Islam
AI = Aminul Islam	NECA = Netherlands Commission	MH = Mark Hopkins	SB = Seth Bryant
AN = Andrew Nelson	GJK = Gerrit Klaassen	MHo = Makbul Hossain	SG = Sanjay Giri
AT = Angela Thompson	HK = Hiba Khan	MHS = Mamin H. Sarker	SH = Shajahan Howlader
BH = Brad Hall	JAA = Jakia Akter	ML = Malcolm Leytham	SN = Shamsun Nahar
BW = Bruce Walsh	JLL = Jean Louis Leterme	MRJ = Motiur Rahman Jewel	WB = Wandert Benthem
CS = Carsten Staub	JM = Jesper Mathiesen	MY = Mohamed Yossef	WO = William Oliemans
DS = Derek Stuart	JR = John Roe		

	<b>Reports Annex Submitted</b>
0	
6	<b>Formatting Reviewed</b>
2	
0	<b>Formatted Technically Complete</b>
5	<b>Draft Complete</b>
6	<b>Under Preparation</b>
0	<b>n</b>
3	
7	<b>Total</b>

**Appendix-E**

**Table E 1 ISMPC performance compliance with TOR**

Tasks by ToR	Tasks Done	Current Tasks	Future Tasks
Task-1: Supporting BWDB for institutional capacity strengthening of the holistic and strategic management of the main rivers	1 Inception Report, 16 Quarterly Progress Reports, 1 Mid-term Review Report, have been submitted.	The Quarterly Progress Report-17 for July – September 2019 quarter is under preparation	The Quarterly Progress Report-18 will be submitted as scheduled.
Task-2: Supporting BWDB and DDM for project implementation management of Tranche-1	1. Institutional capacity strengthening: From DPP Budget 12 Trainings and tours done.	1. Institutional capacity strengthening: From DPP Budget, 6 of 7 local trainings and 6 of 9 overseas trainings have been implemented.	1. Institutional capacity strengthening: From DPP Budget, 1 more local and 3 overseas trainings will be implemented in fiscal year 19/20.
	2. Data and knowledge base development for flood and river management: basic river survey database, project maintenance database, resettlement and socio- economic survey database for Tranche-2 Feasibility studies have been built.	2. Data and knowledge base development for flood and river management: the river survey database is being populated and prepared for hand- over to BWDB. One BWDB official has been trained on database over a number of weeks to ensure more effective handover. The project monitoring database is currently being used by the ISPMC to generate quarterly progress reports and assist the PMO.	2. Data and knowledge base development for flood and river management: river survey database will be fully populated and handed over to the BWDB.



	3. Support BWDB for supervising physical works: Supervising for Riverbank protection works at three sites since October 2015. The ISPMC submitted 6 construction completion report.	3. The supervising of embankment construction works is currently ongoing.	ISPMC will finish supervising the embankment construction works and the river training pilot works and will submit construction completion reports accordingly.
	4. Support DDM for implementing Community-based Flood Risk Management: Implementation NGO has been contracted in August 2018 with the help of ISPMC expert	4. The INGO has finished implementing their contract assigned.	The ISPMC will evaluate the final report
Task-3: Supporting BWDB for preparation of Tranche-2, including verification of site selections, feasibility studies, preparation of loan approval documents meeting requirements for the government and ADB.	1. Site Selection Report submitted in May 2017	Final Feasibility Report is approved. ADB evaluation of safeguard documents ongoing.	Updated EIA will be submitted based on comments followed by the Department of Environment approval of the Environmental Impact Assessment (EIA) and approval of the DPP through ECNEC.
	2. Technical and social field surveys completed in December 2017		
	3. Basic Structural design complete in March 2018		
	4. Design of non-structural activities completed in March 2018		
	5. Safeguard, gender and poverty assessment completed in March 2018		
	6. Project economic assessment		

	was updated with the final feasibility report in March 2019.		
Task-4: A long-term strategic river stabilization plan study for the Jamuna, Padma and Lower Meghna rivers covering from the Indian border to the estuary (by the river study task team)	Strategic framework on long-term river stabilization plan was presented in a workshop on December 2016. It was submitted on May 2017 and recommended to the Technical Advisory Committee on September 2017.	4 main reports are being finalized.	4 main reports with necessary annexes will be submitted
Task-5: A preliminary master plan study for river management of the Jamuna- Padma-Lower Meghna.	Draft regional plan has been submitted in September 2018 (part of Task-4)	Final regional master plan is under preparation.	Final regional master plan to be submitted
Task-6: Development, implementation support, and monitoring of land recovery/river training piloting schemes, including piloting using building with nature concept (by the river study task team)	ISPMC has assisted PMO, BWDB on preparing technical specifications and bid documents for implementing grout-filled jute mattress as riverbank protection works as a part of river training piloting schemes for first contract. The work package on pilot works has started in March 2019.	The contractor has completed Harirampur and Shahjadpur (W14) grout filled jute mattress construction except roughly 200m left due to the embankment not being complete at this site. The second pilot works contract (W16) for a further 1.3 km of jute mattress is in progress.	Some design modifications for the additional 1.3km of grout mattress may be proposed following site visits to the damaged areas once the flood waters recede.  No land recovery could be implemented under W14 due to local government objections
Task-7: Hydraulic and morphological analyses for the Jamuna-Meghna and Jamuna-Padma-Ganges confluences (by the river study task team)	Strategic framework on long-term river stabilization plan was presented in workshop on December 2016. It was submitted on May 2017 and recommended by the Technical Advisory Committee on September 2017.	4 main reports are being finalized.	4 main reports with necessary annexes will be submitted in December 2019.

## Appendix-F

### Revised Gender Action Plan Quarterly Progress Report on Revised Gender Action Plan (GAP) Implementation Monitoring

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#### Flood and Riverbank Erosion Risk Management Investment Program (Tranche-1)

<b>Project Title :</b>	Flood and Riverbank Erosion Risk Management Investment Program (Tranche-1)		
<b>Date of Update :</b>	30/09/2019	<b>Submission Date:</b>	-
<b>Agency :</b>	Bangladesh Water Development Board		
<b>Timeframe :</b>	April 2014 to June 2020		
<b>Gender Category :</b>	EGM		
<b>Project Impact (from PAM) :</b>	The expected impact of the investment program will be improved livelihoods of people in the project area along the main rivers of Bangladesh.		
<b>Project Outcome (from DPP log frame) :</b>	The outcome of the program will be reduced flood and riverbank erosion risks in the Subproject reaches		
<b>Whether there is a Gender Action Plan :</b>	Yes		
<b>Is there a Gender Specialist :</b>	A Gender Specialist worked (intermittent basis) in Institutional Strengthening and Project Management Consultant (ISPMC). Presently the Gender specialist has utilized all her man months. An Executive Engineer of PMO is appointed as Gender Focal Point. He is working for GAP implementation till date.		
<b>If not, how gender mainstreaming is supported ?</b>	N/A		

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
<b>Output I: Flood and Riverbank Erosion Risk Mitigation Functioning at Priority Reaches</b>				
A1 Construction of riverbank protection structures using appropriate technology and methods A1-2 Rehabilitation/construction of embankments				
- Ensure women benefit from employment in construction  - Ensure gender-related aspect of labor standard including equal wage for women and men for equal work  - Ensure occupational health and safety, safe water supply, sanitation is in place (incl. separate toilets)	1. Specific condition included contractors' bidding document whereby 5% unskilled labor opportunities be given to women.	-	A total of 1023 female labors (5% of total) out of total 21274 labor worked in construction sites till date.	Last Aide Memoire of Midterm Review Mission (15-26 February) was received by PMO on 19.03.2018. During that Mission, Revised Gender Action Plan was finalized, and these targets were set. Contract W-01 to 05 signed before the date and W-14 signed after the date. As per decision of the Aide-memoire, contractors of W-01 to 05 and W-14 are now appointing min 5 % females as unskilled labors.
	2. Orientation sessions targeting 45 SMO staffs (at least one orientation in each SMO) i.e. SDE, Section Officers, surveyors and contractors' site manager, site engineer and	-	One training session covering three courses on "Gender Awareness Training for SMO's engineers and contractor's staff" for work package W-04 and W-05 was held on 21 December 2018 at XEN office, Koitola.  Three courses on "Orientation session to verify and ensure that Core Labor Standard conditions are met for SMOs	There are 3 SMOs under the project. But presently work site is running only at Koitola SMO. The training sessions held for Package W-01 to 05 packages under the Koitola SMO only.

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
	supervisors to verify and ensure that conditions are met		Engineers and Contractors Staff” have been held at the Koitola work site for work packages W-01, W-02 & W-03 on 22 December 2018 at XEN office, Koitola.  During these sessions 1 XEN, 1 SDE, 2 Section Officers, 5 site managers, 5 site supervisors, 3 site engineers of Koitola SMO were present. Out of total 78 participants 6 were female.	
	3. Provisions for either separate toilets for women or arrangements for use of facilities in nearby communities and/or households	In 6 places of 6 contract packages separate toilet for women built at running work sites.	6 Separate toilets for women in 6 Contract Packages along with arrangements for use of facilities in nearby communities and/or household have been provided till date at running work sites.	-
	4. Sex-disaggregated information in field monitoring quarterly reports and contractors’ compliance reports	Sex-disaggregated data collection is on-going till this quarter.	Sex-disaggregated data collection is on-going till date.	-
<b>A2 Formulating Community Disaster Management Units</b>				
- Form 40 Community Disaster Management Units (CDMUs)  - Develop a	5. CDMUs (40) - consisting of 15 male and female volunteers/each-established with minimum 33% units	-	Out of 40 CDMUs, 39 CDMUs consist of total 15 volunteers which include both male and female members and the rest 01 CDMU consists of 20 volunteers.  Out of total 605 volunteers, females	CbFRM component implementation started from the date of 1 September 2018.

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
community flood risk assessment and community risk reduction plan	led by women (baseline=0).		are 244 (40.33%) nos. 100% CDMUs are led by women as Leader/Deputy Leader.	
	6. <b>Community Flood Risk Assessment</b> prepared identifying: (i) risks for women, men, children and vulnerable groups; and (ii) disaster response mechanism related to flood and erosion warning;	-	40 Community Risk Assessments were conducted in 40 identified CDMUs, identifying: (i) risks for vulnerable groups i.e. women, children, elderly, disabled and other, and (ii) disaster response mechanism related to flood and early erosion/disaster warning.	A sample copy of Community based Disaster Preparedness Plan (CDPP) attached here as Attachment-01 where at page 2 <b>Community Flood Risk Assessment</b> were introduced.
	7. <b>Community Risk Reduction Plan</b> 20 plans prepared for 40 Units through participation of women volunteers specifying roles, provisions for women and men in terms of disaster preparedness at HH and community level; (iii) risk reduction measures	-	40 plans were prepared in 40 CDMUs through participation of male and female volunteers, specifying roles, provisions for women and men in terms of disaster preparedness at HH and community level. In each of these planning processes, 30-35 community people participated among which at least 27 were female (90%) and they participated as representative from their household/family.  iii) the risk reduction measures included but not limited to: - Dissemination of flood early	A sample copy of <b>Community based Disaster Preparedness Plan (CDPP)</b> attached here as Attachment-01. It is notable here that <b>Community Risk Reduction Plan</b> was named as <b>Community based Disaster Preparedness Plan (CDPP)</b> in the ToR of signed Contract with DDM.

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
			warning in local context using local reference points - Raising awareness among vulnerable communities - Installation of flood markers - Linkage between relevant govt. officials and vulnerable community - Raising household plinth, tube-wells and latrines - Storing dry foods, medicine and fuel Assisting flood affected people to evacuate in flood shelters, particularly women, children, elderly and people with disabilities	
	8. 60 locations identified and build community flood markers for flood warning information	-	114 densely populated locations were identified in the vicinity of the rivers and canals. In these identified locations, a total of 114 flood marker posts were installed which are easily identifiable by men, women and children as flood warning information.	-
<b>A3 Formulating Community Disaster Management Units</b>				
- Initiate community-based flood warning dissemination procedures building on indigenous techniques	9. 50% of the units have flood warning mechanisms [Source: end-line beneficiary survey]	Procedure developed like collecting warning messages from local Union Digital Centre which are linked with the national warning network. Then the messages are contextualized in local language to	Trained 604 male and female volunteers from 40 CDMUs to follow flood warning procedure and disseminate warnings by- i. using local language; ii. using mosque mikes; iii. using megaphone from local	National warning may not reach communities as the warning are not relevant to the local contexts. End-line beneficiary survey was not

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
Disseminate regular warning messages in relevant to local context/language in line with national warning network		understand and to match with local parameters (flood markers) for easily understanding to the local community.	Union Parishad; iv. using local reference point to explain danger level Introduced flood-warning mechanisms to the community people through 100% units, which are yet to be tested during the next flood cycle between July to August 2019.	conducted as it was not included in the ToR of the Contract Agreement signed with DDM.
	10.20 knowledge events held [Target: 100 women]	-	A total of 7,260 knowledge events i.e. courtyard sessions were conducted by all 605 female and male volunteers to share knowledge and practices on flood warning mechanism in local context. Representatives from 60,000 beneficiary households participated while almost 45,000 (=>75%) women were present.	-
	11.50% of households, including low-income households, and poor women living on the embankment participate have increased resilience through preventive measures at household level [Source: end-line beneficiary survey].	-	100% of the 60,000 identified beneficiary households, including low-income households, and poor women living on the embankment participate have increased resilience through preventive measures at household level.	End-line beneficiary survey was not conducted as it was not included in the ToR of the Contract Agreement signed with DDM.
A4 Construction of Resettlement Areas with Basic Infrastructure and Facilities				



Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
- Ensure effective consultation with women in the affected areas and maintain sex disaggregated data on Project Affected Persons (PAPs) along with entitlement benefits, as per Resettlement Plan (RP)	12.Full compensation for 100% women PAPs as per RP entitlement	-  Total 166 EPs received CCL through DC office. Among them 2 are women (100% women Eps paid).	Total 2336 out of 2720 Aps received resettlement grant/benefit and replacement cost. Among them 211 are women (100% women PAPs paid).  Total 3616 out of 4256 EPS received CCL through DC Office. Among them 104 are women (100% women Eps paid).	-
	13.33% women involved in planning meetings	-	Total 324 planning meetings were held till date where more than 16200 persons attended and out of which female are more than 9072 nos (56%).	Gender Issues were considered while forming resettlement villages and communities.
- Ensure that gender issues are considered when planning resettlement villages and community facilities				
<b>Output II: Strengthened Institutional Systems for Flood and Riverbank Erosion Risk Management</b>				
<b>A5 Capacity Enhancement of BWDB</b>				
- Integrate a gender-specific module in the BWDB training	14.10% women in training programs	A gender specific module has been kept and is under implementation in the BWDB training programs.	40 % women (16 out of 40) have participated in the Gender specific training held in March 2019.	-
- Build capacity of female staff in BWDB	15.- Provide 3 training (1 in BWDB HQ, 1 in design office and 1 in 3 SMOs) to at least 60 women staff in BWDB on working	On 16 April 2019, “Updation of specifications of geotextile’ training was held where 13 female engineers from BWDB design wing out of 40 participants were participated.	Total 5 training program held. Total 132 participants attended out of which 57 participants were female (43.18%)	-In November 2018, “training/ orientation session for SMOs” was held where all staff of site offices attended. Out of 14 participants

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
	<p>as women in BWDB – Challenges and issues</p>			<p>2 were female.</p> <p>-In June 2017, 1 (one) Gender specific course has been held for building capacity of female staff in BWDB HQ. Out of 32 participants, 25 were female. The main discussions were Importance of gender in water management project and concept of gender with government’s commitment. ADB’s Gender Specialist attended as resource person in this workshop.</p> <p>-In October 2017, “Training for River Survey Database” was held, where 1 participant was female out of 6 (17%).</p> <p>-In March 2019, one gender specific training was held in Design Office, BWDB. In total of 40 participants including 16 females attended</p> <p>- On 16 April 2019,</p>

Output/Activities	Indicators and Targets	Progress in this Quarter ( July 2019 – 22 Sep 2019 )	Cumulative Progress ( up to 22 Sep 2019 )	Remarks/Comments
				"Updation of specifications of geotextile' training was held where 13 female engineers from BWDB design wing out of 40 participated.
<b>Output III: Program Management Systems Operational</b>				
A6: Implementation Management				
Establish MIS system with sex disaggregated data base for project reporting	16. - Identify gender indicators, incorporate in monitoring system and ensure regular reporting of progress of GAP implementation	Regular reporting of progress of GAP implementation identifying gender indicators are in progress. Sex disaggregated data being used for last Quarterly Project Progress Report No. 16 (April-June 2019).	Regular reporting of progress of GAP implementation identifying gender indicators and incorporating in regular monitoring system are being done regularly till date.	Establishment of MIS system was dropped during the 1 <sup>st</sup> revision of project DPP.

## Appendix-G

### Table G 1 Compliance status with Loan and Grant Agreement Covenants

Sl.No.	Covenant Description	Comply <sup>2</sup>	Evidence to Support Claim
<b>Implementation Arrangements</b>			
1	Project is implemented in accordance FAM.	Yes	All Environmental, Social and Financial provisions outlined in the FAM are being satisfactorily implemented.
2	PMO, SMOs and PMU shall employ sufficient and experienced staff.	No No	<ul style="list-style-type: none"> <li>• BWDB: on average, the PMO has only 55% of Senior Staff as specified in DPP.</li> <li>• DDM: PMU only has only 2 staff, and the Project Manager is on additional charges.</li> </ul>
3	PMO, SMOs and PMU staff shall remain for a reasonable period of time.	Yes No	<ul style="list-style-type: none"> <li>• BWDB: PD stayed for over 4 years. new PD has been in role for more than two years</li> <li>• DDM: had 3 Project Managers in 2.5 years</li> </ul>
4	The PMO PD shall have a rank not less than a Superintending Engineer.	Yes	PMO both PDs had rank of Superintending Engineer.
5	BWDB shall establish a CE River Management office responsible for flood and riverbank erosion risk management.	Yes	On 22-Nov-2017, BWDB established the office of CE River Management, and appointed a Chief Engineer.
<b>Counterpart Support</b>			
6	If Borrower cannot avail of the proceeds of the Grant, the Borrower shall find an alternative source of funding.	Yes	No problem has occurred in availing Grant money.
7	The Borrower shall reimburse BWDB for any taxes and duties imposed for Goods, Works and Consulting Services.	Yes	Typically, taxes and duties are being reimbursed by the Borrower as per their portion of each Loan Category.
<b>Selection of Subproject areas</b>			
8	BWDB shall ensure that Subprojects are selected in accordance with FFA Schedule 4.	Yes	All 3 selected Subprojects are included in the approved Project-1 Feasibility Study completed in Dec-2013.
<b>Environment</b>			
9	Project facilities comply with environmental safeguards, laws and regulations, EARF, EIA/EMP, and reported upon in Monitoring Reports.	Yes	EIA approved, EMP being implemented, SESA drafted, and Quarterly and Semi-Annual Monitoring Reports submitted. These reports document satisfactory compliance with environmental safeguards.
<b>Land Acquisition and Involuntary Resettlement</b>			

10	BWDB shall ensure that all land and all rights-of-way are available to contractors in a timely manner.	No	Contractors' work have not been delayed due to land acquisition issues for riverbank protection Delays are ongoing for embankment works and land for regulator channels has not yet been aquired
	(a,b,c&d) Land acquisition and resettlement comply with applicable laws, Involuntary Resettlement Safeguards, RF, and RP.	No  Yes	Riverbank Protection: land acquisition done after construction, due to severe erosion potential and local public demand. A Corrective Action Plan is currently being implemented. Embankment: land acquisition and resettlement processes have been properly followed.
11	BWDB shall ensure that there is no physical or economic displacement until:		
	(a) compensation and other entitlements have been provided to affected people	Yes	• Refer to SI.No. 10 above. However, compensation process is now actively ongoing for embankment.
	(b) a comprehensive income and livelihood restoration program has been established	No	• Not yet started. ToR for Livelihood Support Study sent to ADB for concurrence in May 2016.
Indigenous Peoples			
12	BWDB shall ensure that the Project does not have any indigenous peoples' impacts.	Yes	No indigenous people affected by project.
Human and Financial Resources to Implement Safeguards Requirements			
13	BWDB shall fully implement the EMPs and the RPs.	Yes	EMPs included in all Civil Work contracts, and an INGO is actively engaged to develop all RPs. Monitoring results are regularly being reported.
Safeguards			
14	BWDB shall ensure that all Works contracts require contractors to:		
	(a) comply with EIA, EMP and RP; and Safeguards Monitoring Report actions	Yes	Covered in 'Technical Specifications' under Section 2. Environmental Management Plan and Safety at the Site.
	(b) include a budget for environmental and social measures	Yes	Included in Bill of Quantities, Bill No. 02: Environmental Management Works.
	(c) provide written notice of unanticipated environmental, resettlement or indigenous peoples' risks	No	No special clause found to provide written notice of unanticipated environmental, resettlement or indigenous peoples' risks. Clause to be added to all 5 pending embankment contracts.

	(d) adequately record pre-Work condition of roads, agricultural land and infrastructure	No	No special clause found requiring contractors to record pre-work condition in riverbank protection contracts. Embankment contracts contain clause 2.2.2 in the technical specifications requiring access roads to be inspected for appropriateness before use. There is no mention of agricultural land or infrastructure.
	(e) fully reinstate pathways, other local infrastructure, and agricultural land pre-Work condition	Yes	Adequately covered in Section 2. 'Environmental Management Plan and Safety at the Site' of the Technical Specifications.
<b>Safeguards Monitoring and Reporting</b>			
15	BWDB shall:		
	(a) submit semi-annual Safeguards Monitoring Reports to ADB	Yes	ISPMC submit Monitoring Reports on quarterly and bi-annual basis on environmental and social issues.
	(b) promptly document any unanticipated environmental and social risks and impacts	Yes Yes	Environmental: No serious unanticipated risks or impacts have occurred. Social: Resettlement Issues documented in QPR.
	(c) within 6 months, engage external experts to verify information regarding land acquisition and involuntary resettlement	No	The bid document has been received and evaluated, short-listing completed, and negotiations are ongoing for External Expert. Contract award is expected by early Feb-2018.
	(d) promptly report any breach of compliance with EMP or RP	Yes Yes	Environment: Non-compliances reports are submitted by ISPMC. A joint ISPMC/ PMO inspection took place in July 2019 Social: Resettlement Issues documented in QPR.
<b>Prohibited List of Investments</b>			
16	BWDB shall ensure that Loan or Grant funds are not used for prohibited investment activities.	Yes	Accounting procedures are being rigorously maintained by PMO and no evidence of misuse has been found.
<b>Labour Standards</b>			
17	All civil works contracts require contractors to:		
	(a) comply with labour standards, labor laws and applicable health and safety principles	Yes	Covered in 'Conditions of Contracts for Construction', under Section: 6. Staff and Labour.
	(b) eliminate discrimination between men and women for work of equal value	Yes	Adequately covered in 'Conditions of Contracts for Construction', under clause: 6.24 NonDiscrimination and Equal Opportunity.

	(c) eliminate child labour, and forced or compulsory labour; and allow freedom of association	Yes	Covered in 'Conditions of Contracts for Construction', under clause: 6.21 Child Labour.
	(d) maximize employment of local poor and disadvantaged persons	No	No special clause found to employ local poor and disadvantaged person.
	(e) disseminate information on sexually transmittable infections and HIV/AIDS	Yes	Covered in 'Conditions of Contracts for Construction', under clause: 6.7 'Health and Safety'.
	(f) implement applicable provisions of GAP	Yes	No special clause found related to provisions of GAP in the contract documents. Requirements e.g. for a minimum % of women labourers were followed by the embankment contractors
<b>Gender and Development</b>			
18	BWDB shall implement the GAP, and monitor and report on key gender outcome and output targets.	Yes	GAP outcomes and outputs are being documented in QPR.
<b>Quality Assurance</b>			
19	Engage external experts to inspect and store results of completed riverbank protection works using accurate surveying equipment.	Yes	ISPMC performs a rigorous and regular Flood Monitoring Program including Multi-Beam EchoSounder surveys which are currently ongoing under package W16. Scuba diving investigations were also conducted for riverbank protection.
<b>Panel of Experts</b>			
20	BWDB shall engage experts to analyze project implementation constraints, and advise on remedial measures.	Yes	There has been four Technical Advisory Committee (TAC) Meetings to review Project technical issues and make recommendations. A Technical Committee was also formed by BWDB to investigate slope failures at Chauhali.
<b>Inter-agency Coordination</b>			
21	BWDB shall timely notify all relevant agencies of their riverbank protection works.	Yes	ISPMC has one Specialist permanently deputed to DDM, who updates PM PMU on project activities.
<b>Operation and Maintenance of Project Facilities</b>			
22	Ensure that:		
	(a) BWDB inspect and maintains all Works rehabilitated according to O&M plans	Yes	ISPMC performs a rigorous Flood Monitoring Program to identify status of Riverbank Protection Works.

	(b) BWDB submits annual budgets to MoWR for O&M works according to the plans	Yes	Provisional 2017/18 ADP funding for Adaptive Protection and Emergency work is BDT 89 million; other funding also available.
	(c) Borrower allocates adequate resources for BWDB to carry out O&M works	Yes	Funding for 2017/18 Emergency/Adaptive work is expected to be around BDT 160 million. Koitola riverbank protection transferred to O&M Division in Dec-2017.
23	BWDB shall maintain adequate stockpiles of geo-textile bags for emergency riverbank protection works and repairs.	No	Geobag stockpiles are present at Tangail however there are no stockpiles remaining at Bera or Manikganj
24	BWDB shall provide local communities with land use rights for embankment to promote livestock grazing and tree cultivation.	No	Construction work of embankments not yet started. However, Social Forestry is mentioned in the CbFRM Support Services INGO Contract.
<b>Road Map and Policy and Institutional Reforms</b>			
25	BWDB shall implement timely institutional reform actions identified under Investment Program policy framework.	Yes	Refer to Sl.No. 5 reply regarding the establishment of CE River Management office.
<b>Policy Dialogue and Coordination with Development Partners</b>			
26	BWDB shall keep ADB informed of discussions with government and quasi-government bodies responsible for water sector development.	Yes	This is being done through periodic ADB Missions, and regular discussions and correspondence between PMO and ADB BRM.
<b>Governance and Corruption</b>			
27	BWDB shall comply with ADB's Anticorruption Policy and cooperate with any investigations.	Yes	No evidence of corruption in dealing with any project activities have been reported or found.
28	BWDB shall include anticorruption provisions in contracts, allowing ADB to audit records of contractors, suppliers, and consultants.	Yes	Covered in the 'Conditions of Contracts for Construction' Section, under clause: 15.6 Corrupt and Fraudulent Practices.
29	BWDB shall announce all business opportunities on their websites, including participating bidders, winning bidders and contract award amounts.	Yes	Adequate contract information is available on: <a href="http://www.bwdb.gov.bd/index.php/site/live_tender">www.bwdb.gov.bd/index.php/site/live_tender</a>
30	Borrower shall periodically inspect financial activities related to the procurement of Goods, Works and Consulting Services.	Yes	Foreign Aided Project Audit Directorate (FAPAD) audits carried out on a annual basis.

Notes: 1. Implementation Arrangement Covenants are defined in Loan Agreement Schedule 5.



2. Valid Comply answers include: Yes, No or na (non-applicable)

## Appendix-H

**Table H 1 Status of Local Trainings, PMO-FRERMIP**

Name of Training	Trainees	Number	Unit	Status	Time	Executing Agency
River Engineering	20	2	Course	Complete	April 2016	BUET
River Training Techniques	20	2	Course	Complete	February 2017	BUET
Riverbank Protection	20	1	Course	Complete	July 2018	BUET
Topographical, Morphological & Hydrometric Survey and Data Collection	10	1	Course	Complete	January-February 2019	IWM
Land Acquisition and Resettlement Management Course	15	1	Course	Complete	January 2019	CEGIS
Environmental Impact Assessment	15	1	Course	Complete	October 2018	CEGIS
Capacity Building for DDM	15	2	LS	Pending	-	-

**Table H 2 Status of Overseas Training/Study Tour, PMO-FRERMIP**

Name of Training/Course	Number	Trainees	Unit	Status	Time	Place
River Morphodynamics and Erosion Protection Practices	1	8	Course	Complete	September-October, 2016	UNESCO-IHE, Netherlands
River Morphodynamics and River Training Techniques	1	8	Course	Complete	June-July, 2017	UNESCO-IHE, Netherlands
Study of the Management of Yellow and Yangtse River and Flood and Erosion Protection Works	1	5	Tour	Complete	August, 2016	Renmin University, China
Missisipi River Management and Allied Erosion Protection Work	1	10	Tour	Complete	October, 2017	USA and Canada
Geofabrics Geotextile Factory and the Coastal Protection Works	1	10	Tour	Complete	July, 2018	Australia
Application of Geotextile on Innovative Interventions and Experience Sharing	1	10	Tour	Complete	September 2018	The Netherlands and Germany
Study Tour-2	1	5	Tour	Pending	-	-
Study Tour-3	1	8	Tour	Pending	-	-
Study Tour-4	1	8	Tour	Pending	-	-

**Table H 3 Implementation Progress of Training Activities by ISPMC**

Sl.	Description	Completed			Date				Remarks	
		No. of Courses	No. of Trainees			FY 15-16	FY 16-17	FY 17-		FY 18-19
			M	F	Total					
<b>ISPMC Line Item-1: Workshops, Training and Seminars (Provisional Sum)</b>										
<b>A.</b>	<b>Workshops</b>									
1	Workshop on Draft Inception Report	1	83	40	123	09-Dec-2015			Pan Pacific Sonargaon, Dhaka	
2	River Stabilization and Preliminary Master Plan	1	99	41	140		07-Dec-2016		Pan Pacific Sonargaon, Dhaka	
3	National Stakeholder Workshop on the River Stabilization Plan	1	170	80	250			29-Nov-2017	Hotel Radisson, Dhaka	
<b>Sub Total</b>		<b>3</b>	<b>352</b>	<b>161</b>	<b>513</b>					
<b>B.</b>	<b>Training:</b>									
1	Training on Environmental Management at 3 sites	3	30	0	30	26-28 Apr-2016			Chauhali, Harirampur &	
2	Training on International River Stability	1	90	20	110		08-Dec-16		Level-4 of WAPDA Building	
3	Training for Task Force on Sand-filled Geotextile Bags	1	24	0	24		22-Dec-16		Level-4 of WAPDA Building	
4	Training: Gender Awareness for BWDB Engineers	1	31	41	32			31-Jul-17	20 Mar-19 BWDB Design Office Conference Room	
5	Training: Gender Awareness for SMO Engineers and Contractors	7	32	3	35			21-22-Dec-2018	XEN office, Koitola	
6	Training: River survey database management training and on the job training	6	5	1	6			Oct-2018	ISPMC office	
7	Updation of specifications of geotextile	1	27	13	40			16 April, 2019	BWDB Design office conference room	
<b>Sub Total</b>		<b>20</b>	<b>215</b>	<b>62</b>	<b>277</b>					
<b>C.</b>	<b>Conferences &amp; Discussions</b>									
1	International Conference on Scour and Erosion	1	3	0	3		12-15 Sep-2016		Oxford University, UK With the DG, BWDB & PD, FRERMIP	
2	International Large Rivers Conference	1	3	0	3		17-22 Apr-2017		Delhi, India with solely ISPMC	
3	a) Round Table Discussion: River Management	1	20	0	20	28-Mar-16			Pan Pacific, Sonargaon	
	b) Round Table Discussion: Presentation from the DG,	1	20	0	20	25-May-16			Lake Castle, Gulshan	
	c) Round Table Discussion: Capacity Development	1	30	0	30		28-Oct-16		Pan Pacific Sonargaon	
<b>Sub Total</b>		<b>5</b>	<b>76</b>	<b>0</b>	<b>76</b>					
<b>ISPMC Totals</b>		<b>22</b>	<b>635</b>	<b>225</b>	<b>860</b>					

## Appendix-I

Table I 1

### Bathymetric Survey Summary

**Project Surveys**

End Date	Start Date	Bazar Station	Groyne
12-Jul-2014	17-Jun-1998	Betil Spur	1020
26-Oct-2002	26-Nov-2011	Chandan Baisha Groyne	526
105-Jul-2002	105-Jul-2002	Chandpur	601
301-May-2001	26-Feb-2019	Chauhali	2426
1904-May-2016	25-Jul-2004	East Guide Bund	1025
411-Apr-2004	19-Oct-2001	Enayetpur Spur	2805
26-Oct-2002	19-Oct-2001	Ganges	419
19-Oct-2001	15-Jun-2012	Harirampur	1111
15-Jun-2012	130-Jul-2002	Hasnapara Spur	130
230-Jul-2002	28-Oct-2016	Kalitola Groyne	5628
28-Oct-2016	04-Sep-2001	Koijuri	907
07-Oct-2018	23-Nov-2004	Lower Jamuna Full River	810
15-Sep-2015	15-Sep-2015	Mathuapara Groyne	6608
08-Aug-2016	23-Dec-1998	MDIP	815
15-Jan-2009	23-Aug-2006	Meghal Spur	2531
01-Sep-2001	07-Oct-2018	PIRDP	10807
30-Apr-1992	203-Aug-2016	Ranigram Sirajganj	44203
30-May-1998	127-Aug-2013	RBIP	127
27-Aug-2013	17-Oct-2003	Sailbari Revetment	1117
08-Sep-2001	13-Jul-2016	Sailbari Revetment Down	2313
13-Jul-2016	02-Oct-1998	Sailbari Revetment Up	4313
02-Oct-1998	08-Aug-2016	Sariakandi Groyne	4508
08-Aug-2016	29-Oct-2001	Simla Spur	1311
11-Sep-2016	26-Oct-2003	Sirajganj Full River	8111
17-Jun-1998	20-Dec-2016	Sirajganj Hard Point	105720
06-May-1998	04-Jul-2013	Subagacha Spur	904
301-Sep-2001	20-Jul-2009	West Guide Bund	16020
13-Apr-2004	09-Sep-2018	Zaffarganj	809
19-Jul-2016		Total	2288

**Table I 2 ADCP (Velocity) Survey Summary**

<b>Project</b>	<b>Transects</b>	<b>End Date</b>	<b>Start Date</b>
Bachamara Zafarganj	12	26-Aug-2017	05-Aug-2016
Char Salimabad	9	26-Aug-2017	01-Aug-2017
Chauhali Down	20	22-Dec-2017	05-Aug-2016
Chauhali Middle	12	22-Dec-2017	05-Aug-2016
Chauhali Up	21	22-Dec-2017	06-Aug-2016
Enayetpur	18	22-Dec-2017	15-Oct-2016
Ganges	13	27-Aug-2017	06-Aug-2016
Harirampur Down	12	08-Aug-2017	07-Aug-2016
Harirampur Middle	13	08-Aug-2017	07-Aug-2016
Harirampur Up	21	19-Aug-2017	07-Aug-2016
Hurasagar	12	22-Dec-2017	01-Aug-2017
Jamuna Bridge Down	14	25-Aug-2017	04-Aug-2016
Mahespur	2	15-Oct-2016	15-Oct-2016
Nagarbari	13	26-Aug-2017	05-Aug-2016
Paturia	10	27-Aug-2017	18-Oct-2016
Sthal Chauhali	11	25-Aug-2017	15-Oct-2016
Zafarganj	24	21-Oct-2016	08-Aug-2016
<b>Total</b>	<b>237</b>		

**Appendix-J**  
**Table I 1 List of Memos**

Sl. No.	Memo Subject	Memo No.	Memo Date
1	Implementation Design of the Riverbank protection at Chauhali	ISPMC- FRERMIP-18 /80	29-Oct-2015, updated 03-Feb-2016
2	First quality checking of geobag delivery, contract G1	ISPMC- FRERMIP- 028	16-Nov-2015
3	Design of underwater works at Harirampur	ISPMC- FRERMIP- 073	28-Jan-2016
4	Design Guidance for Zaffarganj	ISPMC- FRERMIP- 079	02-Feb-2016
5	Use of resources for 1 km of riverbank protection works at Kaijuri	ISPMC- FRERMIP- 154	02-Jun-2016
6	Geotechnical stability of JRB-1 embankment	ISPMC- FRERMIP-427	22-Nov-2017
7	Savings in Concrete Blocks at Chauhali and Zaffarganj	ISPMC- FRERMIP-243	03-Nov-2016
8	Memo on Pilot Works	ISPMC- FRERMIP- 0264	15 Dec-2016
9	Slope failure during construction of permanent wave protection at Chauhali	ISPMC- FRERMIP- 0314	23-Feb-2017
10	Draft memo on site monitoring from 2015 to 2017	ISPMC- FRERMIP- 316	02-Mar-2017
11	Background memo and bidding document for pilot works involving grout-filled jute mattresses	ISPMC- FRERMIP- 408	04-Oct-2017
12	Updated guideline for riverbank protection: additional investigations on the stability of geotextile bags	ISPMC- FRERMIP-469	08-Mar-2018
13	Adaptation works summary of Chauhali April 2018	ISPMC- FRERMIP- 487	12-Apr-2018
14	Submission of Site Monitoring Report 2017	ISPMC- FRERMIP-495	09-May-2018
15	Background on launching aprons – follow up of discussions with the design office.	ISPMC- FRERMIP-517	18-Jul-2018
16	Review of bank protection design and bank failures in Chauhali By ISPMC for Chauhali committee	ISPMC- FRERMIP- 522	31-Jul-2018
17	Assessment of slope failure at Chauhali	ISPMC- FRERMIP- 534	27-Sep-2018
18	Updated memo about the downstream failure at Chauhali	ISPMC- FRERMIP-557	29-Nov-2018
19	Pilot works site visit report	ISPMC- FRERMIP- 581	12-Feb-2019
20	Review of clay cladding requirements for Kaijuri embankment	ISPMC- FRERMIP-583	17-Feb-2019
21	Proposed changes to grout mattress design	ISPMC-FRERMIP-595	11-March-2019
22	Analysis of erosion of the Upstream end of main protective work of Chauhali in February 2019 and future recommendations	ISPMC-FRERMIP 596	13- March-2019
23	Current status of riverbank protection at Zafarganj and Harirampur.	ISPMC-FRERMIP-626	17-Jul-19
24	Status of Riverbanks and Riverbank protection at Benotia, Chauhali, Harirampur and Zafarganj	ISPMC-FRERMIP-630	8-Aug-19

### Appendix-K Detailed List of Villages and Wards Covered by CDMU's

Union	CDMU	Village	Ward No.
<b>District: Manikganj, Upazila: Daulatpur</b>			
Bachamara	MD/Bac-CDMU-1	Char Bharenga	1
	MD/Bac-CDMU-2	Nij Bharenga	5
		Sarker Para	5
		Bamghrota	5
		Sasim Para	6
		Sarker Para	6
		Chuadangi	7
		Hazi Para	7
		Kachari Para	7
		Bachamara	7
<b>1</b>	<b>2</b>	<b>10</b>	<b>4</b>
Baghutia	MD/Bag-CDMU-3	Islampur	1
	MD/Bag-CDMU-4	Munsikandi	2
		Bashaiel	6
		Brumundi	6
		Paruria	7
		Kasidarampur	7
		Char Kalikapur	8
		Baghutia	9
		Fakir Para	9
<b>1</b>	<b>2</b>	<b>9</b>	<b>6</b>
Khalsi	MD/Kha-CDMU-5	Char Khalsi	1
		Vainbondo Noyhati	1
		Baghuli	1
		Bagey Taluk	1
		Kuripara	2
		Rouha	2
		Dighalkandi	2
		Kathipara	2
		Ruha	2
		Miapara	2
		Kondolia	2
		Khalsi Borojola	3
		Mohisura	3
Payruha	3		
<b>1</b>	<b>1</b>	<b>15</b>	<b>3</b>
Jionpur	MD/Jio-CDMU-6	Barutia	1
		Dhunut	1
		Boynna	1
		Pongtisra	3
		Joynta	3
		Abu Danga	8
<b>1</b>	<b>2</b>	<b>6</b>	<b>3</b>
<b>District: Manikganj, Upazila: Harirampur</b>			
Boyra	MH/Boy-CDMU-7	Khalpar	2
		Boyra	2
		Kamarkandi	2
		Daskandi	3

Union	CDMU	Village	Ward No.
		Jatrapur	4
		Andhar Manik	6
		Darikandi	9
<b>1</b>	<b>1</b>	<b>7</b>	<b>6</b>
Dhulsunra	MH/Dhu-CDMU-8	Mekna	1
		Abiddhara	2
		Dhulsunra	2
		Kamlapur	3
		Nilgram	3
		Mohonpur	4
		Rameshwarpur	4
		Gangarampur	5
		Shampur	5
		Balir Char	5
		Mothureshpur	6
		Iledunda	6
		Awlia Nagar	7
<b>1</b>	<b>1</b>	<b>14</b>	<b>7</b>
Gopinathpur	MH/Gop-CDMU-9	Utanpur	1
		Kadamtoli	1
		Ultar Para	2
		Pal Para	3
		Mojom Para	3
		Moddho Para	4
	MH/Gop-CDMU-10	Char Para	5
		Kati Para	6
		Kapali Para	6
		Degree Char	7
		Choto Bahadurpur	8
		Bojra Bhanga	9
		Boro Bahadurpur	9
<b>1</b>	<b>2</b>	<b>13</b>	<b>9</b>
Harukandi	MH/Har-CDMU-11	Harukandi	1
		Kajir Bag	2
		Brhamman Kanda	2
		Garibpur	3
		Modhumali	3
		Kajirteg	3
	MH/Har-CDMU-12	Narayankandi	4
		Velabad	5
		South Chandpur	6
		Idris Para	6
		Jalsa	7
		Tonotro Khola	7
		Kashiakhali	7
		North Mirjanagar	8
		East Jalsa	8
		South Mijanagar	9
Foyjnagar	9		
<b>1</b>	<b>2</b>	<b>18</b>	<b>9</b>
Ramkrishnopur	MH/Ram-CDMU-13	Ramkrishnopur	1
		East Maniknagar	5



Union	CDMU	Village	Ward No.
		Bahir Char	6
		Algir Char	6
		Piaj Char	7
		South Bahir	7
		Bok Char	8
		Jagnahpur	8
	MH/Ram-CDMU-14	Nayakandi	2
		Ishakha	3
		South Maniknagar	4
		Vawadangi	9
<b>1</b>	<b>2</b>	<b>12</b>	<b>9</b>
Kanchanpur	MH/Kan-CDMU-15	Boudhokandi	8
		Kotkandi	6
		Kushiyar Char	3
		Maluchi	2
		Mohammadpur	9
		Mrigkandi	7
		Kaliakandi	7
		Ashabdakandi	7
		Kotkandi	5
		Kumarkandi	5
		Maluchi	1
		Kushier Char	1
<b>1</b>	<b>1</b>	<b>12</b>	<b>8</b>
<b>District: Manikganj, Upazila: Shibalaya</b>			
Arua	MS/Aru-CDMU-16	Dhaturabari	1
		Choto Dhaturabari	1
		Bororia	3
		Nayakanda	4
		Jogotdia	5
		Mondrokhola	5
		Kustia	5
		Pachuria	8
		Devinagar	8
		West Baulkanda	8
<b>1</b>	<b>1</b>	<b>10</b>	<b>5</b>
Shibalaya	MS/Shi-CDMU-17	Shibalaya	1
		Boro Anulia	2
		Choto Anulia	2
		Anoymoypur	4
<b>1</b>	<b>1</b>	<b>4</b>	<b>3</b>
Teota	MS/Teo-CDMU-18	Dhublia	1
		Chak Dhublia	1
		Jafarganj	2
		Goria	2
		Roghunathpur	2
		Vangabari	2
		South Teota	4
		Narayan Teota	4
		Gandail	4
		Nihadpur	6
Somejghar	6		

Union	CDMU	Village	Ward No.
	MS/Teo-CDMU-19	Teota	6
		Alokdia	7
	MS/Teo-CDMU-20	Trimundi	7
		Char Raghunathpur	7
		Bhaduripara	7
		Moddhonagar	8
		Char Boishnobi	8
		Adarshagram	8
		Sontosh	8
		Sheikher Para	8
		Batener Para	9
		Chan Miar Para	9
		Sohimuddiner Para	9
Mongolpara	9		
<b>1</b>	<b>3</b>	<b>25</b>	<b>7</b>
Uthali	MS/Uth-CDMU-21	Kola	1
		Bardhamankandi	1
		South Ara	2
		Nodi Shukha	2
		Basael	3
		Chandra Pratap	3
		Char Poyla	3
		Krishnodia	4
		Mollikpur	4
		Mehedipur	4
		Char Baradia	8
Shoshinara	8		
<b>1</b>	<b>1</b>	<b>12</b>	<b>5</b>
<b>District: Sirajganj, Upazila: Shahzadpur</b>			
Sonatoni	SS/Son-CDMU-22	Choto Chantara	3
		Boro Chantara	3
		Sreepur	4
		Bantia	2
		Sonatony	1
<b>1</b>	<b>1</b>	<b>5</b>	<b>4</b>
Gala	SS/Gal-CDMU-23	Tarotia	6
		Binotia	6
		Dewyan Tarotia	9
		Dholai	6
		Shariyetpur	6
		Chakpaithando	9
		Chitholia	9
<b>1</b>	<b>1</b>	<b>7</b>	<b>2</b>
Kojjuri	SS/Koi-CDMU-24	Vardigholia	1
		Hat Pachil	2
		Munakosha	3
		Tutia	1
	SS/Koi-CDMU-25	Kojjuri	4
		Char Kojjuri	4
		Purbo Char Kojjuri	4
<b>1</b>	<b>2</b>	<b>7</b>	<b>4</b>
Jalalpur	SS/Jal-CDMU-26	Jalalpur	1
		Sayeedpur East	4
		Pakurtola	2
		Veka	3

## Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP), Project-1

Union	CDMU	Village	Ward No.
	SS/Jal-CDMU-27	Sayeedpur West	5
		Chaubaria	6
<b>1</b>	<b>2</b>	<b>6</b>	<b>6</b>
Purjona	SS/Pur-CDMU-28	Suto Moharajpur	1
		Ultadab	2
		Ranikula	2
		Char Kadai	2
		Purjona	1
		Char Purjona	1
<b>1</b>	<b>1</b>	<b>6</b>	<b>2</b>
<b>District: Sirajganj, Upazila: Chowhali</b>			
Ghorjan	SC/GJ-CDMU-29	Char Jajuria	1
		Rehai Kawlia	3
		East Muradpur	4
		Khash Dholai	2
		Muradpur	5
	SC/GJ-CDMU-30	Hat Ghorjan	8
		Fulhara	9
		Baliakandi	6
		Boro Ghorjan	7
		Koirat	6
		Char Dhitpur	6
		South Tehuri	9
		Darogabari	8
		North Borongail	9
		South Borongail	9
<b>1</b>	<b>2</b>	<b>15</b>	<b>9</b>
Sadia Chandpur	SC/SC-CDMU-31	Sadia	3
		Enayetpur	5
		Chandpur	7
		Majhgram	2
		Ullapara	3
		Barboyla	3
		Tebaria	3
		Betil	1
		Alengiata	2
	SC/SC-CDMU-32	Boalkandi	9
		Moheshpur	7
<b>1</b>	<b>2</b>	<b>11</b>	<b>6</b>
Kas Kawlia	SC/KK-CDMU-33	South Kash Kawlia	9
		South Jot Para	7
		Kurki	8
		Middle Jot Para	5
		14 Rashi	6
	SC/KK-CDMU-34	East Jot Para	6
		Mia Para	6
		North Kas Kawlia	3
		Middle Kas Kawlia	9
<b>1</b>	<b>2</b>	<b>9</b>	<b>6</b>
Khas pukuria	SC/KP-CDMU-35	Pashim Kodalia	3
		West Para	5
		North Kodalia	3
		Birbounia	9
		Mituani	6
		Bonna	1
		North Khas Pukhuria	4
<b>1</b>	<b>1</b>	<b>7</b>	<b>6</b>
Baghutia	SC/BG-CDMU-36	Rehai Pukuria	1
		Binanui West Para	3

Union	CDMU	Village	Ward No.
		Char Salimbad	9
		Char Nakalia	2
<b>1</b>	<b>1</b>	<b>4</b>	<b>4</b>
Omarpur	SC/OM-CDMU-37	Hapania	8
		Pathrail	9
		Dattakandi	7
<b>1</b>	<b>1</b>	<b>3</b>	<b>3</b>
Sthal	SC/ST-CDMU-38	Langgol Mura	6
		Taighuri	5
		Mondol Vog	7
		Chaluhara	8
		North Nawhata	9
		Kokgram	1
		Goal Bari	3
		North Teghori	5
<b>1</b>	<b>1</b>	<b>8</b>	<b>7</b>
<b>District: Tangail, Upazila: Nagarpur</b>			
Varra	TN/VR-CDMU-39	Khash Shahjani	7
		Aga Dighulia	4
		Dumuria	5
		Marma	8
		Atpara	9
		Charchandok	4
<b>1</b>	<b>1</b>	<b>10</b>	<b>5</b>
<b>District: Tangail, Upazila: Tangail Sadar</b>			
Katuli	TT/KT-CDMU-40	Dubail	8
		Alokdia	6
		Dhitpur	9
		Rashidpur	9
		lcchapasha	8
<b>1</b>	<b>1</b>	<b>10</b>	<b>3</b>
<b>28</b>	<b>40</b>	<b>260</b>	<b>151</b>

## Appendix-L Photos



**Figure L-1: ADB Mission watches Executive Engineer Mr. Ahsan Habib's presentation, 24 Sep 2019**



**Figure L-2: ADB mission visits new Kaijuri embankment, 24 Sep 2019**





**Figure L-3: ADB mission visits new Kaijuri embankment, 24 Sep 2019**



**Figure L-4: ADB mission interacts with local people on the new Kaijuri embankment, 24 Sep 2019**





**Figure L-5: W14 Pilot work site at Bera embankment, 24 Sep 2019**



**Figure L-6: A new hospital and a growth center located behind the new embankment, 24 Sep 2019**



**Figure L-7: ADB mission meeting CbFRM volunteers at Kaijuri, 24 Sep 2019**



**Figure L-8: ADB mission meeting CbFRM volunteers at Nagarpur, 25 Sep 2019**





**Figure L-9: ADB mission meeting CbFRM volunteers at Nagarpur, 25 Sep 2019**



**Figure L-10: ADB mission at the Zafarganj school, 26 Sep 2019**



**Figure L-11: A view of the Zafarganj bank protection from the roof of primary school, 26 Sep 2019**



**Figure L-12 Harirampur grout filled mattress with vetiver plantation and measurement station, 13 Sep 2019**





**Figure L-13** Harirampur damaged section of grout-filled jute mattress, 13 Sep 2019



**Figure L-14** Harirampur geobag protection with plant cover and downstream measurement station, 13 Sep 2019

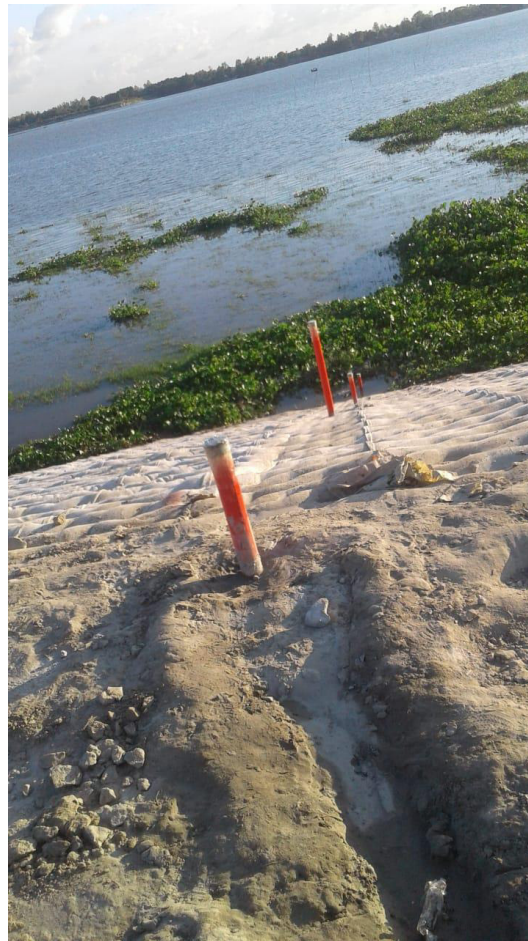


**Figure L-15** Harirampur geobag protection with plant cover, 13 Sep 2019



**Figure L-16** Installation of inclinometer at Shajadpur, 29 Aug 2019





**Figure L-17** Installation of inclinometer at Shajadpur, 29 Aug 2019



**Figure L-18** Installation of piezometer at Shajadpur, 29 Aug 2019