Facility Administration Manual

Project Number: 44167 Loan and Grant Numbers: LXXXX; GXXXX June 2014

Bangladesh: Multitranche Financing Facility - Flood and Riverbank Erosion Risk Management Investment Program

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Facility Administration Manual Purpose and Process

The facility administration manual (FAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The FAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the FAM.

The Bangladesh Water Development Board (BWDB) and Department of Disaster Management (DDM) is wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB's policies and procedures. ADB staff is responsible to support implementation including compliance by BWDB and DDM of their obligations and responsibilities for project implementation in accordance with ADB's policies and procedures.

At Loan Negotiations the borrower and ADB shall agree to the FAM and ensure consistency with the Framework Financing Agreement (FFA) and Loan Agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the FAM, FFA, and the Loan Agreement, the provisions of FFA and the Loan Agreement shall prevail.

After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the FAM.

Abbreviations

ADB	=	Asian Development Bank
ADF	=	Asian Development Fund
AFS	=	audited financial statements
BWDB	=	Bangladesh Water Development Board
CQS	=	consultant qualification selection
DDM	=	Department of Disaster Management
DMF	=	design and monitoring framework
EARF	=	environmental assessment and review framework
EIA	=	environmental impact assessment
EMP	=	environmental management plan
ESMS	=	environmental and social management system
FAM	=	facility administration manual
GACAP	=	governance and anticorruption action plan
GAP	=	gender action plan
GDP	=	gross domestic product
ICB	=	international competitive bidding
IEE	=	initial environmental examination
LA	=	land acquisition
NCB	=	national competitive bidding
NGOs	=	nongovernment organizations
PAI	=	project administration instructions
PMO	=	project management office
QBS	=	quality based selection
QCBS	=	quality- and cost based selection
RAC	=	Regional Accounting Centre, BWDB
RRP	=	report and recommendation of the President to the Board
SBD	=	standard bidding documents
SMO	=	subproject management office
SOE	=	statement of expenditure
SPS	=	Safeguard Policy Statement
SPRSS	=	summary poverty reduction and social strategy
TOR	=	terms of reference

I. FACILITY DESCRIPTION

1. **Rational**. The livelihoods of people in Bangladesh are often affected by water-related disasters including floods, riverbank erosion, drought, cyclones, and tidal surges, some of which are directly related to the location of the country on vast flat floodplain at the confluence of the three main rivers. Global climate change can potentially exacerbate these disasters.¹ Riverbank erosion is one of the most prominent disasters in Bangladesh, caused by dynamic river channel shifting. Around 5,000 to 6,000 hectares (ha) of floodplain land is lost annually. This process annually affects about 100,000 people including the poor, who face significant social hardships, such as loss of homestead, lands, and/or crops, and are displaced to fringe lands or urban slums. Disaster risks 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. Erosion damage extends to infrastructure, including river embankments for flood protection. The threat of frequent disasters discourages investment and lead to lower economic growth of riverine areas. Therefore, effective riverbank erosion and flood protection management is essential for the economic growth and poverty reduction of these areas.

2. The proposed investment program is in line with the government and ADB strategies. Economic growth and poverty reduction are the main objectives of the government's Sixth Five Year Development Plan for 2011-2015. Sustainable management of rivers and enhancement of climate change resilience, including disaster risk management, are considered essential means to accomplish the growth and poverty reduction objectives. The proposed investment program will provide infrastructure for river management, which is in the core and supporting area of the Strategy 2020. Asian Development Bank's (ADB) country partnership strategy (CPS) for Bangladesh (2011-2015)² emphasizes supporting climate resilient economic growth and poverty reduction by encouraging sustainable management of risks of natural disasters, including risk mitigation.

3. ADB will support the investment program through the MFF modality. The MFF modality allows (i) flexible and adaptive phased interventions that are technically appropriate to cope with the dynamic river morphology in Bangladesh; (ii) strategic and systematic longer-term flood and erosion protection management planning, aiming at future stabilization of river courses; and (iii) longer-term, more effective and strategic support for enhancing central-level institutional capacity.

4. The investment program that ADB will support forms an integral part of the road map and includes the development and implementation of holistic planning strategies for the country's entire main rivers as well as physical and non-physical investments in the central part of the country. World Bank will support investments in the Northern parts of the country.

5. The road map aimed at long-term stabilization of the main rivers in Bangladesh. The road map includes a policy framework required to achieve the country's aspirations under the road map. It builds on the progress of a sector policy, planning and legal framework that the government has made since 1990s to address water sector challenges. The National Water Policy was adapted in 1999 and the National Water Management Plan was approved in 2004. The operationalization and institutionalization of the policies and plans have been slow, but is expected to pick up with the enactment of the Bangladesh Water Act 2013. The Disaster

¹ ADB. 2010. *Final Reports on Impacts of Climate Change on the Morphological Processes of the Main Rivers and Meghna Estuary of Bangladesh.* Consultant's report. Manila (Pilot and Demonstration Activities Program)

² ADB. 2011. Country Partnership Strategy: Bangladesh, 2011-2015. Manila.

Management Act was approved in 2012, and the National Plan for Disaster Management was also formulated and provides overall guidance for managing disaster related risks in all sectors.

6. Under the investment program, flood and erosion management measures are implemented at priority erosion reaches/sites over successive tranches. The first tranche will provide structural and non-structural measures that are needed most urgently in three high priority subproject areas. Subsequent tranches will extend the protection structures and associated non-structural measures to adjacent stretches with updated design adjusted to the latest riverbank erosion conditions. Future tranches may cover other high priority subproject areas, depending on actual river erosion status. Phased strategic support will be also applied to institutional capacity strengthening that will be continued throughout the MFF duration.

7. **Impact and outcome**. The expected impact of the investment program will be improved livelihoods of people in the project area along the main rivers in Bangladesh. The outcome of the program will be reduced flood and riverbank erosion risks in the subproject reaches.

The anticipated outputs are: (i) functioning flood and riverbank erosion risk mitigation at 8. priority river reaches, (ii) a strengthened institutional system for flood and riverbank erosion risk management, and (iii) operational program management system. The anticipated outputs of the first tranche are part of each output. The focus of the first output will be on both structural and non-structural flood and riverbank erosion risk mitigation measures, including riverbank revetments, flood embankments, community awareness and capacity development for sustainable operation and maintenance (O&M) of infrastructures, support for enhancing local communities' flood/erosion risk management capacity, and livelihood enhancement for project affected people. The investment program will provide around 50 kilometers (km) of riverbank protection structures, 89 km of flood embankments (rehabilitation and new) with climate resilient design, and emergency riverbank protection structures. The first tranche will provide around 15 km of riverbank protection, 23 km of flood embankments (rehabilitation and new), associated non-structural activities, and urgent emergency riverbank protections at critical sites. The thrust of the second output is on improved knowledge base and institutional capacity in sustainable asset management and strategic management of the main rivers, including safeguard monitoring capacity. The third output aims at sound program implementation and successful completion. Continuous supports will be provided for the second and third outputs during the entire duration of the investment program.

II. IMPLEMENTATION PLANS

			201	4								
Indicative Activities	J	F	Μ	Α	М	J	J	Α	S	0	S	Who responsible
DPP approval				х								GOB
Approval and disclosure of EIA (Tranche-1)		x										BWDB
Advance contracting actions												
A. Consulting services												
 Advertisement and selection 				x								ADB on behalf of BWDB
B. Goods												
 Advertisement 				х								BWDB,
C. Civil works												
 Advertisement 				х								BWDB,
Land acquisition and resettlement for embankment												
 Start survey and preparation 				x								BWDB
Government budget inclusion					х							GOB
Loan negotiation				х								GOB, ADB
Retroactive financing actions												
Establishment of PMO for MFF (appoint a new Project Director)					x							BWDB
ADB Board approval						х						ADB
Loan signing							х					GOB, ADB
Government legal opinion provided								x				GOB
Loan effectiveness								х				GOB, ADB

A. Project Readiness Activities

ADB = Asian Development Bank; BWDB = Bangladesh Water Development Boad; GOB = Government of Bangladesh

Source: ADB

B. Overall Project Implementation Plan

Indicative Activities	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Tranche-1 (T-1) Effective	ness									
Tranche-2 (T-2)				1999			· · · · · · · · · · · · · · · · · · ·			
Tranche-3 (T-3)					_	_				
Outputs							_			
A. Mitigation Measures at Priority Reaches										
A1. Infrastructure improvement										
A1-1. Construction of riverbank protection	structures									
JRB-1										
- Tranche-T (TKM Benotia)										
- Tranche-1 (5km Chauhali 2km Zaffarg)										
- Tranche-2 (3km Chauhali, 2km Zaffarg)				E 6	999 B					
- Tranche-3 (5km Chauhali,2km Zaffarg)										
PLB-1										
- Tranche-1 (7km under water)										
- Tranche-2 (7km above water)				E 11						
- Tranche-3 (5km Dohar)										
A1-2. Construction of embankements										
JRB-1										
- Tranche-1 (13km new with road,10km re	ehab)									
- Iranche-2 (6km rehab, 16km road)				<u></u>	<u></u>					
JLB-2										
- Tranche-2 (12km renab Aricha to Zion)						and hai	777			
PI R-1										
- Tranche-2 (25km rehab)				100						
A1-3. Emergency /Adaptation works										
A2. Community-based flood risk mgt.	NGO recruitm	ent, Program	ormulation							
A2-1. Formulating CDM units										
A2-2.Capacity development for CDM units										
A3. Community capacity enhancement for p	articiaptory	D&M						· · · · · · · · //////////////////////		
A3-1. Capacity dev't of communities								<u></u>		
A4. Livelihood support for affected people										
A4-1 Construction of resettiement areas			ļ]							
B. Institutional Capacity Strengthening of E	WDB for S	ustainable	River Man	agement						
B1. Institutional capacity strengthening										
B1-1. Capacity enhancement of BWDB										
- Training for BWDB officicals										
- Study tours					1000				<u> 1000000000000000000000000000000000000</u>	
- Contributing training for DDM in flood and	d erosion									
 Support for coordination with DDM 	L				<u></u>					
- Workshops inviting DDM etc.		U	U	U	Ŀ		Ľ	Ø	<u>Ø</u>	Ø
B1-2. Support Office of CE (River Mgt.)										
Develop delineation of responsibilities										
B1-3 Develop sustainable O&M system					I ¹			····		
- Asset inventories			1.00							
- Develop MIS Q&M module				1999						
- Establishing 5-year riverbank protection	0&M annua	l budgeting								
- Establish materials stocking plan										
B2. Data and knowledge base development										
B2-1. Studies for long-term river mgt.										
- Long term river stabilization study										
Preliminary river master plan study										
Piloting site and technology selection										
Construction of piloting schemes										
Monitoring and analysing the piloting										
B2-3. Flood and river survey database										
- Flood and river bathymetry survey										
- Improving existing database, and update					Regular up	lating	V////			
- Training in data analysis										
- Analysis of riverbank response										
B2-4. Improving knowledge base										
- Improving erosion prediction model										
B2-5 Information dissemination										
- Establishment of project web-site		<u></u>	Regula	r updating						4y
- Dissemination at int'l conferences										

Indicative Activities	2014		2015		2	2016		20	17		2018		2	2019)	2	2020		20	21	2022)23	
	1 2	3 4	1 2	3 4	1 2	23	4	1 2	3 4	1	23	4	1	2 3	4	1 2	2 3	4 1	12	3 4	1	2	3 4	1	2	3
Tranche-1 (T-1) Effective	ness 🕇						_																			
Tranche-2 (T-2)												111						::::								
Tranche-3 (T-3)																					1111	1111	/////		////	1
C. Program Management	NGO re	cruitm	ent, P	rogram	lormu	lation																				
C1-1.Implementation management						_																				
																		::::								
																					111					
 Develop MIS project management modu 	le																									
C1-2. Preparation for Tranches 2 and 3																										
 Feasibility studies and processing 						_																				
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		Inter	rmitte	nt inpu	uts																					

Indicative Activities		2014			2015				2016				2017			2018				2019					202	20		2021			2022				2023		
	1	2	3	4	1	2	3 4	1 1	1	23	3 4	1 1	2	2 3	4	1	2	3	4	1	2	3	4	1	2	3 4	4 ·	1 2	2 3	3 4	1	2	3	4	1 :	2 3	3 4
Tranche-1 (T-1)																																					
Tranche-2 (T-2)																																					
Tranche-3 (T-3)																																					
C. Program Management		iO re	ecru	uitm	ent	, Pro	gran	n loi	rmı	ulatio	on																										
C1-1.Implementation management		[_																			
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 Develop MIS project management modu 	le					0																															
C1-2. Preparation for Tranches 2 and 3																																					
 Feasibility studies and processing 																		E			1		:::														
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III. PROGRAM MANAGEMENT ARRANGEMENTS

A. Organizations: Management Roles and Responsibilities

Organizations	Management Roles and Responsibilities
 Program/Project Steering Committee (PSC) 	 Provide policy guidance to program formulation, particularly for Tranche 2 and Tranche 3, and oversee its implementation. Ensure smooth inter-ministry/agency coordination. Oversee project implementation and guide resolve implementation problems and issues that require higher level interventions.
Technical Committee	 Review and advise on complex and/or controversial technical issues encountered during program formulation, particularly during the Tranche 1 and Tranche 2 feasibility studies, other studies to be conducted under the implementation program, such as long-term river stabilization study, detailed structural design, and project implementation. Review and monitor the progress of studies and design work. Recommend findings to the PSC.
BWDB (Executing agency)	 Overall responsibility for executing the program/project and ensuring achievement of project objectives. Prepare annual work plans and budgets meeting government requirements, and arrange necessary institutional support and services for project implementation. Award and manage contracts for procurement of works and goods, and for recruitment of consulting and NGO services. Manage project finance and accounts, and monitor the use of funds provided by government, ADB and a co- financer(s). Communicate and coordinate with the Department of disaster Management (DDM), and other relevant agencies and institutions. Prepare/cause to prepare and submit periodic progress reports, annual audit reports, and other reports meeting government and ADB requirements. Collect and collate expenditure statements, including for expenditures incurred by DDM, and prepare and submit withdrawal applications for funds to ADB. Prepare environmental impact assessment (EIA)/ summary environmental impact assessment (SEIA), development project proforma/proposal (DPP) and other necessary documents for subsequent tranches meeting ADB and government requirements. Establish a Project Management Office (PMO) as the focal point of the Project and Program, including BWDB

Organizations	Management Roles and Responsibilities										
	 responsibilities and tasks listed above. Establish 3 Subproject Management Offices (SMO) for the first tranche to manage and supervise day-to-day implementation of works in respective subproject areas under the guidance of the Division Offices concerned. Establish other SMOs, as necessary, in respective subproject areas for the subsequent tranches. SMOs will coordinate with upazilla and union level institutions and local communities at subproject level. 										
 DDM (Implementing agency) PMU 	 Implement community-based flood risk management subcomponent, including recruitment and supervision of NGOs, and procurement of related goods. ensure timely and quality outputs of the sub-component. Manage finance accounts, and monitor the use of funds provided by ADB for the sub-component. submit statements of expenditures to PMO, BWDB, Prepare and submit quarterly physical and financial progress reports in prescribed formats to BWDB. Coordinate with BWDB on project related problems and issues and recommendations. Establish a Project Management Unit (PMU) and appoint a Deputy Director/Deputy Secretary as Project Manager and the focal point for subproject implementation. 										
• ADB	 Review overall project implementation including compliance with ADB loan regulations, loan agreement and project agreement. Select, following ADB guidelines and as agreed in response to the BWDB request project implementation consultants on behalf of BWDB. Review project documents that require ADB's approval or no-objection. Provide funding for eligible items of expenditures. 										
The Netherlands Embassy	 Review overall project implementation together with ADB. Provide funding for eligible items of expenditures. 										

B. Key Persons Involved in Implementation

Executing Agency BWDB	Mr. A.M. Aminul Haque Project Director (In Charge), Project Management Office Telephone No: +880-2-9568792 Fax No: +880-2-9567678 Email address: pdjmremp@gmail.com, <u>ashama62@gmail.com</u> Office Address: 28, Toynbee Circular Road (3rd Floor), Motijiheel C/A, Dhaka-1000
Implementing Agency	

DDM	TBD Project Manager, Project Management Unit Telephone No: TBD Email address: TBD Office Address: 92-93 Mohakhali C/A, Dhaka-1212
ADB	Takashi Matsuo
Environment, Natural Resources	Director
and Agriculture Division	Telephone No: +63-2-632-5579

latsuko Totsuka
Vater Resources Specialist
elephone No: +63-2-632-4297
mail address: ntotsuka@adb.org

C. Program Organization Structure

9. The organization structure of the facility is shown in **Figure 3.1**. **Figure 3.2** shows the organization structure within BWDB for the implementation of the facility. This organization structure in **Figure 3.2** is under the existing institutional set-up of BWDB without Chief Engineer (River Management) position. Once the proposed "need-based set-up" of BWDB, which includes the creation of the new Chief Engineer (River Management) position is approved, the organization structure within BWDB shall be restructured with mutual agreement between BWDB and ADB, Any change in implementation arrangement in the FAM requires ADB's approval.

Email address: tmatsuo@adb.org

10. The program steering committee will be chaired by the Secretary, MOWR, and will comprise with the following members:

SI. No.	Name with Designation
1.	Senior Secretary, Ministry of Water Resources (MOWR)
2	Additional Secretary, MOWR
3	Director General, Bangladesh Water Development Board (BWDB)
4	Director General, Department of Disaster Management (DDM)
5	Additional Director General (Planning), BWDB
6	Additional Director General (West), BWDB
7	Additional Director General (East), BWDB
8	Joint Secretary, MOWR
9	Joint Chief, MOWR
10	Chief Planning, BWDB, Dhaka
11	Director/Project Manager, DDM
12	Director, Department of Environment, Ministry of Environment and Forest
13	Deputy Chief, MoWR
14	A representative of Economic Relations Division, Ministry of Finance
15	A representative of Planning Commission

16	A representative of Implementation Monitoring and Evaluation Division, Ministry of Planning
17	A representative of Ministry of Land
18	A representative of Ministry of Agriculture
19	A representative of Bangladesh Inland Water Transport Authority
20	Representative from Department of Fisheries
21	Project Director, PMO, BWDB (Committee secretary)

11. The technical committee will be chaired by the Additional Director General (Planning), and will comprise with the following members. Representatives from other parties may be invited to meetings when necessary:

SI. No.	Name with Designation
1	Additional Director General (Planning), BWDB
2	Chief Planning, BWDB, Dhaka
3	Chief Engineer, Design, BWDB
4	Professor, Bangladesh University of Engineering and Technology
5	Morphologist, The Center for Environmental and Geographic Information Services
6	Superintending Engineer, Design and Quality Control, PMO
7	Superintending Engineer, Pabna O&M Circle, BWDB, Pabna
8	Superintending Engineer, Mymensingh O&M Circle, BWDB, Mymensingh
9	Superintending Engineer, Dhaka O&M Circle, BWDB, Dhaka
10	Executive Engineer, Office of the Chief Planning, BWDB, Dhaka.
11	Executive Engineer, PMO, BWDB, Dhaka.
12	Project Director, PMO, BWDB (Committee secretary)



Figure 3.1: Organization Structure of the Facility





12. The investment program will be executed through BWDB's Divisional offices under the administrative control of BWDB's existing set up following the BWDB's procedures of supervision, monitoring and Delegation of Financial Power (DOFP). The Project Management Office (PMO) will be responsible for overall project management and monitoring. The PMO will be established to provide the following support of the project.

- (i) Co-ordination of Management of Project activities;
- (ii) Monitoring of construction of civil works;
- (iii) Quality assurance and control;
- (iv) Fund placement;
- (v) Project benefit monitoring and evaluation;
- (vi) All Planning and Design of the works, preparation of the tender documents, Bid evaluation, supervision and verification of bills before payments.

13. The Executive Engineer Construction Division at Koitola was created under JMREMP and still exists. The division will work as SMO for the Jamuna Right Bank-2 subproject including bank protective work from Koijuri to Hurashagor-Bhagabari and adaptive maintenance of protective works completed under JMREMP from Koitola to Koijuri.



Figure 3.3: Organization Structure in DDM

Acronyms:

CBFRM: community-based flood risk management

ISPMC: institutional strengthening and project management consultants

NGO: nongovernment organization

14. The investment program is estimated to cost \$373.7 million. The government has requested an MFF in an amount up to \$270.3 million to help finance a part of the investment program. An amount not exceeding the equivalent of \$255 million will be provided from ADB's Special Funds resources in accordance with ADB's policies applicable to Special Funds resources and/or from ADB's ordinary capital resources in accordance with ADB's London interbank offered rate (LIBOR)-based lending modality. The remaining facility amount will be converted to ADB-administered cofinancing resources.

15. The first tranche is estimated to cost \$103.6 million. As the first tranche under the MFF, ADB will provide a loan from ADB's Special Funds resources in an amount equivalent to \$65 million and administer a grant from the Government of the Netherlands in an amount of \$15.3 million. ADB will finance part of major items such as civil works, materials, vehicles, equipment, consulting services, training, and incremental costs for resettlement and project management. The Government of the Netherlands will finance \$15.3 million on a grant basis to cover 14.8% of the total project cost. The fund from the Government of Netherlands will finance part of consulting services, and land recovery/river training piloting works. The Government of Bangladesh will provide about \$23.3 million, which covers 22.5% of the total cost for the first tranche.³

Table 4.1: Financing Plan Overview									
	Investment Program ^a Tranche-1								
	Amount	Share of	Amount	Share of					
Source	(\$ million)	Total (%)	(\$ million)	Total (%)					
Asian Development Bank									
Special Funds and/or ordinary capital resources (loan)	255.0	68.2	65.0 ^b	62.7					
Government of Netherlands (grant)	15.3	4.1	15.3	14.8					
Government	103.4	27.7	23.3	22.5					
Total	373.7	100.0	103.6	100.0					

^a Tentative estimate.

^b ADB financing for the first tranche is from Special Funds resources (loan)

MFF = multitranche financing facility.

Source: Asian Development Bank estimates.

16. The MFF will consist of several tranches, subject to the government's submission of related periodic financing requests, execution of the related loan and project agreements for each tranche, and fulfillment of terms and conditions and undertakings set forth in the framework financing agreement. The first tranche of the MFF will have a 25-year term, including a grace period of 5 years, an annual interest rate of 2% per annum throughout the loan maturity (the interest charges during implementation to be capitalized in the loan), and such other terms and conditions set forth in the draft loan agreements.

17. The ADB loan will be used to finance (i) large part of civil works, (ii) most part of construction material (geo-textile bags), (iii) institutional capacity strengthening activities, (iv) part of project management consulting services, (iv) large part of NGO services including resettlement plan implementation, small consulting services for surveys and studies, (v) resettlement cost, and (vi) part of project management costs. The grant from the Netherland Government will be used to finance (i) part of the project management consultant, and (ii) the

³ See details in the Project's Loan Agreement and ADB's Operations Manual H3/OP, paras 7–12.

entire part of land recovery piloting, except tax and duties. The fund from the Government of Bangladesh will be used to finance land acquisition, tax and duties, and part of operating costs of PMO, SMOs and PMU including salaries of their staffs.

			Amou	Int ^a					
Iten	n	Investment	Tranche	Tranche	Tranche				
		program	-1	-25	-35				
Α.	Base Cost ^c								
	1. Component A: Flood and riverbank risk								
	mitigation	275.3	70.5	111.4	93.3				
	2. Component B: Institutional strengthening	14.3	12.7	0.95	0.68				
	 Component C: Project management^d 	27.1	10.9	10.3	5.9				
	Subtotal (A)	316.7	94.2	122.7	99.9				
В.	Contingencies	50.1	7.0	20.4	22.8				
C.	Financing Charges During Implementation ^t	7.0	2.5	2.3	2.2				
	Total (A+B+C)	373.7	103.6	145.3	124.8				
	Total (A+B+C)	373.7	103.6	145.3	124.8				

Table 4.2: Investment Program (\$ million)

MFF = multitranche financing facility

Note: Numbers may not sum precisely because of rounding.

^a Includes taxes and duties to be financed by the government. (\$10.2 million for the first tranche, and \$28.3 million of the MFF)

^b Tentative estimate.

^c In mid-2013 prices.

^d Including feasibility studies for the second and subsequent tranches, and program implementation management, which will be conducted by one team.

^e Physical contingencies computed at between 0% and 10% depending on item. Price contingencies computed at 2.2% in the first year, 1.9% thereafter on foreign exchange costs and 8.5% in the first year, 7.5% in the second year and 7.0% thereafter on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^f Includes interest and commitment charges. Interest during construction for the estimated amount of ADB financing has been computed at 2.0% per year. For the first tranche, the financing charges include 5% of administration charges for ADB's administration of a grant from the government of Netherlands.

Source: Asian Development Bank estimates.

Α.	Detailed Cos	st Estimates	by Ex	penditure	Category	y
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			% Total
ltems	(BDT million)	(US\$ million)	Base
	Total	Total	Costs
I. Investment Costs			
A. Civil Works			
Civil w orks	3,073.11	38.41	12
Pilot Land Recovery/River Training	379.80	4.75	5
Subtotal	3,452.91	43.16	46
B. Materials (Geotextiles)			
Subtotal	1,401.38	17.52	19
C. Vehicles and Equipment			
Vehicles	100.15	1.25	1
Equipment - BWDB	17.84	0.22	
DDM Office Equipment	0.58	0.01	
Subtotal	118.57	1.48	2
D. Consulting Services			
ISPM Consultant	1,068.45	13.36	14
Other consulting/NGO Services - BWDB	246.52	3.08	2
NGO Services - DDM	90.88	1.14	1
Subtotal	1,405.85	17.57	19
E Capacity Development (Training)			
Subtotal	104.35	1.30	1
F. Land Acquisition and Resettlement			
Land Compensation	884.79	11.06	12
Resettlement Costs	12.02	0.15	
Subtotal	896.81	11.21	12
G. Program Management (BWDB)			
Staff Salaries	83.67	1.05	1
Office Operations - BWDB	57.60	0.72	1
PMU Operation - DDM	12.07	0.15	
Subtotal	153.35	1.92	2
H. ADB Administration charge of GoN grant	24.00	0.30	
Total Investment Costs	7,557.2	94.5	1(
tal BASELINE COSTS	7,557	94.5	100
Physical Contingencies	358	4.47	5
Price Contingencies	675	2.45	3
tal PROJECT COSTS	8,590	101.4	10
Interest During Implementation	175	2.19	2
tal Costs to be Financed	8,765	103.6	109

Table 4.3: Detailed Cost Estimates by Expenditure Category (1/3, Tranche-1)

			% Total
ltem	(BDT million)	(US\$ million)	Base
	Total	Total	Costs
vestment Costs			
A. Civil Works			
Civil w orks	13,510.30	168.88	53.3
Pilot Land Recovery/River Training	379.80	4.75	1.5
Subtotal	13,890.10	173.63	54.8
B. Materials (Geotextlies)			
Subtotal	4,932.38	61.65	19.4
C. Vehicles and Equipment			
Vehicles	132.34	1.65	0.
Equipment - BWDB	22.45	0.28	0.
DDM Office Equipment	0.58	0.01	
Subtotal	155.37	1.94	0.
D. Consulting Services			
ISPM Consultant	2,024.45	25.31	8.
Other consulting/NGO Services - BWDB	689.54	8.62	2.
NGO Services - DDM	269.23	3.37	1.
Subtotal	2,983.22	37.29	11.
E Capacity Development and Training			
Subtotal	199.24	2.49	0.
F. Land Acquisition and Resettlement			
Land Compensation	2,750.71	34.38	10.
Resettlement Costs	43.61	0.55	0.
Subtotal	2,794.31	34.93	11.
G. Program Management (BWDB)			
Staff Salaries	209.18	2.61	0.
Office Operations - BWDB	154.18	1.93	0.
PMU Operation - DDM	30.18	0.38	0.
Subtotal	381.36	4.77	1.
H. ADB Administration charge of GoN grant	24.00	0.30	0.
Fotal Investment Costs	25,360.0	317.0	10
tal BASELINE COSTS	25,360	317.0	10
Physical Contingencies	1,248	15.60	4.
Price Contingencies	11,153	34.48	10.
tal PROJECT COSTS	37,761	367.1	11
Interest During Implementation	658	6.67	2.
tal Costs to be Financed	38,419	373.7	118

Table 4.3: Detailed Cost Estimates by Expenditure Category (2/3, MFF)

			<u> </u>		<u> </u>	<u> </u>		,,	-	
									% Total	
Items	(E	BDT million)			(US\$ million)			Base	
	T-1	T-2	T-3	Total	T-1	T-2	Т-3	Total	Costs	
Investment Cost										
A. Civil Works										
Civil w orks	3,073.11	6,080.80	4,356.38	13,510.30	38.41	76.01	54.45	168.88	53.3	
Pilot Land Recovery/River Training	379.80	-	-	379.80	4.75	-	-	4.75	1.5	
Subtotal	3,452.91	6,080.80	4,356.38	13,890.10	43.16	76.01	54.45	173.63	54.8	
B. Materials (Geotextlies)										
Subtotal	1,401.38	1,491.68	2,039.32	4,932.38	17.52	18.65	25.49	61.65	54.8	
C. Vehicles and Equipment										
Vehicles	100.15	-	32.20	132.34	1.25	-	0.40	1.65	0.5	
Equipment - BWDB	17.84	0.48	4.13	22.45	0.22	0.01	0.05	0.28	0.1	
DDM Office Equipment	0.58	-	-	0.58	0.01	-	-	0.01	-	
Subtotal	118.57	0.48	36.33	155.37	1.48	0.01	0.45	1.94	0.6	
D. Consulting Services										
ISPM Consultant	1,068.45	668.00	288.00	2,024.45	13.36	8.35	3.60	25.31	8.0	
Other consulting/NGO Services - BWDB	246.52	242.56	200.45	689.54	3.08	3.03	2.51	8.62	2.7	
NGO Services - DDM	90.88	89.18	89.18	269.23	1.14	1.11	1.11	3.37	1.1	
Subtotal	1,405.85	999.74	577.63	2,983.22	17.57	12.50	7.22	37.29	11.8	
E. Capacity Development and Training										
Subtotal	104.35	59.23	35.66	199.24	1.30	0.74	0.45	2.49	11.8	
F. Land Acquisition and Resettlement										
Land Compensation	884.79	1,047.68	818.24	2,750.71	11.06	13.10	10.23	34.38	10.8	
Resettlement Costs	12.02	20.26	11.33	43.61	0.15	0.25	0.14	0.55	0.2	
Subtotal	896.81	1,067.93	829.57	2,794.31	11.21	13.35	10.37	34.93	11.0	
G. Program Management (BWDB)										
Staff Salaries	83.67	62.75	62.75	209.18	1.05	0.78	0.78	2.61	0.8	
Office Operations - BWDB	57.60	42.20	42.20	142.00	0.72	0.53	0.53	1.77	0.6	
PMU Operation - DDM	12.07	9.05	9.05	30.18	0.15	0.11	0.11	0.38	0.1	
H. ADB Administration charge of GoN grant	153.35			153.35	1.92			1.92	0.6	
Subtotal	24.00	114.01	114.01	252.02	0.30	1.43	1.43	3.15	1.5	
Total Investment Costs	7,557.2	9,813.9	7,988.9	25,360.0	94.5	122.7	99.9	317.0	146	
Total BASELINE COSTS	7,557	9,814	7,989	25,360	94.5	122.7	99.9	317.0	100	
Physical Contingencies	358	491	399	1,248	4.47	6.13	4.99	15.60	4.9	
Price Contingencies	675	4,450	6,028	11,153	2.45	14.26	17.78	34.48	10.9	
Total PROJECT COSTS	8,590	14,755	14,416	37,761	101.4	143.1	122.6	367.1	116	
Interest During Implementation	175	229	253	658	2.19	2.27	2.21	6.67	2.1	
Total Costs to be Financed	8,765	14,984	14,669	38,419	103.6	145.3	124.8	373.7	118	

Table 4.3: Detailed Cost Estimates by Expenditure Category (3/3, Summary)

ALLOCATION AND WITHDRAWAL OF LOAN PROCEEDS (Flood and Riverbank Erosion Risk Management Investment Program – Project 1)							
Number	Item	Total Amou for ADB (S Category	unt Allocated Financing DR) Subcategory	Basis for Withdrawal from the Loan Account			
1	Works	23,126,000		91% of total expenditure claimed			
2	Materials	10,150,000		100% of total expenditure claimed*			
3	Vehicles and Equipment	366,000					
3A	Vehicles – BWDB		224,000	28% of total expenditure claimed			
3B	Equipment – BWDB		71,000	95% of total expenditure claimed			
3C	Equipment – DDM**		71,000	95% of total expenditure claimed			
4	Resettlement	96,000		100% of total expenditure claimed			
5	Training	803,000		94 % of total expenditure claimed			
6	Consulting Services	3,617,000					
6A	Project management – BWDB		1,131,000	13% of total expenditure claimed			
6B	NGO services, surveys and studies – BWDB		1,799,000	87% of total expenditure claimed			
6C	NGO services – DDM**		687,000	87% of total expenditure claimed			
7	Project Management	520,000					
7A	Project Management – BWDB		417,000	88% of total expenditure claimed			
7B	Project Management – DDM**		103,000	88% of total expenditure claimed			
8	Interest Charge	1,407,000		100% of amounts due			
9	Unallocated	1,670,000					
	Total	41,755,000					

Table 4.4: Allocation and Withdrawal of Loan/Grant Proceeds (Tranche-1) (1/2, Loan)

* Exclusive of taxes and duties imposed within the territory of the Borrower. ** Subject to the condition for withdrawal described in paragraph 7 of Schedule 3.

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Table 4.4: Allocation and Withdrawal of Loan/Grant Proceeds (Tranche-1) (2/2, Grant from
the Government of Netherlands)

(F	ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS (Flood and Riverbank Erosion Risk Management Investment Program – Project 1)								
Number	ltem	Total Amount Allocated for Government of Netherlands Financing (\$) Category	Basis for Withdrawal from the Grant Account						
1	Works – Pilot Land Recovery/ River Training	4,300,000	91% of total expenditure claimed						
2	Consulting Services – Project management BWDB	10,700,000	74 percent of total expenditure claimed						
3	ADB Administration Fees and Other Charges*	300,000	100% percent of amounts due						
	Total	15,300,000							

* This amount also serves as a reserve for payment of ADB's administration fees and bank charges or other charges pursuant to the Cofinancing Agreement.

B. Detailed Cost Estimates by Financier

			Governm	nent of		,	<u>í</u>	%	Duties &
Items	AD	в	Netherla	ands ^a	The Government		Total	total	Taxes
	\$ million	%	\$ million	%	\$ million	%	\$ million	Cost	\$ million
Investment Costs									
A. Civil Works									
Civil w orks	37.49	90.5	-	-	3.94	9.5	41.43	40.0	3.94
Pilot Land Recovery/River training	-	-	4.30	90.5	0.45	9.5	4.75	4.6	0.45
Subtotal	37.49	81.2	4.30	9.3	4.39	9.5	46.18	44.6	4.39
B. Materials (Geotextlies)									
Subtotal	16.58	88.1	-	-	2.23	11.9	18.81	18.2	2.23
C. Vehicles and Equipment									
Vehicles	0.37	27.8	-	-	0.96	72.2	1.33	1.3	0.96
Equipment - BWDB	0.22	94.8	-	-	0.01	5.2	0.24	0.2	0.01
DDM Office Equipment	0.01	94.8	-	-	0.00	5.2	0.01	0.0	0.00
Subtotal	0.60	38.2	-	-	0.97	61.8	1.58	1.5	0.97
D. Consulting Services									
ISPM Consultant	1.83	12.7	10.70	74.3	1.88	13.0	14.41	13.9	1.88
Other consulting/NGO Services - BWDB	2.91	87.0	-	-	0.44	13.0	3.35	3.2	0.44
NGO Services - DDM	1.07	87.0	-	-	0.16	13.0	1.23	1.2	0.16
Subtotal	5.81	30.6	10.70	56.3	2.48	13.0	18.99	18.3	2.48
E Capacity Development and Training									
Subtotal	1.31	93.5	-	-	0.09	6.5	1.40	1.4	0.09
F. Land Acquisition and Resettlement									
Land Compensation	-	-	-	-	11.88	100.0	11.88	11.5	-
Resettlement Costs	0.16	100.0	-	-	-	-	0.16	0.2	-
Subtotal	0.16	1.3	-	-	11.88	98.7	12.04	11.6	-
G. Program Management (BWDB)		~~~~~				~~~~~		~~~~~	
Staff Salaries	-	-	-	-	1.14	100.0	1.14	1.1	-
Office Operations - BWDB	0.68	87.4	-	-	0.10	12.6	0.78	0.8	0.04
PMU Operation - DDM ^b	0.16	100.0	-	-	-	-	0.16	0.2	-
Subtotal	0.85	12.4	-	-	1.24	87.6	2.08	2.0	0.04
H. ADB Administration charge of GoN grant	-	-	0.30	100.0	-	-	0.30	0.3	-
Total Investment Costs	62.8	61.4	15.3	15.1	23.3	23.5	101.4	97.9	10.2
Total PROJECT COSTS	62.8	61.4	15.3	15.1	23.3	23.5	101.4	97.9	10.2
Interest During Implementation	2.19	100.0	-	-	-	-	2.19	2.1	-
Total Financing	65.0	62.8	15.3	14.8	23.3	22.5	103.6	100.0	10.2

Table 4.5: Detailed Cost Estimates by Financier (1/2, Tranche-1)

Note: Figures may not sum precisely because of rounding. ^a Administered by ADB. This amount also includes ADB's service fee, audit cost, bank charges, and a provision for foreign exchange fluctuations (if any) to the extent that these items are not covered by the interest and investment income earned on this grant, and any additional grant from the Government of Netherlands. b

Including bank charges, local transport and insurance.

			Govern	nent of				%	Duties &
Items	AD	в	Nether	lands ^a	The Gove	ernment	Total	total	Taxes
	\$ million	%	\$ million	%	\$ million	%	\$ million	Cost	\$ million
Investment Costs									
A. Civil Works									
Civil w orks	154.00	78.2	-	-	42.87	21.8	196.87	52.7	12.04
Pilot Land Recovery/River training	-	-	4.30	90.5	0.45	9.5	4.75	1.3	0.45
Subtotal	154.00	76.4	4.30	2.1	43.32	21.5	201.62	53.9	12.49
B. Materials (Geotextlies)									
Subtotal	63.40	88.1	-	-	8.53	11.9	71.93	19.2	8.53
C. Vehicles and Equipment									
Vehicles	0.50	27.8	-	-	1.31	72.2	1.82	0.5	1.31
Equipment - BWDB	0.29	94.8	-	-	0.02	5.2	0.31	0.1	0.02
DDM Office Equipment	0.01	94.8	-	-	0.00	5.2	0.01	0.0	0.00
Subtotal	0.80	37.7	-	-	1.33	62.3	2.13	0.6	1.33
D. Consulting Services									
ISPM Consultant	14.15	49.5	10.70	37.5	3.73	13.0	28.57	7.6	3.73
Other consulting/NGO Services - BWDB	8.60	86.4	-	-	1.35	13.6	9.95	2.7	1.35
NGO Services - DDM	3.39	87.0	-	-	0.51	13.0	3.90	1.0	0.51
Subtotal	26.14	61.6	10.70	25.2	5.59	13.2	42.43	11.4	5.59
E Capacity Development and Training									~~~~~
Subtotal	2.61	92.8	-	-	0.20	7.2	2.81	0.8	0.20
F. Land Acquisition and Resettlement									
Land Compensation	-	-	-	-	39.74	100.0	39.74	10.6	-
Resettlement Costs	0.16	25.7	-	-	0.47	74.3	0.63	0.2	-
Subtotal	0.16	0.4	-	-	40.21	99.6	40.37	10.8	-
G. Program Management (BWDB)									
Staff Salaries	-	-	-	-	3.01	100.0	3.01	0.8	-
Office Operations - BWDB	0.81	39.8	-	-	1.23	60.2	2.04	0.5	0.11
PMU Operation - DDM ^b	0.42	95.8	-	-	0.02	4.2	0.43	0.1	0.02
Subtotal	1.23	22.4	-	-	3.03	55.1	5.49	1.5	0.13
H. ADB Administration charge of GoN grant	-	-	0.30	100.0	-	-	0.30	0.3	-
Total Investment Costs	248.3	67.7	15.3	4.2	103.4	28.2	367.1	98.4	28.3
Total PROJECT COSTS	248.3	67.7	15.3	4.2	103.4	28.2	367.1	98.4	28.3
Interest During Implementation	6.7	100.0	-	-	-	-	6.7	1.8	-
Total Financing	255.0	68.2	15.3	4.1	103.4	27.7	373.7	100.0	28.3

Table 4.5: Detailed Cost Estimates by Financier (2/2, MFF)

Note: Figures may not sum precisely because of rounding.

^a Administered by ADB. This amount also includes ADB's service fee, audit cost, bank charges, and a provision for foreign exchange fluctuations (if any) to the extent that these items are not covered by the interest and investment income earned on this grant, and any additional grant from the Government of Netherlands.

^b Including bank charges, local transport and insurance.

C. Detailed Cost Estimates by Outputs/Components

Table 4.6: Detailed Cost Estimates by Outputs and Components (Tranche-1)

					Strenth	ening			
	Flood a	and Riverbank E	rosion		Institutional	System for			
	Risk Ma	nagement Meas	sures at		Flood and R	iverbank			
	F	Priority Reaches	5		Erosion Risk M	lanagement			
				Livelihood					
		Community-		Support for	Institutional			ADB	
Items	Infrastructure	based	Participatory	Project	Capacity	Know ledge		Administration	
	Improvement	Flood Risk	Regular	Affected	Strenthening	Base	Program	charge of GoN	
		Management	O&M	People		Developmen	Management	grant	Total
A. Civil Works									
Civil w orks	41.43	-	-	-	-	-	-	-	41.4
Pilot Land Recovery/River training	-	-	-	-	-	4.75	-	-	4.7
Subtotal	41.43	-	-	-	-	4.75	-	-	46.2
B. Materials (Geotextiles)									
Subtotal	18.81	-	-	-	-	-	-	-	18.8
C. Vehicles and Equipment									
Vehicles and Equipment - BWDB	-	-	-	-	-	0.12	1.45	-	1.6
DDM Office Equipment	-	-	-	-	-	-	0.008	-	0.008
Subtotal	-	-	-	-	-	0.12	1.46	-	1.6
D. Consulting Services									
Consulting/NGO Services - BWDB	0.77	0.81	0.33	0.89	-	6.92	8.38	-	18.1
NGO Services - DDM	-	0.90	-	-	-	-	-	-	0.9
Subtotal	0.77	1.72	0.33	0.89	-	6.92	8.38	-	19.0
E Capacity Development (Training)									
Subtotal	-	-	-	-	1.40	-	-	-	1.4
F. Land Acquisition and Resettlement									
Subtotal	11.88	-	-	0.16	-	-	-	-	12.0
G. Program Management (BWDB)									
Office Operations and Staff Salaries - BWDB	-	-	-	-	-	0.11	1.81	-	1.9
PMU Operation - DDM	-	-	-	-	-	-	0.16	-	0.2
Subtotal	-	-	-	-	-	0.11	1.98	-	2.1
H. ADB Administration charge of GoN grant	-	-	-	-	-	-	-	0.30	0.3
Total Investment Costs (excl. Contingencies)	72.89	1.72	0.33	1.05	1.40	11.89	11.81	0.30	101.4

D. Detailed Cost Estimates by Year

Items	Cost	s Including	Contingencie	es (BDT milli	on)	(.,_,	Costs I	ncluding C	Contingend	ies (US\$ n	nillion)	
	2014/15	2015/16	2016/17	2017/18	2018/19	Total	2014/15	2015/16	2016/17	2017/18	2018/19	Total
Investment Costs	-											
A. Civil Works												
Civil w orks	946.05	987.45	1,167.19	311.89	116.43	3,529.02	11.17	11.65	13.71	3.57	1.33	41.43
Pilot Land Recovery/River Training	-	158.25	110.77	110.77	-	379.80	-	1.98	1.38	1.38	-	4.75
Subtotal	946.05	1,145.70	1,277.97	422.67	116.43	3,908.82	11.17	13.63	15.09	4.95	1.33	46.18
B. Materials (Geotextiles)						0						
Subtotal	499.17	506.57	528.88	52.73	-	1,587.35	5.92	6.00	6.27	0.62	-	18.81
C. Vehicles and Equipment						0						
Vehicles	54.49	55.29	-	-	-	109.78	0.66	0.67	-	-	-	1.33
Equipment - BWDB	9.71	9.85	-	-	-	19.56	0.12	0.12	-	-	-	0.24
DDM Office Equipment	0.32	0.32	-	-	-	0.64	0.00	0.00	-	-	-	0.01
Subtotal	64.51	65.46	-	-	- [129.97	0.78	0.79	-	-	-	1.58
D. Consulting Services						0						
ISPM Consultant	320.81	377.58	246.55	147.18	136.52	1,228.64	3.76	4.43	2.89	1.73	1.60	14.41
Other Consulting/NGO Services, survey - BWDB	27.08	85.07	104.63	68.13	5.35	290.27	0.31	0.98	1.21	0.79	0.06	3.35
NGO Services - DDM	19.03	27.63	29.56	30.09	-	106.31	0.22	0.32	0.34	0.35	-	1.23
Subtotal	367.61	490.38	380.09	244.82	142.30	1,625.21	4.30	5.73	4.44	2.86	1.66	18.99
E Capacity Development (Training)						0						
Subtotal	31.30	43.73	36.31	3.76	3.83	118.93	0.37	0.52	0.43	0.04	0.05	1.40
F. Land Acquisition and Resettlement						0						
Land Compensation	207.15	544.08	200.97	49.20	-	1,001.40	2.46	6.45	2.38	0.58	-	11.88
Resettlement Costs	1.17	8.01	4.54	-	-	13.71	0.01	0.09	0.05	-	-	0.16
Subtotal	208.32	552.08	205.50	49.21	-	1,015.11	2.47	6.55	2.44	0.58	-	12.04
G. Program Management (BWDB)						0						
Office Operations and staff salaries - BWDB	36.17	36.70	37.38	38.06	18.16	67.79	0.42	0.42	0.43	0.44	0.21	0.78
PMU Operation - DDM	3.07	3.12	3.17	3.23	1.64	14.24	0.04	0.04	0.04	0.04	0.02	0.16
Subtotal	39.24	39.82	40.56	41.29	19.79	180.71	0.45	0.46	0.47	0.48	0.23	2.08
H. ADB Administration charge of GoN grant	3.20	5.60	5.60	5.60	4.00	24.00	0.04	0.07	0.07	0.07	0.05	0.30
Total Investment Costs	2,159.4	2,849.4	2,474.9	820.1	286.4	8,590.1	25.5	33.7	29.2	9.6	3.3	101.4
Intereast During Implementation	4.63	23.98	47.45	75.43	23.71	175.20	0.06	0.30	0.59	0.94	0.30	2.19
Total Project Cost	2,164.0	2,873.3	2,522.4	895.5	310.1	8,765.3	25.6	34.0	29.8	10.6	3.6	103.6

Table 4.7: Detailed Cost Estimates by Year (1/2, Tranche-1).

Items	Costs Including Contingencies (US\$ million)									
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	Total
Investment Costs										
A. Civil Works										
Civil w orks	11.17	11.65	13.71	23.16	45.42	24.89	21.90	22.29	22.69	196.87
Pilot Land Recovery/River Training	-	1.98	1.38	1.38	-	-	-	-	-	4.75
Subtotal	11.17	13.63	15.09	24.54	45.42	24.89	21.90	22.29	22.69	201.62
B. Materials (Geotextiles)										
Subtotal	5.92	6.00	6.27	4.04	9.11	9.28	10.25	10.43	10.62	71.93
C. Vehicles and Equipment										
Vehicles and Equipment - BWDB	0.78	0.79	-	-	-	0.01	0.55	-	-	2.12
DDM Office Equipment	0.004	0.004	-	-	-	-	-	-	-	0.008
Subtotal	0.78	0.79	-	-	-	0.01	0.55	-	-	2.13
D. Consulting Services										
Consulting/NGO Services - BWDB	3.76	4.43	2.89	4.01	5.50	3.55	1.45	1.47	1.50	28.57
Other Consulting/NGO Services, survey - BWDB	0.31	0.98	1.21	1.98	1.27	1.13	1.01	1.03	1.04	9.95
NGO Services - DDM	0.22	0.32	0.34	0.77	0.43	0.44	0.45	0.46	0.46	3.90
Subtotal	4.30	5.73	4.44	6.76	7.21	5.12	2.90	2.96	3.01	42.43
E Capacity Development (Training)										
Subtotal	0.37	0.52	0.43	0.44	0.28	0.23	0.18	0.18	0.19	2.81
F. Land Acquisition and Resettlement										
Land Compensation	2.46	6.45	2.38	2.59	7.62	5.68	4.11	4.19	4.26	39.74
Resettlement Costs	0.01	0.09	0.05	0.09	0.12	0.09	0.06	0.06	0.06	0.63
Subtotal	2.47	6.55	2.44	2.67	7.74	5.77	4.17	4.24	4.32	40.37
G. Program Management (BWDB)										
Office Operations and staff salaries - BWDB	0.42	0.42	0.43	0.94	0.72	0.52	0.53	0.54	0.55	5.06
PMU Operation - DDM	0.04	0.04	0.04	0.08	0.06	0.04	0.05	0.05	0.05	0.43
Subtotal	0.45	0.46	0.47	1.02	0.78	0.56	0.57	0.58	0.59	5.49
H. ADB Administration charge of GoN grant	0.04	0.07	0.07	0.07	0.05	-	-	-	-	0.30
Total Investment Costs	25.5	33.7	29.2	39.5	70.6	45.9	40.5	40.7	41.4	367.1
Intereast During Implementation	0.06	0.30	0.59	1.05	0.95	1.51	0.14	0.73	1.33	6.66
Total Project Cost	25.6	34.0	29.8	40.6	71.5	47.4	40.7	41.4	42.8	373.7

Table 4.7: Detailed Cost Estimates by Year (2/2, MFF)

E. Contract and Disbursement S-curve

18. Preliminary S-curves for contract awards and disbursements over the project life of the first tranche are shown below. The S-curves will be updated upon the loan effectiveness, based on the updated project implementation schedule.







Local currency fund flows

Submission of withdrawal applications

EE = Executive Engineer SMO = Subproject Management Office

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

19. A financial management assessment of BWDB was undertaken during the investment program preparation in accordance with ADB's guidelines for Financial Management and Analysis of Projects and Financial Due Diligence: a Methodology Note, and Technical Guidance Notes.⁴ BWDB has experienced a number of bi-lateral and multi-lateral projects, including ongoing the Southwest Area Integrated Water Resources Planning and Management Project (ADB), the Char Development and Settlement Project (IFAD, The Netherlands Government), Secondary Towns Integrated Flood Protection Project, Phase II (ADB and OPEC) and the Water Management Improvement Project (World Bank).

20. The assessment concludes that BWDB has sufficient experience and capacity to manage the project funds as well as adequate fund flow, accounting and budgeting arrangements. The Project Completion Report of JMREMP also concluded that BWDB's capacity was generally sound. However, improvements are required in several areas including (i) ensuring a full time accountant at PMO (ii) training in ADB disbursement and procurement guidelines, (iii) requirement to produce internal audit reports for the relevant zones and circles for each project prior to the first disbursement under each project, (iv) provision of a Statement of Audit Needs to ensure that audited project financial statements are received on a timely basis and in accordance with accounting standards as well as to encourage the submission of entity level financial statements on a timely basis.

1a	ible 1: Summary c	of the Financial Management Assessment
Particulars	Risk	Conclusions
	Assessment	
A. Funds Flow Arrangements	Low	Funds received from donors including ADB are deposited into an imprest account of an approved commercial bank. The proposed arrangement generally follows approved government protocols, and it is generally satisfactory. BWDB does not have the capacity to manage foreign exchange risk as this task is undertaken by the MOF on behalf of BWDB.
		The MOF, at the request of BWDB, will usually approve the opening of an Imprest account to any authorized commercial bank in Bangladesh under a foreign aided project against the specific project.
		Counterpart funds are assessed based on the approved ADP and are usually released in 4 quarterly installments made through the Finance Division of the MOF into the Central Account of BWDB. The fund request is usually done by BWDB request for funds to the Ministry of Finance through MOWR. Payments of GOB counterpart fund are disbursed by MOF in 4 quarterly installments through the Central Account of the BWDB for further disbursement

21. Key findings of the financial management assessment are as follows.⁵

⁴ Available at: <u>http://www.adb.org/Documents/Others/FM-toolkit/Methodology-Note.pdf</u>, and Financial Management. See also Analysis of Projects Guidelines (2005): <u>http://www.adb.org/Documents/Guidelines/Financial/default.asp</u>.

⁵ A full financial management assessment report is available upon request.

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		through the various RACs for payment against the said project.
		Fund flow arrangements are further described in paras. 20 to 33 below and are deemed adequate for the Program.
B. Organization M and Staffing	Moderate	BWDB's finance and accounting operations are headed by ADG (Finance). There is a comptroller of Finance and Account who are in charge of two directors - Directors of Finance and Director of Accounts. Director of Audit reports directly to the ADG (Finance).
		Currently under the ADG (Finance), there is a sanctioned headcount of 220 against the current staff of 168 positions or about 24% staff shortage.

The account staffs are graduates from the commerce or accounting field with experiences in different operations of BWDB. Key staff are graduates and permanent members of BWDB with regular training on the latest financial government regulations and BWDB's accounting system and policies if any but have not been trained in ADB project management procedures but have experience in working with foreign aided projects. ADB training procedures is therefore recommended. Staff rotation occurs every few years.

BWDB shall also ensure that a permanent Finance staff is assigned to the program. Accordingly, project staffing arrangements are considered adequate.

C. Accounting Policies and Procedures	Low	The accounting system adopted by BWDB allows for proper recording of all project financial transactions based on an entity accounting system. The control mechanism are guided by BWDB financial procedure and other administrative and government manuals which stipulates the payment and disbursement approval process; and including the assignment of accounting code which follows the prescribed government accounting codes which specify how all these transactions should be followed and recorded by the accounting department. The Chart of Accounts shows that it is adequate to record and report on project activities and its disbursement categories, and meet the requirements of IMED. The chart of account is also consistent with the government prescribed economic and financial code - universal to all government offices. BWDB has adopted a Cash Basis of Accounting. Its accounting policies and procedures are guided by a few written procedure manuals in accordance to the Bangladesh Accounting System (BAS), Financial Administrative Regulations (FAR), Financial Rules and Policies. Accounting policies and procedures are adequate for the purpose of the project.
D. Segregation of Duties	Low	The duties are well segregated.
E. Budgeting System	Moderate	The budgets include physical and financial targets and are prepared according to ADP requirements – which undergo stringent checks from within BWDB and inter-ministerial

		approval for all approved foreign aided projects. Reports on project progress are regularly reported to MOWR, IMED and MOF for ADB funded projects, and other reports will follows ADB report requirements to monitor project performance. Actual expenditures are compared to the budgeted expenditures on monthly, quarterly and annual basis. Any variation thereof will require an explanation to the MOWR and IMED. In addition, if the yearly expenditures / achievements are below 95% of the overall budget target, further explanation will be provided by BWDB to MOWR and IMED. Approvals for budget variation are required in advance from the MOWR and the Planning Commission and approved by MOF. Procedures are in place for field offices and for project consultants to plan the project activity requirements with the assistance from the field Zone, Circle Line and Divisional Line under the project area. These are checked by PD before finalizing the budgets. Project plans and budgets are generally realistic as it goes through vigorous checks from the technical and planning
F. Internal / External Audits	Moderate	departments before it gets adopted into the budget. BWDG internal audit department audit the financial performances of all the RACs including its circle lines and divisional offices in order to ensure that each office complies with policies and operating procedures in accordance to the procedure manual with respect to payments, receipts, record keeping and debt recovery. It also audits the accounting vouchers to ensure that it complies with the correct accounting codes as prescribed by the GOB. The Director of Audit reports its audit findings to the ADG (Finance) and ADG (Finance) will in turn submit this to DG. The Comptroller and Auditor General (CAG), an independent Government Ministry, typically audit the projects funded by the GOB. For foreign aided projects, the current audit practice is to use the Office of Director General – Foreign Aided Praiota Audit Director (EADD) under the evanises of
		Aided Project Audit Director (FAPAD) under the auspices of the CAG to perform this task. FAPAD auditors perform its audit annually – usually 4 months after the end of the fiscal year. BWDB is also subject to a statutory audit, although historically there are delays in the submission of the audited financial statements to the Governing Council of BWDB. ADB shall also work with BWDB to encourage more timely submission of BWDB financial statements
G. Reporting and Monitoring	Moderate	All accounting records and supporting documents are retained by the respective RAC offices in charge of the specific project and allows for proper auditing to take place by both internal and external auditors. Monthly reporting is also sent by the respective RAC offices to the Director of Accounts informing them about all project disbursement activities and amount utilized. The financial and procurement reports of the agencies are prepared according to the accounting standard of government, which is consistent to International Standards. The reporting of the financial statement is on a monthly basis.

H. Information Systems	High	Currently, BWDB's accounting system software uses a 2006 version of MS Great Plains Dynamic Accounting Software. This system is not fully integrated with the project accounting system at the RAC level and most information transmitted is via email and 'post mailing' of thumb drive raising issues of sensitive data security. The accounting system software has not been updated since 2006. Improvements to BWDB's ICT system are currently being undertaken by WB under their WMIP program

OverallModerateADB = Asian Development Bank, ADG = Additional Director General, CAG = Comptroller and Auditor General, IMED= Implementation Monitoring and Evaluation Division, MOWR = Ministry of water resource, PD = Project Director,RAC = Regional Accounting Centre,

22. BWDB is a statutory organization tasked with numerous responsibilities from building, operating and maintaining physical infrastructures for the flood control, irrigation and drainage schemes including riverbank protections. BWDB generally has adequate experience and capacity to implement externally aided projects. However, in consideration of the country circumstances with the "substantial" financial management risk rating, the financial management of the investment program need close monitoring. Following actions are required to initiate the smooth implementation of the project.

- (i) PMO key staffs must take training on ADB's procurement and financial management, project management, and reporting procedures to strengthen its capacity. A dedicated full-time financial accountant must be assigned to the Project.
- (ii) A management information system has to be established during the implementation stage of the MFF to monitor the project progress, including the financial progress, and project impacts, including benefits.
- (iii) A Statement of Audit Needs shall be provided to BWDB and communicated to FAPAD to ensure that ADBs audit requirements are met, including the timely submission of audited project financial statements and the submission of BWDBs own audited financial statements within one month of their approval by the governing body

B. Disbursement Procedures

23. The Loan proceeds including ADB administered co-financier funds will be disbursed in accordance with ADB's *Loan Disbursement Handbook*,⁶ and detailed arrangements agreed upon between the Government and ADB.

24. Pursuant to ADB's *Safeguard Policy Statement* (SPS),⁷ ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS.

⁶ Available at: <u>http://www.adb.org/documents/loan-disbursement-handbook</u>

⁷ Available at: <u>http://www.adb.org/Documents/Policies/Safeguards/Safeguard-Policy-Statement-June2009.pdf</u>
25. **Types of Disbursement Arrangements.** There are four major types of disbursement:

- (i) Direct payment procedure where ADB, at the borrower's request, pays a designated beneficiary directly (Chapter 7 of the *Loan Disbursement Handbook*);
- (ii) Commitment procedure where ADB, at the borrower's request, provides an irrevocable undertaking to reimburse a commercial bank for payments made or to be made to a supplier against a letter of credit financed from the loan account (Chapter 8 of the Loan Disbursement Handbook);
- (iii) Reimbursement procedure (with or without full supporting documents) where ADB pays from the loan account to the borrower's account for eligible expenditures which have been incurred and paid for by the project out of its budget allocation or its own resources (Chapter 9 of the *Loan Disbursement Handbook*); and
- (iv) Imprest fund procedure where ADB makes an advance disbursement from the loan account for deposit to an imprest account to be used exclusively for ADB's share of eligible expenditures (Chapter 10 of the *Loan Disbursement Handbook*).

26. The government will make funds available to BWDB and the Department of Disaster Management (DDM) through budgetary allocation.

27. **Use of the imprest fund procedure.** Separate imprest accounts for each loan under the Facility should be established and maintained by funding source. Separate imprest accounts for BWDB should be established for the ADB loan proceeds and for the Netherlands grant.

- (i) ADB Loan Imprest Account. BWDB will establish and manage an imprest account in a US dollar at the Bangladesh Bank or any other commercial bank nominated by the Bangladesh Bank or Ministry of Finance and acceptable to ADB. The maximum ceiling of the imprest account will not at any time exceed 10% of the respective loan amount.
- (ii) Netherlands Grant Imprest Account. The Government of Netherlands will deposit funds to ADB for administration as jointly cofinanced fund. BWDB will establish and manage a separate imprest account in US dollar at the Bangladesh Bank or any other commercial bank nominated by the Bangladesh Bank or Ministry of Finance and acceptable to ADB. The maximum ceiling of the imprest account will not at any time exceed 10% of the grant amount.

28. BWDB and DDM may establish sub-account(s) for each loan under the Facility in separate bank account(s) in local currency for the exclusive use of the project.

29. The request for advance to the imprest account should be accompanied by an Estimate of Expenditure Sheet⁸ based on BWDB's and DDM's projections of ADB's share of eligible project expenditures for the forthcoming six (6) months of project implementation (such projections should exclude those cost category(ies), components, or expenditures subject to the conditions for withdrawal which have not been met), and submission of evidence satisfactory to ADB that the imprest account has been duly opened.

⁸ Available in Appendix 10B of the *Loan Disbursement Handbook*.

30. Before the submission of the first withdrawal application, BWDB should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person.

31. For all withdrawals of loan and grant proceeds, ADB must receive a withdrawal application in the prescribed format. The *Loan Disbursement Handbook* contains withdrawal application forms that can be used for the project. Each withdrawal application is to be signed by representatives duly designated and/or authorized to withdraw from the loan account.

32. For every liquidation and replenishment request of the imprest account, BWDB will furnish to ADB (a) the corresponding bank statement where the imprest account is maintained, (b) the imprest account reconciliation statement and estimation of imprest account turnover ratio⁹ (Appendix 10C of the *Loan Disbursement Handbook).* The withdrawal application for liquidation and replenishment must be prepared in the currency of the imprest account.

33. The BWDB should ensure that every liquidation and replenishment of each sub-account is supported by (i) the statement of bank account (bank statement) prepared by the bank where the sub-account is maintained, and (ii) a sub-account reconciliation statement (Appendix 10D of the *Loan Disbursement Handbook*) reconciling the above-mentioned bank statement against the sub-account's records. Supporting documents should be retained by BWDB, as appropriate, and be made available to ADB upon request.

34. Withdrawal application forms and other loan financial information can also be downloaded from ADB's Loan Financial Information System (LFIS) at <u>http://lfis.adb.org</u>. BWDB can request access to the LFIS from this site or by sending an e-mail to Ifis@adb.org.

35. To facilitate reimbursement and liquidation of small contracts from the imprest account, ADB's statement of expenditure (SOE) procedure will be used for transactions not exceeding \$100,000 equivalent per individual payment. SOE records should be maintained and made readily available for review by ADB's disbursement and review mission or upon ADB's request for submission of supporting documents on a sampling basis, and for independent audit.¹⁰

36. For efficiency, the minimum value per withdrawal application is US\$100,000, unless otherwise approved by ADB. Individual payments below this amount should generally be paid from the imprest/sub-account, or by BWDB/DDM and subsequently claimed to ADB through reimbursement. ADB reserves the right not to accept withdrawal applications below the minimum amount. Withdrawal applications and supporting documents will demonstrate, among other things that the goods, and/or services were produced in or from ADB members, and are eligible for ADB financing.

37. The following control mechanism will be applied for payment of resettlement costs: (i) a bank account of RAC (Regional Accounting Centre) of BWDB will receive advances from the sub-account (i.e., Project Account) for the ADB loan; (ii) RAC will use the cheque payment from

⁹ The target turnover ratio of the imprest account is 2.0 per annum (calculated as cumulative amount of liquidation divided by average of imprest advance amount). See Appendix 10C of the *Loan Disbursement Handbook* for sample calculations. If the turnover ratio of the imprest account is lower than the target, ADB may reduce the level of advance to the imprest account by adjusting the amount of replenishment or by requesting a refund to ADB, as appropriate.

¹⁰ Checklist for SOE procedures and formats are available in Appendix 9A and 9B of the Loan Disbursement Handbook.

the RAC's bank account for the resettlement compensation costs to resettlers; (iii) Cheques will be signed by RAC, and will be distributed by RAC with the support of SMOs and the resettlement plan implementation NGOs; (iv) RAC will make payments based on supporting documents to evidence genuine payees, such as photographs of resettlers and with exchange of receipt with a finger print of a resettler which will be retained by RAC; (v) RAC's bank account will be replenished from PMO's Sub-Account for the ADB loan; and (vi) The SOE, for liquidation and replenishment of advances from ADB loan, will be prepared by RAC with support of SMOs and NGOs, and submitted to PMO of BWDB for attaching to withdrawal applications.

38. **Institutional Responsibility.** BWDB will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

39. All disbursements under government financing will be carried out in accordance with regulations of Government of Bangladesh relevant to co-financing of the projects financed by the Multilateral Financing Organizations. BWDB shall open and maintain the separate account for government's counterpart funds.

C. Accounting and Auditing Arrangement

40. BWDB will cause the project financial statements to be audited in accordance with International Standards on Auditing by an auditor acceptable to ADB. The audited financial statements will be submitted in the English language to ADB within 6 months of the end of the fiscal year by the executing agency. The annual audit report for the project financial statements will include an audit management letter and audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; (ii) whether loan proceeds were used only for the purposes of the project or not; (iii) the level of compliance for each financial covenant contained in the legal agreements for the project; (iv) use of the imprest fund procedure; and (v) the use of the statement of expenditure procedure certifying to the eligibility of those expenditures claimed under SOE procedures, and proper use of the SOE and imprest procedures in accordance with ADB's Loan Disbursement Handbook and the project documents.

41. BWDB will also cause the entity-level financial statements to be audited in accordance with International Standards on Auditing and with the Government's audit regulations, by an independent auditor acceptable to ADB. The audited entity-level financial statements, together with the auditors' report and management letter, will be submitted in the English language to ADB within one month after their approval by the competent authority.

42. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011). After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The entity level financial statements and the management letter will not be disclosed.

43. The Government and BWDB have been made aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited project financial statements. ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the

auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

44. A formal request for the project to be included in the FAPAD audit schedule should be sent through the DEA to CAG office. This request is best sent when the loan and project agreements are signed, and the request should include a copy of the loan and project agreements, and any other relevant documents. OAG would then advise the appropriate field office to include the project in its audit schedule

45. In addition, to ensure that audited financial statements are submitted on a timely basis, BWDB through PMO should submit its project financial statements for audit to OAG within 3 months from the close of the financial year. PMO shall be responsible for the Project financial statements. By 15 October of each year, OAG should receive the unaudited financial statements. It will then take 3 months to complete the audit, and issue an opinion no later than 6 months from the end of the financial year. A statement of audit needs is provided in Appendix 6.

VI. PROCUREMENT AND CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

46. All advance contracting and retroactive financing will be undertaken in conformity with ADB's *Procurement Guidelines* (ADB's *Procurement Guidelines*)¹¹ and ADB's *Guidelines on the Use of Consultants*.¹² The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, BWDB, and DDM have been advised that approval of advance contracting and retroactive financing does not commit ADB to finance the project under the investment program.

47. Under each tranche, ADB may, subject to its policies and procedures, allow upon request (a) advance contracting and (b) retroactive financing of eligible expenditures for up to 20% of the proposed individual loan, incurred prior to loan effectiveness but not earlier than 12 months before the date of signing of the related legal agreement. Eligible items of the advance contracting and retroactive financing are recruitment of consultants and NGOs, and procurement of goods and civil works.

48. The following tables summarize target timeframe of advanced procurement/recruitment actions.

Consultant Recruitment: Institutional Strengthening and Project Management (QCBS)					
	(ADB to select, BWDB to negotiate)				
No	Activity	Days		Action By	Status
1	Prepare Request for Expression of Interest		27-May-14	ADB/BWDB	
2	Advertise in CMS-CSRN and newspapers	14	10-Jun-14	ADB/BWDB	
3	EOI submission	30	10-Jul-14	External	
4	Shortlisting/draft request for proposal (RFP)	10	20-Jul-14	ADB	
5	No objection from EA	7	27-Jul-14	BWDB	
6	Issue RFP	11	07-Aug-14	ADB	
7	Proposal submission	45	21-Sep-14	Shortlisted fire	ms
8	Evaluation of technical proposals (TPs)	15	06-Oct-14	ADB	
9	Approval of report on evaluation of TPs	2	08-Oct-14	ADB	
10	Public opening of financial proposals (FPs)	5	13-Oct-14	ADB	
11	Evaluation of FPs/ranking	10	23-Oct-14	ADB	
12	Approval of FP evaluation and overall ranking	2	25-Oct-14	ADB	
13	Invite 1st ranked firm for contract negotiations	3	28-Oct-14	BWDB	
14	Contract negotiations	7	04-Nov-14	BWDB	
15	Submission of draft negotiated contract to ADB	5	09-Nov-14	BWDB	
16	ADB's review/approval	6	15-Nov-14	ADB	
17	Contract signing and issuance of notice to proceed	15	30-Nov-14	BWDB	

Consultant Recruitment: Institutional Strengthening and Project Management (OCRS)	

¹¹ Available at: <u>http://www.adb.org/Documents/Guidelines/Procurement/Guidelines-Procurement.pdf</u>

¹² Available at: http://www.adb.org/Documents/Guidelines/Consulting/Guidelines-Consultants.pdf

Co	nsultant Recruitment: NGOs for resettlement implementation (CO				
No.	Activity	Days	Timeframe	Action By	Status
1	Prepare Request for Expression of Interest		06-Jan-14	BWDB	
2	Advertise in CMS-CSRN and newspapers	4	15-Jun-14	BWDB/ADB	
3	EOI submission	30	15-Jul-14	External	
4	EA ranking of EOIs/shortlisting/prep of CSC minutes (Submission 1)	15	30-Jul-14	BWDB	
5	EA submitting Submission 1 to ADB	1	31-Jul-14	BWDB	
6	ADB review and signing of Submission 1	11	11-Aug-14	ADB	
7	ADB sending approval of Submission 1	1	12-Aug-14	ADB	
8	EA issuing RFP to 1st ranked firm	7	19-Aug-14	BWDB	
9	Proposal submission	21	09-Sep-14	1st ranked E0	DI
10	EA evaluation of technical & financial proposals (Submission 2-3)	15	24-Sep-14	BWDB	
11	EA submitting Submission 2-3 to ADB	1	25-Sep-14	BWDB	
12	ADB review and signing of Submission 2-3	10	05-Oct-14	ADB	
13	ADB sending approval of Submission 2-3	1	06-Oct-14	ADB	
14	Inviting 1st ranked firm for contract negotiations	7	13-Oct-14	BWDB	
15	Contract negotiations	10	23-Oct-14	BWDB	
16	EA submitting draft negotiated contract to ADB (Submission 4)	1	24-Oct-14	BWDB	
17	ADB's review and signing of Submission 4	5	29-Oct-14	ADB	
18	ADB sending approval of Submission 4	1	30-Oct-14	ADB	
19	EA signing of contract and sending copy to ADB	14	13-Nov-14	BWDB	

Pro	Procurement of materials (geo-bags) (2 packages, both ICB) (single-stage: one envelope)						
No.	Activity	Days	Timeframe	Action By	Status		
	Finalize bidding documents		18-Apr-14	BWDB			
	ADB review/approval (first draft bid docs for goods)	31	19-May-14	ADB			
	Revise bidding docs/advertise in ADB website and newspapers	27	15-Jun-14	BWDB/ADB			
	Prepare/submit bids/public opening	42	27-Jul-14	External/BWI	DB		
	Evaluation/recommendations	30	26-Aug-14	BWDB			
	ADB review/approval	14	09-Sep-14	ADB			
	Contract signing	30	09-Oct-14	BWDB/Suppl	ier		

Pro	Procurement of civil works (riverbank protection) (4 packages, ICB) (single-stage: two envelope)					
No	. Activity	Days	Timeframe	Action By	Status	
	Finalize bidding documents		04-May-14	BWDB	being finalized	
	ADB review/approval (first draft bid docs for works)	15	19-May-14	ADB		
	Revise bidding docs/advertise in ADB website and newspapers	27	15-Jun-14	BWDB/ADB		
	Prepare/submit bids/public opening	42	27-Jul-14	External/BWI	ЭB	
	Evaluation/recommendations for technical evaluation	20	16-Aug-14	BWDB		
	ADB review/approval	14	30-Aug-14	ADB		
	Public opening of financial envelopes	10	09-Sep-14	BWDB		
	Evaluation/recommendation for contract award	20	29-Sep-14	BWDB		
	ADB review/approval	14	13-Oct-14	ADB		
	Contract signing	30	12-Nov-14	BWDB/Contr	actor	

Procurement of civil works (embankment) (4 packages, ICB) (single-stage: two envelope)						
No.	Activity	Days	Timeframe	Action By	Status	
	Finalize bidding documents		19-Jun-14	BWDB		
	ADB review/approval	15	04-Jul-14	ADB		
	Revise bidding docs/advertise in ADB website and newspapers	27	31-Jul-14	BWDB/ADB		
	Prepare/submit bids/public opening	42	11-Sep-14	External/BWI	DB	
	Evaluation/recommendations for technical evaluation	20	01-Oct-14	BWDB		
	ADB review/approval	14	15-Oct-14	ADB		
	Public opening of financial envelopes	10	25-Oct-14	BWDB		
	Evaluation/recommendation for contract award	20	14-Nov-14	BWDB		
	ADB review/approval	14	28-Nov-14	ADB		
	Contract signing 30 28-Dec-14 BWDB/Contra				actor	

Procurement of civil works (embankment) (4 packages, ICB) (single-stage: two envelope)

B. Procurement of Goods, Works and Consulting Services

49. All procurement of goods and works will be undertaken in accordance with ADB's *Procurement Guidelines.* An 18-month procurement plan indicating threshold and review procedures, goods, works, and consulting service contract packages and national competitive bidding guidelines is in Section C.

50. **Procurement of goods and works.** International competitive bidding (ICB) will be followed for civil work contracts costing \$2 million or more, to ensure competition. National competitive bidding (NCB) will be applied for civil works contracts costing less than \$2 million. For procurement of goods and related services, ICB procedures will be used if the estimated cost is \$1 million or more, and NCB if the estimated cost is less than \$1 million. Shopping could be used for goods and works, if the estimated cost is less than \$0.1 million.¹³

51. For ICB contracts, BWDB will prepare draft bidding documents for each contract package and submit to ADB for its approval. The final copy of the bidding document incorporating the comments of ADB will be forwarded to ADB, within one week from the date of issue of invitation of bid for its records. BWDB will seek ADB's concurrence for all bid evaluation reports at every stage for each contract package.

52. For NCB contracts, BWDB will submit draft bidding documents for the first package of similar works or procurement for ADB's approval. The subsequent packages of the similar works/goods will use the corresponding approved bid documents as model bidding documents. ADB's prior approval will be exempted for the second and subsequent packages of the similar works/goods. At the time of release of invitation of bid, a copy of the bidding documents should be forwarded to ADB for post-facto approval. BWDB will also issue amendments based on comments (if any) made by ADB, during the bidding period. For NCB, before the start of any procurement ADB and the government will review the public procurement laws of the central and state governments to ensure consistency with ADB's *Procurement Guidelines.*

53. When the shopping procurement procedure is applied, BWDB may approve and award contracts in each case without seeking ADB's prior approval, but will be subject to post-facto review and approval of ADB. If, through its post review, the ADB determines that an action by a borrower amounted to misprocurement, it will declare misprocurement.

¹³ The amounts of ceilings of each procurement modality will be reviewed and may be revised when ADB's guidelines are revised.

54. **Modifications in goods/works contracts**. In the case of any variation, which would in aggregate increase the original amount of any contract by more than 15 percent of its original price, BWDB shall seek ADB's no objection to the proposed extension, modification, or change order providing detailed justification validated by the Engineer. If ADB determines that the proposal would be inconsistent with the provisions of the financing agreement and/or procurement plan, it shall promptly inform BWDB and state the reasons for its determination. A copy of all amendments to the contract shall be furnished to ADB for its record.

55. **Consulting services.** All consultants, NGOs, and other institutions will be recruited according to ADB's *Guidelines on the Use of Consultants*.¹⁴ The terms of reference for all consulting services are detailed in Section D.

56. The investment program provides a consultancy package for (i) institutional strengthening and project management consultants (ISPMC). National NGOs will be engaged for (ii) community-based flood risk management (CBFRM), (iii) implementation of land acquisition and resettlement plans, (iv) participatory operation and maintenance support, (v) livelihood supports, and (v) other survey, supporting study, and field activity packages.

57. The government and ADB agreed, as requested by BWDB, that ADB will advertise and select the ISPMC on behalf of BWDB, and BWDB will negotiate and engage the ISPMC. An ISPMC team for Tranche-1 may be engaged for subsequent tranches through the single source selection (SSS) modality, at the request of the executing agency/government and subject to its performance during Tranche-1. This is to ensure continuity of the services throughout the MFF period and for smooth implementation of the subsequent tranches.¹⁵

58. PMU of DDM will select and engage national NGOs for CBFRM. PMO of BWDB will select and engage other packages. ISMPC will be selected using ADB's quality- and cost-based selection (QCBS) modality with a quality to cost ratio of 90:10 as the package requires high technical knowledge and experiences working for dynamic large rivers. An NGO, NGOs, a consulting firm, or consulting firms for the CBFRM services will be engaged through QCBS, if no NGO is included in a shortlist, or QCS, if one or more NGOs are included in a shortlist, as per ADB's guidelines. Other rather small-size consulting/NGO services will be engaged through consultant qualification selection (CQS) modality or may be through QBS modality, as indicated in the procurement plan. These packages are either for stakeholder consultation and mobilization activities, and/or for professional surveys or technical studies. The quality of consultants/NGOs will be the key for the selection. Besides, there is a provision for the panel of experts for engaging an internationally or nationally competent experts for advisory support for highly complex technical aspects.

59. The Center for Environmental and Geographic Information System (CEGIS) will be engaged for the riverbank erosion prediction study will be engaged through SSS modality. The project needs this package for the continuation and improvement of existing short-term riverbank erosion prediction modelling that will contribute to effective planning of riverbank erosion protection works. This package also requires highly professional knowledge and experience of river morphology, and satellite image analysis. CEGIS has been publishing annual riverbank erosion projection for the last several years, and is the sole appropriate agency for this service.

¹⁴ Checklists for actions required to contract consultants by method available in e-Handbook on Project Implementation at: <u>http://www.adb.org/documents/handbooks/project-implementation/</u>

¹⁵ Consultant recruitment modalities for the subsequent tranches are subject to approval of ADB's higher authority.

C. Procurement Plan

60. The procurement plan for the first 18 months under the first tranche is summarized below. Since the first tranche under the investment program is financed with ADB-administered cofinancing resources as well as ADF resources, universal procurement will apply to all contract packages financed under the first tranche.¹⁶

Procurement of Goods and Works					
Method	Threshold				
International Competitive Bidding (ICB) for Works ¹ International Competitive Bidding for Goods ¹ National Competitive Bidding (NCB) for Works ¹ National Competitive Bidding for Goods ¹ Shopping for Works Shopping for Goods	\$2,000,000 or more \$1,000,000 or more Beneath that stated for ICB, Works Beneath that stated for ICB, Goods \$100,000 or less \$100,000 or less				

¹Refer to Para. 3 of PAI 3.04 National Competitive Bidding

Procurement Method	Prior or Post	Comments
Procurement of Goods and Works		
ICB Works	Prior	
ICB Goods	Prior	
NCB Works	Prior then post ^a	
NCB Goods	Prior then post ^a	
Shopping for Works	Post	
Shopping for Goods	Post	
Recruitment of Consulting Firms	Drier	
Quality- and Cost-Based Selection (QCBS)	Prior	
Quality-Based Selection (QBS)	Prior	
Other selection methods: Consultants Qualifications (CQS), Least-Cost Selection (LCS), Fixed Budget (FBS), and Single Source (SSS)	Prior	
Recruitment of Individual Consultants		
Individual Consultants	Prior	

^a Prior review for the first packages of similar works/goods, then post review for subsequent packages of similar works/goods.

Procurement Packages under Tranche-1

1. Goods and Works Contracts Estimated to Cost \$1 Million or More

Package Number	General Description	Contract Value (\$ million)	Procurement Method	Prequalification of Bidders (y/n)	Advertisement Date (quarter/year)	Comments
	Riverbank	2.26 –	ICB, 6	N	Q3 2014 (4	
	protections	5.24	packages		packages), Q1	
					2015 (2 packages)	

¹⁶ ADB. 2013. Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources. Manila

Embankment construction/ rehabilitation	1.32 – 5.85	ICB, 1 package; NCB, 4 packages	Ν	Q4 2014 (5 packages)	
Geotextile bag supply	3.71 – 5.96	ICB, 4 packages	N	Q3 2014 (2 packages), Q1 2015 (2 packages)	

2. Goods and Works Contracts Estimated to Cost Less than \$1 Million and Consulting Services Contracts Less than \$100,000 (Smaller Value Contracts)

Package Number	General Description	Value of Contracts (cumulative) (\$ million)	Number of Contracts	Procurement / Recruitment Method	Comments
	Emergency riverbank protection	Less than \$1 million - \$2 million per package		NCB/Shopping, multiple packages	
	Geotextile bag supply for emergency works	Various		NCB/ Shopping	
	Vehicles	0.75	multiple	NCB/ shopping	
	Survey equipment	0.38	multiple	NCB/ shopping	

3. Consulting Services Contracts Estimated to Cost \$100,000 or More

		Contract		Advertisement	International	
Package	General	Value	Recruitment	Date	or National	
Number	Description	(\$ million)	Method ¹	(quarter/year)	Assignment	Comments
	Institutional strengthening and Project Management	14.4	QCBS (90:10)	Q2 2014	International and national	
	Resettlement plan implementation	1.0	CQS/QBS, multiple packages	Q2 2014	National	
	Community- based flood risk management support	0.9	QCBS (90:10)	Q3 2014	National	
	Community capacity development support for participatory O&M	0.4	CQS/QBS, multiple packages	Q3 2014	National	
	Livelihood development support	0.4	CQS/QBS, multiple packages	Q3 2014	National	
	Underwater river survey	0.9	CQS, multiple packages	Q4 2014	National	
	Riverbank erosion prediction	0.38	SSS	Q3 2014	National	CEGIS, continuation and improvement of existing annual prediction
	Management information system development	0.46	CQS, multiple packages	Q1 2015		

Environment management and risk mitigation	0.75	CQS/QBS, multiple packages	Q2 2015
programs			

CEGIS = Center for Environmental and Geographic Information System

Note: The packaging may be reviewed and revised when guidelines and regulations of the government and ADB are changed.

D. National Competitive Bidding

61. **General.** The procedures to be followed for national competitive bidding shall be those set forth for the National Open Tendering Method in the Government's *Public Procurement Rules, 2008* (as updated and issued pursuant to the Bangladesh *Public Procurement Act, 2006*) with the clarifications and modifications described in the following paragraphs required for compliance with the provisions of the Procurement Guidelines.

62. **Advertising.** Bidding of NCB contracts estimated at \$500,000 or more for goods and related services or \$1,000,000 or more for civil works shall be advertised on ADB's website via the posting of the Procurement Plan.

63. **Anti-corruption.** Definitions of corrupt, fraudulent, collusive and coercive practices shall reflect the latest ADB Board-approved Anti-Corruption Policy definitions of these terms and related additional provisions (such as conflict of interest, etc.).

64. **Location of bidsubmission.** Submission of bids to 'primary' and 'secondary' locations, or 'multiple droppings' of bids, shall not be required or allowed. Advertisements and bidding documents shall specify only one location for delivery of bids.

65. **Rejection of all bids and rebidding** Bids shall not be rejected and new bids solicited without ADB's prior concurrence.

66. **Member Country Restrictions.** The ADB's member country restriction will be waived for the first tranche, if it is co-financed by the Netherlands Government. For tranches without co-financed, bidders must be nationals of member countries of ADB, and offered goods must be produced in member countries of ADB.

67. **Lottery.** A lottery system shall not be used to determine a successful bidder, including for the purpose of resolving deadlocks.

68. **Qualification Requirements.** A successful bidder must be determined by an assessment process that shall include the application of qualification requirements to all bids.

69. **Rejection of Bids.** A bid shall not be rejected on the grounds that its bid price is not within a percentage range above or below the contract estimate.

E. Consultant's Outline Terms of Reference

70. The first tranche of the proposed investment program may be supported by the following consulting/NGO services packages (tentative. Arrangement being finalized):

- (i) institutional strengthening and project management consultant (ISPMC),
- (ii) small packages for supporting studies/analyses by national consultant or resource institutions and other support for field activities by NGOs:
 - support for community-based flood disaster management activities (to be implemented under DDM),
 - support for implementation of land acquisition and resettlement plan,
 - participatory O&M of flood and riverbank protection structures,
 - livelihood development support, mainly for community affected people,
 - Post-construction high-resolution bathymetry surveys and river surveys,
 - erosion prediction, including improvement of erosion prediction model,
 - MIS development (project management module) including training and initial operation support
 - MIS development (asset management module) including training and initial operation support
 - Environment management including mitigation measures

71. The ISPMC team will oversee and supervise the small packages in (ii) above, which will be conducted by separate entities.

1. **ISPMC** Package

72. A consulting team led by an international firm and comprising international and national experts will be engaged in accordance with ADB's *guideline on the Use of the Consultants*. An ISPMC team for Tranche-1 may be engaged for subsequent tranches through the single source selection modality, subject to its performance during Tranche-1, to ensure continuity of the services throughout the MFF period and for smooth implementation of the subsequent tranches.¹⁷

73. The major tasks of the consulting services of ISPMC will include the following. Details are described in **Section c**. The ISPMC will be led by an International Team Leader who will supervise the entire activities of the ISPMC, and will be in charge of the progress and the quality assurance of the entire ISPMC activities. The ISPMC team will include a river study task team, which will be in charge of the tasks number (iv) to (vii) below. The river study task team will be led by an international task leader, and the task team shall work under the overall supervision of International Team Leader of the ISPMC, so that the outputs of the tasks (iv) to (vii) could be efficiently incorporated into the institutional strengthening program and the Tranche-2 preparation.

- Task 1: Supporting BWDB for institutional capacity strengthening of the holistic and strategic management of the main rivers river management of the main rivers,
- Task 2: Supporting BWDB and DDM for project implementation management of Tranche-1,
- Task 3: Supporting BWBD for preparation of Tranche-2, including verification of site selections, feasibility studies, preparation of loan approval documents meeting requirements for the government and ADB,

¹⁷ Consultant recruitment modalities for the proposed investment are subject to approval of ADB's higher authority.

- 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 river study task team)
- Task 5: A preliminary master plan study for river management of the Jamuna-Padma-Lower Meghna-Upper Meghna river system (network), (by river study task team)
- Task 6: Development and monitoring of land recovery/river training piloting schemes, including piloting using building with nature concept, (by river study task team)
- Task 7: Hydraulic and morphological analyses for the Jamuna-Meghna and Jamuna-Padma-Ganges confluences, (by river study task team)

a. Overall Resource Requirements

74. The indicative design of the overall composition of the consultant team is shown in the following table.

Main Team	Key positions*	person- month
International	•	
Team Leader/ River Management Specialist	x	40.0
Institutional Development/ Financial Specialist	x	7.0
Morphologist	x	5.0
River Engineer	x	10.0
Construction/ Quality Control Engineer	x	28.0
Hydrologist		3.0
Flood Disaster Risk Management Specialist	x	12.0
Social Development / Resettlement Specialist	x	8.0
Economist	x	3.0
Environment Specialist		8.0
Information and Data Management Specialist		4.0
International subtotal		128.0
National		120.0
Deputy Team Leader/ Flood and Frosion Risk Mot Specialist	x	44 0
Institutional/ Capacity Development Specialist	x	20.0
Financial Management Specialist		12.0
River Engineer (Morphologist)	x	8.0
River Engineer (Flood Management Infrastructure) (2 positions)		25.0
Community-based Flood Risk Management Specialist	x	33.0
Social Development and Gender Specialist		12.0
Resettlement Specialist	x	15.0
Environment Specialist		16.0
Project Economist	x	7.0
Training Coordinator		14.0
Procurement Specialist	x	10.0
Information and Data Management Specialist		15.0
Construction Engineer	x	32.0
Hydraulic Structural Engineer		10.0
Road Engineer		6.0
Geotechnical Engineer		7.0
Site Engineers (4 positions)		144.0

Table 6.1: Summary of ISPMC Requirement (indicative)

National subtotal		430.0
Subtotal for ISPMC Main Team		558.0
River Study Task Team		
International		
Task Leader/ Flood and River Management Specialist	x	10.0
Institutional Development Specialist	x	3.0
Morphologist	x	8.0
River Engineer (River training)	x	6.0
Water Resources Management Specialist	x	4.0
Hydrologist		3.0
Economist	x	4.0
Social/ Regional Development Specialist	x	5.0
Environment Specialist		4.0
River Study Task Team, International subtotal		47.0
National		
Water Resources Management Specialist	x	10.0
Flood management specialist	x	6.0
River Engineer (Morphologist)	x	9.0
River Engineer		6.0
Hydrologist		6.0
Economist	x	4.0
Social Development and Gender Specialist	x	5.0
Regional Planner		4.0
Environment/ Climate Change Specialist		5.0
Water Supply and Water Quality Specialist		5.0
Agriculture Specialist		3.0
Fishery Specialist		2.0
River Study Task Team, National subtotal		65.0
Subtotal for River Study task Team		112.0
Grand Total		670

Note: *: Biodata of only key positions will be evaluated as part of technical proposal.

75. Subcontracting surveys and supporting studies, such as topographic surveys, data collection, flood inundation analyses and morphology studies, will be included in the ISPMC contract for surveys and supporting study activities, which will be guided and supervised by the ISPMC team. Their outputs will be used for analyses, planning, design and other ISPMC's activities, and will be incorporated in ISPMC's outputs:

b. Reports and Major Deliverables

76. The consultants will furnish the following reports and deliverables. Other deliverables to present their findings or analyses results will also be produced as necessary.

- (i) Regular reports
 - Inception Report
 - Quarterly Progress Report
 - o Mid-term Report

- Tranch-1 Completion Report
- (ii) Technical reports and other deliverables

By the Main Team

- o Reports and documents for formulating Tranche-2
 - Validation of selection of priority protection river reaches and strucctural design for Tranche-2, including morphological and flood inundation analyses,
 - Feasibility studies for Tranche-2 works
 - Draft ADB's approval documents, such as a Periodic Financing Request, its attachments, associated due diligence and safeguard documents, and other necessary documents
 - Updated EIA reports (or IEE reports, depending on the safeguard categorization of Tranche-2) and resettlement plans
 - Necessary data and information for preparing a development project proposal/proforma (DPP)
- o Updated guidelines for riverbank protection works;
- Proposal of capacity enhancement program for new Chief Engineer (River Management) office, if necessary
- o MIS and action plan for institutionalizing sustainable MIS operation
- Guidelines for participatory regular O&M of the flood and erosion risk protection infrastructure
- Institutional capacity strengthening training programs and their implementation plan for BWDB
- Contribution to dissemination of project achievements at international conferences

By River study task team

- Long-term river channel stabilization plan for the Jamuna, Padma and Lower Meghna rivers, including technical note on morphological trend
- Framework for preparing long-term sector road map for the management of the main rivers,
- Preliminary river management master plan for the Jamuna-Padma-Meghna river system
- o Contribution to dissemination of study findings at international conferences
- Technical notes on morphological and hydraulic behavior at the Jamuna-Ganges and Padma-Maghna confluences, and long-term plan of riverbank protection measures at the confluence areas,
- Technical notes on piloting site selection and recommendations for effective measures to accelerate natural land recovery along the main rivers towards the future river stabilization, and a monitoring report on the land recovery piloting scheme, one note for the main river and the other note for other rivers.
- (iii) Preparation and supervision for small packages of relevant consulting/NGO services and for subcontracting supporting studies/analyses by consultants, research institutions and NGOs. ISMPC will ensure the quality of deliverables and services by subcontractors.

c. Details of Tasks of ISPMC

77. The ISPMC's service will consist of the following specific major tasks (refer to paragraph 60). The river study task team under the ISPMC team will be in charge of the tasks number 2. to 5. Besides, the ISPMC's services will cover overall support for the project management, which will include (i) providing data and information to the Project management Offices (PMO) and Subproject Management Offices (SMO) for sound reporting and auditing, (ii) liaising coordination among BWDB, DDM and other relevant agencies, (iii) assisting procurement of civil works, construction materials and equipment, and recruitment of other packages of consulting/NGO services, and (iv) other assistances and advice to the project organizations for the smooth and timely implementation with quality assurance of all components of Tranche-1. The ISPMC will also monitor the progress of the sector policy and institutional agenda.

Task 1: Supporting BWDB for institutional capacity strengthening of the holistic and strategic management of the main rivers river management of the main rivers

78. This is an overarching task for the entire services.

Task 2: Supporting for project implementation management for Tranche-1 and for institutional capacity strengthening

79. The ISPMC team will support BWDB and DDM for implementing all components of Tranche-1 of the proposed investment program to achieve the MFF objectives and to timely and smooth implementation of Tranche-1. The tasks will include:

80. **Institutional capacity strengthening of BWDB for flood and river management.** The ISPMC will support BWDB's institutional capacity strengthening particularly for flood and river management of the main rivers, especially for strategic river management and sustainable asset management. ISPMC's major activities and assistance will include:

- thorough needs assessment of capacity enhancement for flood and river management of the main rivers, particularly for strategic river management and sustainable infrastructure asset management,
- planning, designing, and organizing training, workshops and capacity strengthening programs, which will cover various topics of flood and river management of the main rivers, such as flood and erosion management planning, structural design of innovative riverbank protection technologies, community involvement, construction supervision with quality assurance, sustainable asset management, background scientific and engineering knowledge like morphology and hydrology, digital data management using GIS, and other relevant topics. The services will include designing and planning study tours.
- supporting BWDB for developing a reliable inventory system for flood and riverbank protection infrastructure, and for developing flood and riverbank erosion management information system (MIS). The project management module of MIS will be developed during Tranche-1, in consideration of expansion of the MIS system to the O&M module during Tranche-2.
- supporting BWDB for developing and institutionalizing systems for monitoring and evaluating river and riverbank protection infrastructure, and for strategically planning adaptation/ maintenance works.

 supporting BWDB for developing multi-annual (for 5 years) budgetary and construction material stocking plans for quick response to required O&M and emergency works of riverbank protection works, based on morphology study results.

81. The institutional capacity strengthening component of the MFF will support the initial setup of the newly established Office of Chief Engineer (River Management), if its establishment is approved. The MFF will also support various relevant circles and sections of BWDB.

82. Data and knowledge base development for flood and river management. The ISPMC's activities will include:

- studies for long-term river stabilization of the main rivers, preliminary river network of the Jamuna, Padma, Meghna river system, including hydraulic analyses at confluences,
- supporting establishment of flood and river survey result database, which will include flood discharge, flow velocity and river bathymetry, and developing institutional capacity enhancement of analyses of these survey data. The ISPMC will review the existing database, which was developed during JMREMP, and will develop new database. The database will be initiated using existing survey results acquired since during JMREMP. The ISPMC will also assist BWDB's survey activities during Tranche-1. The ISPMC will also develop training programs for BWDB officials to enhance their understandings of interpretation of the survey data.
- supervising and providing advisory support for the improvement of the short-term erosion prediction model, which will be conducted by a separate institute. The service will include supporting PMO for preparing TOR, and evaluation of proposals for engagement of the institute.
- accumulating data and information on the performance of riverbank erosion protection structures, to be ready for updating the existing Guidelines for River Protections, which will be conducted during Tranche-2.

Support BWDB for supervising physical works of structural measures and 83. relevant activities. The ISPMC's activities will include supporting BWDB for implementing structural measures for three subprojects ensuring timely completion with quality. The structural measures will include construction of riverbank erosion protection structures using cost effective innovative technology which were developed under JMREMP, rehabilitation/construction of flood embankments, construction of associated structures, and land recovery measures for stimulating natural sediment depositing along the main river. The ISPMC's service will cover support for overall project implementation activities, such as construction supervision, procurement/ recruitment, the implementation of land acquisition and resettlement, monitoring the environment management plan implementation, the implementation of the gender action plan, and other activities to meet requirements of ADB and the government. The service will also cover supervision the implementation of livelihood supports for the project affected people and of environment impact mitigation measures, which will be conducted under separate small consulting/NGO service packages. The ISPMC will also support the preparation of resettlement plans for riverbank erosion protection works, adapting to the latest alignment of riverbanks.

84. **Supporting BWDB for implementing participatory regular O&M.** The ISPMC will support BWDB for developing community involvement and community capacity strengthening programs, for engaging NGOs and for supervising NGO's activities, which may include awareness campaign for importance and functions of structures, and practical training of regular

O&M of flood and erosion management infrastructure. An O&M committee under a community disaster management unit may be targeted group.

85. Supporting DDM for implementing community-based flood risk management subcomponent. The ISPMC will support implementation of the community-based flood management sub-component. The **subcomponent** will consist of mobilization of community for formation of community-level disaster management units and for capacity enhancement of the community units to be implemented by local NGOs. The ISPMC will support DDM for engaging NGOs and supervising and monitoring the NGO's activities. The ISPMC will also support effective coordination between DDM and BWDB. The ISPMC will prepare detailed community mobilization and training programs in consultation with DDM. Tentatively, the ISPMC will supervise the following community involvement activities by NGOs:

- assessment of existing condition of local communities, delineation of geographical boundaries of community-level disaster management units,
- community mobilization for formation of community-level disaster management units, including selection of unit leaders, and the preparation of required documents focusing on flood and erosion disasters, such as disaster risk assessment, community flood disaster risk mitigation plans, and provisional plans,
- conducting training in capacity development of newly formulated community disaster management units, such as community flood and erosion warning, and
- assisting communities to prepare flood risk maps of their own areas in a participatory manner.

Task 3: Supporting preparation of Tranche-2

86. The ISPMC team will support analyses and preparation for processing Tranche-2 of the proposed MFF to meet requirements of the Government of Bangladesh and ADB. More particularly, the ISPMC team will prepare the following major outputs under the task, including but not limited to:

Major Activities	Major Outputs			
Verification of site and technology selection for	(i) Updated site and technology selections for			
I ranche-2	I ranche-2			
Feasibility study and project formulation for	(i) Technical and social field surveys and updated			
tranche-2	data collection			
	(ii) Basic engineering design			
	(iii) Updated design of non-structural activities,			
	(iv) Safeguard, gender and poverty assessments			
	(v) Project cost estimate, and feasibility assessment			
	including economic evaluation			
	(vi) Tranche-2 formulation, including Implementation			
	planning and financing planning,			
	(vii) Final report, including necessary safeguard			
	documents, such as draft EIA or IEE,			
Support for loan processing documents for the	(i) Draft PFR and other necessary ADB's linked			
government and ADB	documents.			
-	(ii) Draft bid documents for immediate packages of			
	Tranche-2			
	(iii) Data and information required for DPP prearation			

Table 6.2: Summary of Major Outputs and Activities – Tranche-2 Preparation

 (iv) Other necessary documents satisfying requirements of ADB and the government for loan processing,

DPP = development project proforma; EIA = environment impact assessment; IEE = initial environment examination; MFF = multitranche financing facility; O&M = operation and maintenance; PFR = Periodic Financing Request.

Source: Asian Development Bank. 2013.

87. Verifying and updating selection of sites, technology and design for Tranche-2. Possible interventions at the three subprojects, which were derived from high priority river reaches, have been identified during the PPTA. The ISPMC will verify the proposed selection of sites, technology and design of Tranche-2, based on findings of the long-term stabilization study, the preliminary river management master plan study, land recovery/river training piloting, and confluence morphology and hydraulic analyses conducted by the river study task team of the ISPMC, and on findings from the latest socio-economic and morphology conditions of the subproject area. Findings through the implementation of Tranche-1 at the initial stage will also be incorporated to the verification.

88. **Technical and social field surveys and updated data collection**. The latest socioeconomic, technical and other data will be collected to accomplish the preparation of the preparation for the second tranche, which may include topographic surveys, geotechnical investigations, socio-economic data collection, and resettlement survey.

89. **Basic structural design**. The ISPMC will conduct structural design for the second tranche works. Structural design for Tranche-1 will be updated with necessary improvements, based on findings and lessons learnt during the first tranche.

90. **Updating design of non-structural activities**. The ISMPC will review activities for nonstructural measures under Tranche-1, such as community-based flood risk management support, and plan activities to be done during Tranche-2 with necessary improvements.

91. **Safeguard, gender and poverty assessments.** The ISMPC will assess potential impacts of proposed project activities under Tranche-2 on environment, gender, social and other aspects. The poverty analysis will also be conducted. Mitigation measures will be formulated. Required documents for fulfilling ADB's safeguard and gender guidelines and for loan processing of ADB and the government will also be prepared. Such documents will include draft EIA, IEE, resettlement plans, summary poverty reduction and social strategy and gender action plan, as necessary.

92. **Project cost estimate and feasibility study of Tranche-2.** The ISPMC will examine technical and economic feasibility of the Tranche-2 interventions in the selected subprojects. Feasibilities were examined during the PPTA, but the ISPMC will verify feasibility with the latest site conditions, data and project design. The activities will include (i) analysis of socio-economic conditions, (ii) cost estimate based on subproject design for updated plan of the project activities, and (iii) updating benefit analysis and economic evaluation.

93. **Tranche-2 formulation**. Based on feasibility study results, the ISPMC will develop an implementation schedule, procurement packaging, financing schedule, financing plan and other necessary data and information required for processing Tranche-2. Details of updated activities for non-structural measures and institutional strengthening, which will have to be conducted during Tranche-2, will also be designed.

94. **Detailed design and preparation for procurement.** The ISPMC will support BWDB for detailed design of the proposed riverbank protection, flood embankment and **other** works. The ISPMC will also support advance actions of the procurement and recruitment, such as preparation of draft bid documents.

95. **Support for preparation of project processing documents including DPP and PFR.** The ISPMC will provide support for preparing required documents for approvals of the government and ADB, which include DPP, Periodic Financing Request (PFR), ADB's other loan processing documents, safeguard documents, and other documents as necessary satisfying government and ADB's requirements for loan processing.

Task 4: Developing a long-term strategic and holistic river stabilization and river training plan

96. The river task team under the ISPMC will conduct a study for developing a long-term strategic river stabilization and river training plan for the Jamuna, Padma, and Lower Meghna river system, covering from the Indian border at the upstream end and to the estuary. The study will formulate a strategic 25-year investment plan for riverbank erosion and flood management, aiming at long-term stabilization of the main rivers. The study will include holistic river morphology analyses. More specifically, the study will cover:

- A holistic river morphology analysis of the Jamuna, Padma, and Lower Meghna river system, covering from the Indian border at the upstream end and to the estuary, to examine the past changes and possible future development of river planform,
- An alternative study of possible intermediate and final planform of the rivers using the latest morphology data, such as satellite images and bathymetry survey results, including evaluation and comparison of proposed planforms in existing studies,
- Examine potential impacts on existing and anticipated physical interventions like bridge and riverbank protection works on river morphology,
- Examining potential impacts of morphology changes on land uses along the rivers and navigation and other river uses after stabilization and future narrowing down of the river channels, including examining existing government's regional development plans along the river. Past impacts will also be examined, to discuss future potential impacts,
- Examining optimal total width of rivers from viewpoints of morphology, technical and multi-functional use of the river channels, including flood management, ecological requirements, navigation and sediment transport,
- Discussing feasible techniques and methods for riverbank protection and future channel narrowing, including review of experiences and lessons learnt from past and existing projects and pilot programs,
- Examining required opening sizes and shape of offtakes into distributaries, such as the Old Brahmaputra, Dhaleswari, and Arial Khan rivers, for conveying necessary discharges and sediment,
- Discussing optimum flood embankment alignments (continuous embankments or polders),
- Examining priorities of river reaches to be protected from riverbank erosion and flooding, in consideration of morphology, socio-economy, environment, technical requirements, and other aspects,

- Preliminary assessment of possible impacts on environment and socio-economy, including impacts on living conditions of river islands (chars), fisheries, agriculture, navigation, and examining preliminary mitigation measures to be considered in the stabilization planning, including consideration for climate change impacts,
- Estimate of required costs, and technical and economical feasibility analyses, including cost/benefit analysis of river course stabilization in consideration of value of reclaimed land, improved river ecology, navigation/logistics/river port development, water usage for drinking, industrial, irrigation, fisheries, tourism, and other uses.
- Preparation of the strategic environmental assessment for the entire investment program.
- Selecting optimum future river planform, and developing long-term phased implementation plan (road map) for riverbank erosion and flood protection works, land recovery/river training works, in consideration of river planform (morphology) changes and priority of interventions,

97. The long-term river stabilization study will examine and incorporate findings and results of relevant studies/projects, such as the Flood Action Plans, the capital dredging feasibility study by BWDB, the formulation of the Bangladesh Delta Plan 2100 by the government, and World Bank's riverbank and flood protection project upstream of Jamuna Bridge. The river task team of the ISPMC will design and supervise relevant supporting studies and surveys, such as morphology data collection and processing, flood inundation analysis, and flood and river surveys. The long-term river stabilization study will also develop detailed scopes of the subsequent morphology and hydraulic studies at confluences of the Jamuna-Padma and Padma-Meghna rivers. It will also identify and propose other necessary future detailed studies, piloting, and analyses.

Task 5: Developing a preliminary river management master plan for the Jamuna-Padma-Lower Meghna-Upper Meghna river system

98. This preliminary master plan will be conducted to grasp an overall view on future intervention plan for sustainable and multi-functional use of the Jamuna-Padma-Lower Meghna-Upper Meghna river system, including their major tributaries and distributaries to connect the Jamuna and Upper Meghna rivers. The study will not cover the Haor area on upstream of the Upper Meghna. The study will be conducted in parallel with the long-term stabilization study by the same river study task team, to ensure the synergies of the two studies. The study will include preliminary discussions and analyses of the following:

- preliminary assessment of the existing use of the river system, which include navigation, transport, flood protection, water storage, domestic and industrial water supply, water quality (contaminants and saline water), environment flow, fisheries, agriculture, and other water uses,
- examining existing relevant studies and plans, including FAP studies, government's development and/or spatial plan,
- preliminary estimate of required discharge for distributaries, in consideration of the minimum requirement during the dry season to satisfy water use, maintenance flow and saline intrusion in distributaries, and flow capacity of channels during the flood season to avoid inundation during the monsoon season,
- assessment of required opening size and shape of offtakes of distributaries,

- preliminary assessment of required riverbank erosion protection, drainage improvement and river stabilization of the main stream of the Upper Meghna (excluding the Haor area),
- identifying required future studies and potential future interventions, for ensuring the healthy river conditions with minimum water discharge and acceptable water quality, of the river system during both dry and monsoon seasons,
- preliminary assessment of potential uses of tributaries, distributaries, and the Upper Meghna for flood diversion, navigation/logistics, sediment management including provision of sand quarry, and preliminary assessment of the potential future interventions for those purposes,
- preliminary assessment of potential economic use of reclaimed lands from river training or land recovery, and preliminary cost estimate of probable market value of reclaimed lands based on usage e.g. agricultural, industrial, commercial, urban development, recreational, logistics corridor, fisheries and/or other multifunctional usage
- preliminary assessment of impacts of identified potential interventions on land use, spatial planning, ecology, and socio-economy.
- preliminary cost estimate and implementation planning of potential future studies and interventions for an optimum plans,

Task 6: Developing and monitoring land recovery and river training piloting schemes

99. Developing and monitoring two types of land recovery/river training piloting: (a) land recovery works along the main river using building with nature concept with less costly riverbank protection works, vegetation, and other minor structures. This is largely for stabilizing existing sediment deposited areas (attached chars) from erosions and for stimulating further deposition, and (b) pilot-based construction of structures in medium/small rivers, which may include rather major structural works (and may be in combination with vegetation type of softer works) for river training to stabilize riverbanks, leading thalwegs towards the middle of the river to stimulate deeper thalwegs, and may also be for stimulating sediment deposition near river banks.

100. This task will be conducted by the river study task team of the ISPMC. The piloting will monitor the process of land recovery/river training through facilitating natural/ structurally induced sediment deposition, using vegetation and other appropriate structures using building with the nature concept for accelerating the sediment deposition. The river task team will develop methodology and schedule of the piloting, in close collaboration/ agreement with BWDB Design Directorate concerned, which include the following procedures:

- Piloting site selection: Appropriate sites for the piloting will be selected in the course of the long-term stabilization study and the preliminary river system study (the tasks 3 and 3 above). River morphology is the primary concern for the site selection. Accessibility, present and potential future land use of adjacent areas, and acceptance of the local population will also be examined for the site selection.
- Design the piloting schemes. This includes technology selection, technical design and cost estimate. Technologies and physical design will be selected in due consideration of appropriate vegetation and building with nature type of structures for the locality, as well as technical consideration, such as morphology and hydraulics. Results of existing studies should also be carefully examined and evaluated.

- Advisory support for the main team of the ISPMC for procurement and construction supervision: The river task team will provide necessary inputs and advice to members concerned, such as river engineers and procurement specialist, of the ISPMC, who will prepare bid documents and supervise construction supervision for the piloting. The ISPMC main team will support the procurement and construction supervision of physical works of the piloting. The river task team will advise technical aspects of the piloting.
- Monitoring and analyses of the piloting schemes: The river task team of the ISPMC will record the changes in river discharge, planform, riverbank erosion, vegetation growth, sediment deposit including land recovery/river training, environmental impacts, and other changes in the piloting areas. The team will analyze the progress and changes, and examine achievements and necessary improvements of the poling activities. The monitoring will include regular topographical surveys of the piloting areas.
- Developing recommendations: The river task team will consolidate findings and lessons found from the poling during Tranche-1 as a recommendation report. The report will include suggestions for future piloting and/or application of land recovery/river training technologies and relevance of its utilization in Tranche-2 & 3.

Task 7: Hydraulic and morphological analyses for the Jamuna-Ganges and Padma-Meghna confluences

101. This task will cover the confluence of the Jamuna and Ganges rivers and of the Padma and Meghna rivers. This is for examining impacts of future potential riverbank protection works on the hydraulic and morphological conditions at the confluence area, which have complicated hydraulics. This task will also be conducted by the river task team, based on findings of the long-term stabilization study and the river system study. Details of hydraulic and morphological analyses will be determined based on findings of the two studies. The likely activities include:

- Detailed morphology analyses at the confluence area,
- Hydraulic modeling to analyze impacts of future physical intervention, especially construction of riverbank protection structures, on adjacent reaches and the hydraulics and sediment movement of the confluence areas. The river task team will design and supervising the modelling work, which will be subcontracted, and will evaluate and analyze modelling results.
- Working with the other members of the ISPMC, verifying selection of locations, design and alignment of proposed Tranche-2 ad 3 works,
- Developing detailed proposals of morphological and hydraulic analysis to be conducted during Tranche-2 and 3. Conducting physical modelling may also be considered during Tranches 2 and 3, and the river task team of the ISPMC will prepare proposals of necessary physical modelling.

d. Tasks of Each Team Members

102. Overall tasks of each team member are summarized below. Members must contribute to report preparation, capacity strengthening activities and supervision of supporting studies of their relevant fields.

Table 6.3: Summary	Task List of	Team Members
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Designation Responsi	ibilities

Designation	Responsibilities
Main Team	
International Consultants	
Team Leader/ River Management Specialist	Manage the entire team; lead construction supervision; assist PMO for planning on riverbank protection including emergency works, O&M, and development of data and knowledge base; assist BWDB for inter-ministerial coordination; lead supervising supporting studies and surveys; lead planning, formulating and implementing institutional capacity strengthening programs; lead preparation of Tranche-2.
Institutional Development/ Financial Specialist	Lead institutional capacity strengthening support and formulate capacity strengthening program for Tranche-1; lead review of institutional and financial assessment for Tranche-2 formulation; formulate institutional capacity strengthening necessities for Tranche-2; assist BWDB for formulating O&M budgeting.
Morphologist	Guide development of data and knowledge base for morphology and sediment transport; lead the studies to develop improved short term morphology prediction models; guide the analysis of river response to riverbank protection works; advise structural design for Tranche-2 riverbank protection; lead holistic morphology analysis for long-term river stabilization; and support capacity development on relevant skills and expertise.
River Engineer	Guide design changes of structures for Tranche-1; lead selection and design of riverbank and flood protection structures for Tranche-1; formulating and implementing BWDB capacity strengthening programs for relevant matter.
Construction/ Quality Control Engineer	Guide and support establishing and operationalizing efficient procurement, construction supervision, and quality control systems for the civil works following the international standards; and provide field level operational support.
Hydrologist	Lead and evaluate flood inundation modelling for flood hazard mapping for Tranche-1 areas and for planning and benefit estimate for Tranche-2 areas; assist formulating community level flood warning under CBFRM programs.
Flood Disaster Risk Management Specialist	Lead programming of nonstructural and CBFRM activities; support PMU of DDM for implementing CBFRM programs; support BWDB and DDM for interministrial coordination; support capacity development on flood management aspects; formulate CBFRM programs for Tranche-2; program relevant training to PMO, PMU, NGO and stakeholders.
Social Development / Resettlement Specialist	Assist PMO for implementing and reporting resettlement and land acquisition, and preparing remaining resettlement plans for Tranche-1; Advise selection and design of resettlement sites; Assess social safeguard for Tranche-2, and assist preparing resettlement plans for Tnrache-2; lead programming and supervising community capacity enhancement programs including livelihood support and participatory O&M activities; guide implementation and monitoring the GAP for Tranche-1, and preparation of the GAP for Tranche-2. Assist in strengthening the participation of women and vulnerable groups in the DMCs, CBFRM village committees, and other institutions; program relevant training to PMO, PMU, NGO and stakeholders.
Economist	Lead financial and economic assessment, and financing plan for Tranche-2.
Environment Specialist	Guide and monitor the implementation of the environment management plan; supervise environment mitigation measure programs; assess environment safeguards and assist PMO for preparing EIAs for Tranche-2; advise the establishment of BWDB wide environment management plan implementation monitoring system.
Information and Data Management Specialist	Lead development of MIS including inventories and river survey database.
National Consultants	
Deputy Team Leader/ Flood and Erosion Risk Mgt Specialist	Assist International Team Leader for accomplishing his/her tasks; review procurement assessments for Tranche-2 formulation; ensure all safeguards and due diligence activities are meeting requirements of GOB and ADB for both Tranches 1 and 2; provide necessary data and information for DPP preparation for Tranche-2; assist PMO to conduct workshops and other dissemination events.
Institutional/ Capacity Development Specialist	Assist international institutional specialist for accomplishing his/her tasks; lead implementing institutional capacity strengthening programs.

Designation	Responsibilities
Financial Management Specialist	Assist International institutional specialist in relevant tasks for accomplishing his/her tasks Assist PMO in establishing efficient financial management accounting system to meet ADB's requirements at the initial stage of Tranche-1; assist development of financial management parts of MIS; assist reviewing financial aspects of the institutional assessment for Tranche-2.
River Engineer (Morphologist)	Assist International morphologist for accomplishing his/her tasks; guide, monitor and evaluate river and bank protection structure surveys; assist international and national river engineers for site selection and design of riverbank protection and flood embankments; assist development of data and knowledge base for morphology and sediment transport.
River Engineer (Flood Management Infrastructure) (2 positions)	Assist International River Engineer to accomplish his/her tasks; assist PMO for revising and updating structural design for Tranche-1; assist PMO for preparing technical specifications for bid documents; lead asset inventories; assist formulating participatory O&M programs for flood embankments and riverbank revetments.
Community-based Flood Risk Management Specialist	Assist International Flood Disaster Risk Management Specialist specialist to accomplish his/her tasks; assist day to day coordination between BWDB, DDM, implementation NGOs and their district level offices.
Social Development and Gender Specialist	Assist international Social Development / Resettlement Specialist to accomplish his/her tasks on social and gender consideration; monitor the implementation of GAP and SPRSS for Tranche-1; prepare GAP and other social consideration documents for Tranche-2.
Resettlement Specialist	Assist international Social Development / Resettlement Specialist to accomplish his/her tasks on resettlement and land acquisition matters; monitor the implementation of resettlement plan; provide guidance to ensure the implementation of Tranche-1 and preparation for Tranche-2 meets due diligence requirements for GOB and ADB.
Environment Specialist	Assist international environment specialist to accomplish his/her tasks; provide guidance to ensure the implementation of Tranche-1 and preparation for Tranche-2 meets due diligence requirements for GOB and ADB.
Project Economist	Assist international Economist to accomplish his/her tasks; develop socio- economic monitoring indicators for Tranche-2; assist PMO for preparing DPP for Tranche-2; evaluate socio-economic indicators in DMF at the end of Tranche-2.
Training Coordinator	Assist PMO in organizing and implementing internal and external capacity development training and other events; establish capacity development activity recording syste
Procurement Specialist	Assist PMO/SMOs in procurement document preparation, bid evaluation, and contract administration for Tranche-1 implementation and Tranche-2 advance actions to ensure ADB's requirements; assist Deputy Team Leader for procurement assessment; prepare and update procurement plans for the implementation of Tranche-1 and implementation of Tranche-2.
Information and Data Management Specialist	Assist Information and Data Management Specialist to accomplish his/her tasks; assist PMO for updating MIS data; formulate additional Modules and improvement to be done in Tranche-2.
Construction Engineer	Guide and support establishing and operationalizing efficient procurement, construction supervision, and quality control systems for the civil works following the international standards; and provide field level operational support to this end.
Hydraulic Structural Engineer	Lead structural design changes of hydraulic structures, such as gated sliceways, for Tranche-1; Lead structural design of hydraulic structures for Tranche-2; assist formulating participatory O&M programs for hydraulic structures for Tranches 1 and 2.
Geotechnical Engineer	Guide geotechnical survey for Tranche-2 structures; evaluate geotechnical survey results; assist structural design and design changes for Tranches 1 and 2.
Road Engineer	Supervise embankment crest pavement works for ensuring quality; design embankment crest pavement works and prepare for Tranche-2 and prepare their technical specifications.
Site Engineers (4 positions)	Assist SMOs and guide contractors for efficient construction management and quality control systems; regularly check and document work quality and quantity; and report the progress to SMOs and PMO.
River Study Task Team	

Designation	Responsibilities
International Consultants	
Task Leader/ Flood and Erosion Management Specialist	Lead the river study task teams activities, and consolidate team's outputs as reports; formulate the strategic long-term stabilisation study for the main river and preliminary master plan for the river system; identify necessary future studies, programs and interventions; assess existing and future uses of the main river, tributaries and distributaries; verify planning of Tranches 2 and 3 and propose revised plans for future tranches; formulate proposal of site selection and technology of land recovery/river training piloting; examine relevant existing and planned studies and projects.
Institutional Development Specialist	Assess existing institutional set-up, and propose long-term institutional reforms for flood and riverbank erosion risk management activities; support the Main Team for formulating BWBD's institutional capacity strengthening programs to be provided during Tranches 1 and 2.
Morphologist	Assess long-term morphological trend of the main rivers; assess long-term trends of major tributaries and distribitaries; examine alternatives of future river planforms and propose appropriate physical interventions; propose piloting sites and examine potential impacts of structural interventions on morphology; verify the selection of locations and technologies for Tranche-2 and 3 works from morphological view.
River Engineer (River training)	Lead formulating structural river stabilization measures; lead selection and design of piloting.
Water Resources Management Specialist	Assess existing and future water uses of the Jamuna-Meghna river network; formulate preliminary water resources development and management master plan for the river network.
Hydrologist	Assess potential impacts of global climate change on the studying; lead inundation analysis modelling and evaluation for planning and benefit estimate.
Economist	Assess preliminary on financial and economic feasibility; assess impacts of river uses for regional economy.
Social / Regional Development Specialist	Assess social impacts of river uses; assess existing regional planning and identify implication on regional planning; lead stakeholder assessments and consultations.
Environment Specialist	Assess minimum environmental flow requirement of tributaries and distributaries; assess environmental implications of future river stabilisation and other proposed interventions; prepare the strategic environmental assessment; identify necessary future environment studies associated with proposed plans.
National Consultants	
Water Resources Management Specialist	Assist Task Team Leader to accomplish his/her tasks; identify and examine existing and planned relevant studies and projects; Identify and assess existing and planned water uses in the project area.
Flood management specialist	Assist international River Engineer (River training) to accomplish his/her tasks; assess flood management functions of tributaries and distributaries, and propose flood management preliminary master plan for the river system,
River Engineer (Morphologist)	Assist international Morphologist for accomplishing his/her tasks; propose the selection of locations and technologies for the piloting; monitor piloting works.
River Engineer	Design proposed flood, riverbank protection and water resources structures conceptually; preliminary estimate costs of structures; Work with BWDB for structural design of the piloting.
Hydrologist	Assist international Hydrologist for accomplishing his/her tasks.
Economist	Assist international Economist for accomplishing his/her tasks; Collect and evaluate socio-economic data.
Social Development and Gender Specialist	Assist international Social/ Regional Development Specialist for accomplishing his/her tasks; Collect and evaluate socio-economic data.
Regional Planner	Assist international Social/ Regional Development Specialist for accomplishing his/her tasks for the relevant items; Collect and evaluate relevant data; assess impacts of the planning on navigation.
Environment/Climate Change Specialist	Assist international environment specialist to accomplish his/her tasks; collect and assess existing data and information of climate change in the river system

Designation	Responsibilities
Water Supply and Water	Assess existing and planned relevant activities in the project area; Assess the
Quality Specialist, Agriculture	present and future surface water uses for the relevant activities
Specialist, Fisheries Specialist	

F. Procurement Control Summary Sheet (PCSS)

103. BWDB, upon signing various procurement contracts shall forward a copy of the signed contract to ADB requesting issue of Procurement Control Summary Sheet (PCSS) number to facilitate financial monitoring of expenditure under the contract both by BWDB and ADB. The PCSS number shall be referred to in the SOE sheet for all expenditure claims against the respective contracts, submitted to ADB for reimbursement.

104. ADB reserves the right to disallow utilization of loan proceeds if it is unable to agree with the recommendations of BWDB on either the bidding documents or bid evaluation reports. Any contract variations during the contract execution beyond the limit specified in the corresponding bidding document will require ADB's prior approval.

VII. SAFEGUARDS

105. The BWDB will ensure that all the requirements prescribed in the following frameworks that have been prepared for the Facility will be complied with during the processing and implementation of the projects under the Facility¹⁸, which are shown in **Appendix 2**.

- (i) Resettlement framework
- (ii) Environmental assessment and review framework

106. The BWDB will ensure that all the requirements prescribed in the following safeguard documents for the first tranche will be complied with during the processing and implementation of the first tranche.

- (i) Resettlement plan for the flood embankment renovation/ extension works in the JRB-2 subproject that has been prepared during the program processing stage,
- (ii) Resettlement plans for the riverbank protection works that will be prepared before the awarding of civil works.
- (iii) Environmental Impact Assessment (EIA) including the environmental management plan (EMP) to be applicable for the three subprojects of the first tranche.

107. Prior to the preparation of each PFR, the applicability and relevance of each safeguard framework for environmental assessment, and involuntary resettlement will be reviewed and updated by BWDB as appropriate, to ensure relevance and consistency with applicable laws and regulations in Bangladesh and ADB's safeguard policies. Resettlement plans for embankment rehabilitation/restoration and immediate riverbank protection works, if necessary, and EIAs (or IEEs, as applicable) will be prepared along with PFRs. Resettlement plans for riverbank protection works may be prepared during the implementation to cope with the dynamic river morphology.

108. For each new PFR preparation, BWDB will review its ongoing projects to check on the status of compliance with the safeguards plans and frameworks, and submit the review reports to ADB, together with other required safeguard documents for the tranche being processed. If major noncompliance is discovered in the course of the review of ongoing projects, a corrective action plan will be prepared for implementation and submitted to ADB for the concurrence.

109. PMO with support of the project management consultant will in charge of the following functions, and:

- (i) Ensure that safeguards documents as required in the frameworks, EIAs and the resettlement plans are prepared,
- (ii) Ensure all safeguards requirements are fulfilled,
- (iii) Monitor subprojects to ensure safeguards compliance,

¹⁸ The safeguard frameworks cover the Facility specific information and requirements in accordance with the Borrower's and State's laws and regulations, and ADB's Safeguards Policy Statements 2009 (SPS) wherein (i) the general anticipated impacts of the projects likely to be financed under the Facility on the environment, and involuntary resettlement; (ii) the safeguard criteria that are to be used in selecting projects; (iii) the requirements and procedure that will be followed for screening and categorization, impact assessments, development of management plans, public consultation and information disclosure, and monitoring and reporting and (iv) the institutional arrangements (including budget and capacity requirements) and BWDB and ADB's responsibilities and authorities for the preparation, review and clearance of safeguard documents.

- (iv) Provide information to the government and ADB, and
- (v) Maintain and update records on social and environmental safeguards, and updates relevant parts of the project management component of MIS.

110. SMOs with the support of the project management consultant will execute day-to-day activities of implementation of the above safeguard requirements at each subproject area.

111. The second tranche may discuss the necessity of establishing an environment safeguard unit within BWDB for monitoring the implementation of the environment safeguards for flood and riverbank erosion management projects, and roles of the unit. The third tranche will support the establishment of the unit.

A. Environment Safeguards

The first tranche is categorized as A for environment in accordance with ADB's 112. Safeguard Policy Statement (2009). While proposed interventions will result in positive impacts, of reduced flood damage to crops, security of land from river erosion, and improved agricultural and investment conditions, changes in floodplain hydrology due to construction of embankments will result in several negative impacts. The key potential negative impacts are: drainage congestion; reduced area, volume, connectivity, or physiochemical characteristics of floodplain aquatic habitats; damage to migration and population levels of floodplain-dependent open water fish species; increased utilization of ground water and surface water to irrigate flood-control-led agriculture expansion; and loss of natural wetland production. The project design has incorporated measures to mitigate these impacts. The Environmental Impact Assessment (EIA) including Environmental Management Plan was prepared to incorporating measures to mitigate these negative impacts. The EIA was uploaded on ADB's website meeting the 120 days disclosure requirement. An environmental assessment and review framework has also been developed for the MFF, which will guide subsequent subprojects and development interventions. Consultations were undertaken with affected stakeholders and a grievance redress mechanism has been established to resolve any grievances during project implementation. Institutional arrangements. All environmental assessments and the environmental monitoring reports of each tranche and the EARF will be publicly disclosed on ADB's website.

113. In addition to the environmental assessments for subprojects in future tranches, during the first tranche, a strategic environmental assessment (SEA) will be conducted. The aim of the SEA will be to assess the impacts of the investment program as a whole taking into consideration other development plans that are known and likely to be implemented in the near future. The SEA will focus on key issues, which will include changes in river morphology, access to agriculture, impacts on livelihoods, fisheries, land use, and community resilience to disasters. Key issues will be identified through a scoping exercise with key stakeholders.

B. Social Safeguards

114. **Resettlement.** The first tranche of the MFF has been categorized as A for involuntary resettlement. It is estimated that 91 ha of land acquisition will be required for (i) the construction of a flood embankment along the right bank of the Jamuna River (12.56 km, including a 2km of upgrading of an old embankment section), (ii) the rehabilitation of flood embankments along the tributaries (the Hurashagar/Baral rivers (10.44 km), and (iii) the construction of a riverbank protection structure along the Jamuna River (1 km). Impacts of the land acquisition include loss of lands, structures, and trees. Land acquisition will physically and economically displace 1184

households comprising 4560 persons. A resettlement framework for the MFF and a resettlement plan for the first tranche have been prepared and were agreed, following the government's laws and regulations and ADB's SPS. Resettlement plans for three other proposed riverbank protection works under Tranche 1 on the left bank of the Jamuna and Padma rivers will be drafted by the construction supervision consultant for ADB's approval prior to the construction, following the resettlement framework. This is for coping with dynamic morphology of the rivers. Riverbank alignment may change drastically until the commencement of the physical intervention at these sites.

115. Consultations with the project affected persons will be carried out throughout the resettlement implementation. The draft resettlement framework and draft resettlement plan(s) will be disclosed on the ADB website upon endorsement by BWDB. Land acquisition cost will be borne by BWDB. ADB may finance costs for implementing the resettlement plan(s) and incremental compensation cost for the resettlement.

116. **Indigenous Peoples.** Tranche-1 is categorized as C for indigenous peoples. There are no indigenous peoples as defined for operational purposes by ADB's SPS (2009) in any of the identified subproject areas for Tranche-1 and subsequent tranches under the investment program. As all tranches would be categorized as C, an Indigenous Peoples Planning Framework for the investment program has not been prepared.

VIII. GENDER AND SOCIAL DIMENSIONS

117. **Social development and poverty reduction.** Riverbank erosion along the main rivers is a prominent problem in Bangladesh, and is a perennial phenomenon caused by dynamic channel shifting of the rivers within the floodplain. Such erosion frequently destroys land, assets and infrastructure, and as a consequence poses a repeated threat to people's lives and assets from erosion and increased flooding. Uncertainty in the face of frequent floods and riverbank erosion prevents investment in infrastructure and of the poor themselves in higher value agriculture and small business. As such, poverty is higher in riverine districts. Investments in erosion prevention can be viewed as investments in prevention of migration to more vulnerable locations and urban slums. Government's sixth Five-Year Plan focusses on accelerated growth also in the agricultural sector in fringe areas. ADB's CPS 2011-2015 supports this development specifically in targeting the reduction of flood risks. The program interventions will provide a more stable environment with reduced flood and riverbank erosion risks, while providing income generation during the construction of the civil works, which potentially provides higher opportunity for future income generation.¹⁹

Gender actions. The project is classified as "effective gender mainstreaming." A gender 118. action plan has been prepared for the project with clear targets and responsibilities.²⁰ The activities are mainstreamed so there is no separate resource allocation. Specific gender design features are included in 50% or more of project outputs. Women's capacity will be strengthened through (i) being heads of community level disaster committees for the community-based flood disaster capacity enhancement activities (minimum 30% of heads are targeted to be female), (ii) receiving training for community-based flood disaster management and regular O&M of flood and erosion protection structures, and (iii) receiving livelihood improvement support for project affected people. Women will also have an opportunity for receiving cash income during the construction to take part in a labour intensive construction method which was developed under JMREMP. The PMO will ensure establishing an MIS system with sex-disaggregated data collection, gender based analysis, and review and reporting on the implementation of the GAP in all reports. There is no separate consultations plan report but the resettlement plan provides guidance on carrying out consultation with the displaced persons.²¹ The gender action plan is in Table 8.1.

119. **Labor, Health, and Social Protection.** BWDB will ensure that civil works contracts under each project follow all applicable labor laws of the government and that these further include provisions to the effect that contractors; (i) carry out HIV/AIDS awareness programs for labor and disseminate information at worksites on risks of sexually transmitted diseases and HIV/AIDS as part of health and safety measures for those employed during construction; (ii) do not use children as labor, and (iii) follow legally mandated provisions of labor (including equal pay for equal work), health, safety, sanitation, welfare and working conditions. The contracts shall also include clauses for termination in case of any breach of these provisions by contractors.

¹⁹ ADB's Handbook on Social Analysis: A Working Document: <u>http://www.adb.org/Documents/Handbooks/social-analysis/default.asp</u>.

²⁰ Briefing Note: Project Gender Action Plans: <u>http://www.adb.org/Documents/Brochures/Project-Gender-Action-Plans/default.asp</u>, and Updated Gender Mainstreaming Categories of ADB Projects: <u>https://bedgedmz.adb.org/Inadbg1/ocs0178p.nsf/0/37CC7D6E8E3CC57D482576E20083C156?OpenDocument</u>

²¹ Staff Guide to Consultation and Participation: <u>http://www.adb.org/participation/toolkit-staff-guide.asp</u> and, CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations: <u>http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp</u>.

Table 8.1: Gender Action Plan

			Responsibi	Time
	Output/Activities	Indicators and Targets	lity	frame
Output I	Integrated flood and riverbank er	osion disaster risk mitigation	measures to	or the
supproje	et areas developed, implemented and i	naintained		
Sub-Com	ponent A1: Infrastructure improvemen			
Activity:	A1-1 Construction of riverbank protection	n structures using appropriate techn	ology and me	thods
	A1-2 Rehabilitation/construction of emba	ankments		
Tasks:	- Ensure women benefit from employment	- Include specific condition of contract	PMO and	Entire
	In construction	In contractors bid document with	WORK	1-1 noriod
	standard including equal wage for women	labor	contractors	penou
	and men for equal work	- Orient field staff to supervise verify		
	- Occupational health and safety, safe	and ensure that the conditions are		
	water supply, sanitation	met		
	- Separate toilet for women, where	 Incorporate relevant sex 		
	identified	disaggregated information in field		
		monitoring reports and contractors'		
		compliance reports		
Sub-Com	ponent A2: Community-based Flood R	lisk Management		
Activity:	A2-1. Formulating community disaster m	anagement units		
Tasks:	 Form 40 Community Disaster 	 40 Units established with min 33% 	PMU-DDM	End of
	Management Units (CDMUs) consisting of	women as general members and in	and	T-1
	15 volunteers (male and female) each	leadership in the units (unit records)	community	
	- Identify specific risks for women and men;	- Community flood risk assessment	disaster	
	disaster response mechanism, risk	report prepared containing risks,	management	
	preparedness measures on household	women and men and recommended	NGO	
	and village level specifically related to	response		
	flood and erosion warning: and Identify	- Community risk reduction plan		
	location and build community flood	prepared for 40 Units through		
	markers for flood warning information	participation of women volunteers		
	through Community flood risk assessment	specifying roles, targets and benefits		
	 Integrate strategy and action in 	for women and men		
	community risk reduction plan and			
	disaster resilience action plans to address			
	specific needs of women and men			
Activity:	A2-2. Capacity development for commun	nity disaster management Unit		
Tasks:	- Establish community-based flood warning	- 50% of the units have flood warning	PMU-DDM	
	alssemination procedures - including	mechanisms after three years (field	and	1-1
	- Establish and disseminate regular warning	- 50% of the households including	disastar	
	messages relevant to local	75% of women-headed households	management	
	context/language and linked with the	and poor women living on the	NGO	
	national warning network	embankment, have increased		
	- Where possible, conduct separate	resilience through preventive		
	sessions with community women for	measures at household level after		
	flood risk mapping and needs	three years (field survey at the end		
	assessment	of each tranche)		
Sub-Com	ponent A3: Participatory Regular O&M		I	
Activity:	A3-1 Capacity development of community	ties		
Tasks:	- Include women in the planning phase	- 30% women participation in planning	PMO and	End of
	- Training of CDMU members, both female	phase, as recorded in meeting	community	T-1
	and male beneficiaries, in water	minutes	disaster	
	management and O&M	- 30% women members in	management	
	- Training on gender and different social	management committee, as	NGO	
	awareness issues using the guidelines for	reflected in members' list		
	gender requirements	- Women constitute 30% of all		
	 Ensure gender- friendly time and venue 	community training for O & M		

			Responsibi	Time
	Output/Activities	Indicators and Targets	lity	frame
	for training			
Sub-Com	ponent A4: Livelihood support for pro	ject affected people		
Activity:	A4-1. Construction of resettlement areas	with basic infrastructure and faciliti	es	-
Tasks:	- Ensure effective consultation with women	- Full compensation for 100% women	PMO and	By
	disaggregated data on Project Affected	- 33% women involved in planning	NGOs	2018
	Persons (PAPs) along with entitlement	meetings	1003	2010
	benefits, as per Resettlement Plan (RP)	- 15% to 20% women wage earners		
	- assure that gender issues are considered	engaged in the project construction		
	when planning resettlement villages and	activities		
	community facilities	- At least 50% women participants will		
	- Employ willing women in labor-intensive	in 2 community groups in and		
	embankment and roadside tree planting	around resettlement areas		
	and in maintenance activities			
Activity:	A4-2. Support for project affected people)	•	
Tasks:	- Establish contact with local	- Groups organized covering 90%	PMO and	End of
	representatives of the Departments of	women-headed households and	resettlement	T-1
	Agriculture, Fisheries, Cooperatives,	women in ultra-poor households	NGOs	
	Women's Affairs and so on to integrate	who are living on the embankment,		
		as established by resettlement		
	- Establish the priority groups of	financial support.		
	abandoned, divorced, separated,	- Organize and impart training on		
	widowed, and deserted women	skills and leader development to 30		
	 Provide special training and financial 	persons including 10 women.		
	support for women-headed households			
	and for women in ultra-poor households			
	for training			
	- Training on skills and leadership			
	development, gender equality and other			
	social awareness issues			
	- Ensure adequate follow-up to help women			
Q.,4m.,4 II.	manage their IGAs	r Flood and Biyarbank Frazian Bi	ak Managam	ant
Sub- Cor	Strengthening institutional system to	rengthening for flood and river	sk Managen	n rick
manager	nponent B1. Institutional capacity si			11 113K
Activity:	B1-1 Capacity enhancement of BWDB			
Tasks:	- Integrate a gender-specific module in the	- 10% women in training programs	BWDB	End of
	BWDB training	- Gender aspects integrated in the		T-1
	 Include women in the training program 	relevant training program/module		
Activity:	B1-2 Support the initial set-up of the office	ce of the chief engineer river manag	ement	
Tasks:	 Deploy women staff 	 Give priority to women having 	BWDB	Entire
		required qualification for staff		I-1 noried
	Efficient program management syste	mostablished		penod
Compone	. Efficient program management	in established		
Activity:	C-1: Implementation management			
Tasks	- Establish MIS system with sex	- Identify gender indicators	BWDB	By Dec
, aono i	disaggregated data base for project	incorporate in monitoring system	DIIDD	2016
	reporting	and ensure regular reporting on		
		progress of GAP implementation		
	-	based on gender analysis		
Activity:	C1-2: Preparation for Tranches 2 and 3	-		
Tasks:	- Incorporate gender issues in the planning	- Prepare gender action plans for	BWDB	By Dec
	process	Tranche 2	1	2016

IX. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks			
Impact	By 2028 in program districts:		Assumption			
Improved livelihoods in the project area	Monsoon crop average yields increased to 3.75 t/ha (2.75 t/ha in 2013)	Bangladesh Bureau of Statistics and other government-published reports and statistics	The government continues to attach high priority to flood and riverbank erosion protection			
	Average annual per capita income increased to Tk136,000 (Tk74,380/capita in 2012)	Bangladesh Bureau of Statistics, Department of Agriculture Extension, Department of Agricultural Marketing, and other government- published reports and statistics	Risk Climate change impacts exceed projections.			
Outcome	By 2023:		Assumption			
Reduced flood and riverbank erosion risks in the subproject areas	122,000 ha of land protected from inundation damages (baseline = 0)	Districts' flood damage records	BWDB allocates adequate O&M budget			
	About 2 million of population protected from inundation damages (baseline = 0)	Districts' flood damage records	Risks Floods exceed design return periods			
	461 ha of lands with assets protected from bank erosion (43 ha in 2013)	BWDB's dry season satellite image analysis	River morphological changes exceed the planned range			
Outputs						
 Flood and riverbank erosion risk mitigation functioning at priority reaches 	By 2023 in subproject areas		Risk			
	60 km of riverbank protected by applying appropriate technology and methodology (baseline =10 km)	BWDB project progress and completion reports	Long delays in land acquisition by deputy commissioners			
	89 km of climate-resilient flood embankment constructed, rehabilitated, or upgraded against 100-year probable floods (baseline = 0 km in good condition)	BWDB project progress and completion reports	High turnover of project management office staff			
	66 km of paved roads on embankments (baseline = 0)	BWDB project progress and completion reports				
	8 regulators and other hydraulic structures installed	BWDB project progress and completion reports				

Implementation NGOs'

(baseline = 0)

200 community-based disaster

A. Design and Monitoring Framework for the Investment Program

Design Summary	Performance Targets and Indicators with Baselines	Data Sou Reporting M	rces and echanisms	Assumptions and Risks
	management units operate disaster-resilience action plan against flood and erosion disasters, with a minimum of 33% of units led by women (baseline = 0)	reports BWDB benef reports	it survey	
	11 community groups, with at least 50% women participants, operate livelihood support programs (baseline = 0)	Implementati reports BWDB benef reports	on NGOs' it survey	
2. Strengthened institutional system for flood and riverbank erosion risk management	MIS for flood and riverbank erosion, with sex- disaggregated data, developed and operated by BWDB by 2021	BWDB project and completion	ct progress on reports	
	5-year budgetary plan for riverbank protection O&M and emergency work for the main rivers endorsed by BWDB by 2018	BWDB's annual budgetary plan BWDB's construction material stockade plan		
	Long-term strategic river stabilization plan taking climate change impact into account, endorsed by BWDB by 2016	BWDB project and completion	ct progress on reports	
	BWDB project website containing database of flood and river survey and knowledge products by 2023	BWDB project progress and completion reports BWDB project website		
3. Operational program management system	Outputs completed on time within budget	BWDB project progress and completion report		
Activities with Miles	stones		Inputs	
 Flood and riverbank erosion risk mitigation functioning at priority reaches 1.1 Infrastructure improvement 			Loan: ADB:	\$255,000,000
 1.1.1 Complete land acquisition (2016, 2018, and 2021) 1.1.2 Complete construction works of structural measures (June 2023) 1.2 Community based flood risk management 			Grant: Gover Nethe	rnment of the rlands: \$15,300,000
1.2.1 Engage NGO, and develop project-specific methodologies and instructions for implementation NGOs (July 2014– March 2015)			Governmer \$103,4	nt of Bangladesh: 400,000
 1.2.2 Formulate community disaster management units with necessary training (December 2022) 1.3 Community capacity enhancement for participatory regular O&M 1.3.1 Complete awareness campaign and training (December 2022) 				
1.4 Complete livelihood support for project-affected people (June 2023)				
Activities with Milestones	Inputs			
--	--			
2. Strengthened institutional system for flo	ood and riverbank			
erosion risk management				
2.1 BWDB institutional capacity strengthening	g for river management			
and sustainable asset management				
2.1.1 Conduct training for BWDB staff in O&M (January 2015–2022)	river management, and			
2.1.2 Support initial setup of Office of Chi Management) (2014–2023)	ef Engineer (River			
2.1.3 Develop flood MIS project manager December 2016, asset inventory by O&M module by 2018	ment module by v 2016, followed by			
2.1.4 Conduct annual workshops for infor inviting other agencies (2015–2023)	mation sharing,)			
2.2 Data and knowledge base development				
2.2.1 Complete studies and preliminary ri	ver master planning ement (June 2016)			
2.2.2 Complete land recovery and river tr 2014–June 2021)	aining piloting(April			
2.2.3 Conduct flood and river surveys (Ju and establish improved flood and riv (December 2017)	ine 2015–June 2023) ver survey database			
2.2.4 Update existing short-term erosion (September 2016) and guidelines for works (December 2022)	prediction model or riverbank protection			
 3. Operational program management system 3.1 Engage institutional strengthening and consultant (2014, 2017, and 2020) 3.2 Loan processing of tranche 2 (signed in tranche 3 (signed in 2020) 	ems project management n 2017), and of			

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, ha = hectare, km = kilometer, MIS = management information system, NGO = nongovernment organization, O&M = operation and maintenance, t = ton.

Source: Asian Development Bank.

B. Monitoring Requirements

120. **Project performance monitoring:** PMO will establish an MIS which will consist of the project management and O&M modules. The project management module of the MIS will include a benefit monitoring function using targets, indicators, assumptions, and risks in the project DMF. The baseline data for indicators and targets set out in the DMF were collected during the PPTA and will be stored in the MIS. Data indicators for subsequent years will be input annually in the MIS. The project consultant will support the PMO in monitoring performance. The financial and physical progress will be recorded in the project management module of the MIS.²²

121. **Compliance monitoring**: Status of compliance with assurances, conditions and loan covenants—policy, legal, financial, economic, environmental, and others— will be reviewed at each ADB review mission. All non-compliance issues, if any, will be updated in quarterly progress reports together with remedial actions. PMO will include status of compliance in quarterly progress reports.

122. **Safeguards monitoring**: Monitoring and reporting for social safeguards are described in the resettlement framework for the planning of future works, and the concerned resettlement plans provide the arrangement for implementation monitoring including third party external monitoring. As to environmental safeguards, the EIAs provides the monitoring arrangements for main infrastructure works

123. The status of the updating and implementation of the environmental safeguards documents (EIAs and EMPs,), and social safeguards documents (the resettlement framework and resettlement plans) will be discussed at each ADB review mission and integrated into quarterly progress reports. Semi- annual environmental and social safeguard monitoring reports will be provided to ADB and the government.

124. **Gender and social dimensions monitoring**: The GAP will be implemented and monitored by BWDB. The status of the implementation of the GAP will be reported in BWDB's quarterly progress report. The status will also be discussed at each ADB review mission.²³

125. **Implementation Monitoring–Compliance.** Quarterly progress reports of BWDB will describe the progress of various loan covenants–policy, institutional, financial, economic, environmental, social, and others. This includes the progress and issues on institutional action matrix.

C. Evaluation

126. Within 26 months after the effectiveness, ADB will conduct a mid-term review to identify problems and constraints encountered and suggested measures to address them, including appropriateness of scopes, design, implementation arrangements, implementation schedule, compliance with safeguards and other covenants.

²² ADB's project performance reporting system is available at:

http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool

ADB's Handbook Social on Analvsis: Α Workina Document. is available at: http://www.adb.org/Documents/Handbooks/social-analysis/default.asp, Staff Guide to Consultation and Participation: http://www.adb.org/participation/toolkit-staff-guide.asp, and, CSO Sourcebook: A Staff Guide to Cooperation with Civil Society Organizations: http://www.adb.org/Documents/Books/CSO-Staff-Guide/default.asp

127. Within 6 months of physical completion of each tranche, BWDB will submit a project completion report to ADB.²⁴ Within 6 months of physical completion of the facility, BWDB will submit an MFF completion report to ADB. DDM will submit a project completion report and an MFF completion report for their activities to BWDB by within 5 months of physical completion of each tranche or a MFF. BWDB will submit consolidated reports to ADB.

D. Reporting Requirements

128. PMO/BWDB will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of physical completion of the Project. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.

129. DDM reports it's monthly progress to BWDB with support of the project management consultant. BWDB will report consolidated progress to ADB.

130. **Project Progress Reports.** BWDB will prepare progress reports and submit these to ADB on a quarterly basis within 45 days from the end of each quarter (termed as semiannual report and annual report for the reporting quarters ending June and December, respectively). Each report will provide (i) a narrative description of progress made during the period, (ii) changes in the implementation schedule, (iii) problems or difficulties encountered, and (iv) work to be carried out in the next period. The progress reports will also include a summary of contract awards and disbursements, project expenditure for the period and total expenditure of the project to date, contract award and financing plan for the next quarter, financial account of SGIA, a quarterly monitoring report of the GAP implementation, and status of implementation of loan covenants. The suggested format of Project Progress Report is attached as **Appendix 4**.

131. **Assessment of Physical Progress during Implementation.** Each implementation activity carries certain weight and should be accounted for while computing the physical progress. **Appendix 5** shows guidelines for computing physical progress of the first tranche to be used both by BWDB and ADB for assessment during project implementation. A graph of anticipated overall physical and financial progress during the life of the project to help identifying the status of achievement of the targets and or underperformance is also shown. This data will also be used for project performance rating (PPR).

132. **Annual Projections for Contract Award and Disbursement.** BWDB will prepare annually the forecast for contract awards and disbursements under the projects on a quarterly basis for one year ahead. This will be submitted to ADB by 31 December of each year.

133. **Audited Financial Report.** BWDB will have its accounts and financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference acceptable to ADB; and (ii) furnish to ADB, as soon as available but in any event not later than 6 months after

²⁴ Project completion report format is available at: <u>http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar</u>

the end of each fiscal year, certified copies of such audited financial statements and the report of the auditors relating thereto will include a separate audit opinion on the use of the loan proceeds, imprest account and compliance with SOE procedures and financial covenants.

E. Stakeholder Communication Strategy

134. The stakeholder communication strategy has been built into the design of the investment program, including the resettlement plans and the gender action plan, while no separate stakeholder communication strategy has been established. A key part of the project implementation strategy will be focusing on information sharing and consultation that will guide communications with stakeholders during project implementation. Such information sharing will help to build consensus and ensure continuous stakeholder support throughout the project implementation.

135. The primary audiences for the communication strategy are local communities along the project rivers, the general public (NGOs and development partners, key individual decision makers) and Government and authorities (local Upazila administration, institutions and ministries).

136. The communication activities will include door-to-door awareness campaigns, public meetings, publicity programs with educational institutes, etc. Stakeholder consultations have already been started since the PPTA with affected households, elected local representatives and other stakeholders. Socio-economic survey and senses surveys were also conducted before formulating the proposed interventions. After making the plan, the proposed interventions were explained at each proposed subproject site. This close communication with local stakeholders will be maintained during the implementation stage.

X. ANTICORRUPTION POLICY

137. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the projects under the investment program.²⁵ All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the projects under the investment program.²⁶

138. To support these efforts, relevant provisions are included in the loan agreement/regulations and the bidding documents for the projects under the investment program. The following measures will be undertaken by BWDB to ensure integrity and transparency:

- (i) The BWDB will post the physical and financial details, project progress, and business opportunities associated with the investment program in the project website, along with (a) the following information in relation to goods, works and services procured for each tranche: (i) the list of participating bidders, (ii) the name of the winning bidder, (iii) the amount of the contracts awarded, and (iv) the goods, works and services procured; and (b) a copy of the five-year lease contracts with local community groups for participatory regular O&M. For individual subproject, the SMOs will post the abstract of all contracts executed, including the quantity of works and their associated costs.
- (ii) Through the mobilization of independent chartered accounting firm, the BWDB will undertake annual financial audit for BWDB and all SMOs and associated offices, which will include investigation of all financial records and transactions.
- (iii) The government, through independent auditors and through the government's Anticorruption Commission, shall conduct periodic inspections and random spot checks of civil servants' and contractors' activities related to the procurement of goods, works and services and to fund withdrawals and settlements under the investment program.

139. Anyone coming across evidence of fraud and corruption associated with the investment program may contact the Anticorruption Unit at the following address and contact nos:

Integrity Division (OAI) Office of the Auditor General Asian Development Bank, 6 ADB Avenue, Mandaluyuong City, 0401 Metro Manila, Phillippines Telephone : +(63-2) 632 5008; +(63-2) 632 2152 Email : anticorruption@adb.org; integrity@adb.org

²⁵ Available at: <u>http://www.adb.org/Documents/Policies/Anticorruption-Integrity/Policies-Strategies.pdf</u>

²⁶ ADB's Integrity Office web site is available at: <u>http://www.adb.org/integrity/unit.asp</u>

140. People who are, or may in the future be, adversely affected by the project may submit complaints to ADB's Accountability Mechanism. The Accountability Mechanism provides an independent forum and process whereby people adversely affected by ADB-assisted projects can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected people should make a good faith effort to solve their problems by working with the concerned ADB operations department. Only after doing that, and if they are still dissatisfied, should they approach the Accountability Mechanism.²⁷

²⁷ For further information see: <u>http://www.adb.org/Accountability-Mechanism/default.asp</u>.

XII. RECORD OF FAM CHANGES

141. All revisions/updates during course of implementation should retained in this section to provide a chronological history of changes to implemented arrangements recorded in the FAM.

FAM Version	Revision Date	Reasons of Change	Main Contents of Change

APPENDIX 1: DETAILED FACILITY DESCRIPTION

A. Project Area, Subproject Areas and Overall Approach

1. The primary focus of physical interventions under the investment program is flood and riverbank erosion risk management along the main rivers in Bangladesh in the project area, covering the Jamuna River downstream of Jamuna Bridge, the Padma River, and the Ganges downstream of the proposed Ganges Barrage.²⁸ Other reaches of the main rivers and major rivers interlinking to the main rivers will also be considered in relevant studies which require comprehensive morphological, hydrologic, hydraulic and other analyses.

2. The investment program may comprise with three tranches. Four priority reaches (namely, JRB-1, JLB-2, PLB-1, and MRB-1. Refer to **Table A1.2**) within the project area were identified during the program appraisal stage from (i) urgent need of protections for critically eroded sites supported by latest socio-economic indicators, and (ii) the morphological viewpoints with due attention to both near future likely river channel movements and the long-term stabilization of river channels, including viable measures to facilitate land recovery as anticipated in the government's plan of river management. Each reach is grouped as subproject. The first tranche will provide infrastructures in most urgent needs in the three out of four subprojects (JRB-1, JLB-2, and PLB-1), including riverbank protection structures at critically eroded sites. The subsequent tranches will extend the protection structures to adjacent stretches to ensure stability and sustainability of the protection with updated design adjusted to morphological changes of the rivers. The first tranche will also include non-structural measures in high priority sites of the selected three subprojects, and the area coverage will be extended during the subsequent tranches.

3. Physical works at remaining one subproject (MRB-1), which is near the confluence of the Padma and Meghna, will be conducted during the third tranche after completion of a series of careful studies on morphology and hydraulics at the confluence during the first tranche, followed by a feasibility study and detailed design during the second tranche. Other reaches may be selected as additional priority reaches for physical works, depending on the actual conditions of progressive riverbank erosion and the needs of protections. Priority reaches, which will constitute subprojects may be selected for future tranches as indicated in Schedule 4 of the Framework Financing Agreement.

4. Attention will also be given to emergency riverbank protection works in the project area, including reaches other than the selected three subproject areas, to protect important sites like populated growth centers and/or major infrastructures and facilities, from progressive riverbank erosions.

5. The investment program is a follow-on program of the Jamuna-Meghna River Erosion Mitigation Project (JMREMP).²⁹ JMREMP has established a new more cost effective and flexible riverbank protection method which can effectively cope with the highly dynamic morphological changes of the main rivers in Bangladesh. JMREMP also developed a systematic construction process with stringent quality control measures, and other technical enhancements. Building on the experience, achievements, and lessons learned of JMREMP, the investment program will expand the achievement of the JMREMP with necessary improvement, exploring: (i) long-term

²⁸ "Jamuna Bridge" is used in the Periodic Financing Request to be consistent with the ADB-funded project name Loan 1298-BAN: Jamuna Bridge Project, while the bridge is called Bangabandhu Bridge in Bangladesh.

²⁹ Loan 1941-BAN (SF). JMREMP was implemented from 2002 and closed on 30 June 2011.

strategic and pro-active planning and implementation of erosion protection works to be away from current ad hoc piecemeal measures, in consideration of morphological trend towards the future river stabilization and the creation of useful lands; (ii) more effective linkages between structural and non-structural measures; (iii) effective stakeholder participation; (iv) ensured sustainability of constructed structures; (v) adapting to uncertainties due to climate change; and (vi) strengthening BWDB to enable to address these issues. This long-term strategic and proactive approach could lead to the future long-term stabilization of the entire river course, as envisaged in the government's sector road map, followed by more stable economic growth in the riverine districts.

6. The approach is strengthened by applying the multi-tranche financing facilities modality, which allows (i) flexible and adaptive phased interventions which are technically suitable for coping with the dynamic river morphology in Bangladesh, (ii) support for strategic longer-term flood and erosion management planning aiming at future stabilization of river courses, and (iii) longer-term and more effective support for institutional capacity enhancement of the sector.

7. The following table summarizes the features of the three high priority subproject areas.

JRB-1	(Jamuna Right Bank -1)
District and Upazila	Belkuchi, Kamarkhanda and Shahjadpur Upazilas in Srajganj District
Population	1.5 million
Area (km ²) and bankline length	582 km ² , 37 km
Location	On the right bank (west bank) of the Jamuna River. Immediately downstream of Jamuna Bridge, between the bridge and the first major tributary.
Overall features of physical interventions	Riverbanks of the subproject area have been largely protected by structures provided under the successor ADB-funded project. The area has been suffering from flood inundation, due to the absence of flood embankments. Flood embankments were once constructed in the 1980's, but have been lost by significant riverbank erosions. Given the riverbank protections provided under the JMREMP, the first tranche of the investment program will restore the flood embankments. The project will also provide riverbank protection structures along the remaining unprotected stretches. Riverbank protection structures and flood embankments will be extended during the second tranche.
JLB-2	(Jamuna Left Bank -2)
District and Upazila	Daulatpur, Ghior, Saturia and Shibalaya Upazilas in Manikganj District, Chauhali Upazilas in Sirajganj District, and Nagorpur Upazilas in Tangail Districts
Population	1.1 million
Area (km ²) and bankline length	1,212 km², 56 km
Location	On the left bank (east bank) of the Jamuna River, between an off-take of the Dhaleswari River and the end of the Jamuna at the confluence with the Ganges.
Overall features of physical interventions	The subproject area has been suffered from progressive erosions and frequent flood inundation. The project will provide riverbank protection structures along the most critical stretches in the subproject areas. The riverbank protections will be extended, and flood embankments will be installed during the subsequent tranches, after securing stable riverbanks.

 Table A1.2: Overall Features of Three Subprojects to be Protected under the Project

 PB-1

 (Jamuna Right Bank -1)

District and Upazila	Dohar and Nawabganj Upzilas in Dhaka District, and Serajdikhan and		
	Sreenagar Upazilas in Munshiganj Districts		
Population	0.74 million		
Area (km ²) and bankline length	682 km², 25 km		
Location	On the left bank (east bank) of the Padma River. Downstream of JLB-2		
Overall features of physical interventions	The subproject area has been suffered from progressive erosions and frequent flood inundation. The project will provide riverbank protection structures along the most critical stretches in the subproject areas. The riverbank protections will be extended, and flood embankments will be installed during the subsequent tranches, after securing stable riverbanks.		

Note: Upazila = administrative unit under a district

B. Activities of Each Component

8. Components, sub-components and activities of the project are summarized in **Table A1.3** at the end of this annex.

Component A: Flood and Riverbank Erosion Risk Mitigation Measures at Priority Reaches

9. This component will provide specific measures to protect selected priority river reaches from flood and riverbank erosion risks. The measures will consist of structural and non-structural measures, which include community involvement for sustainable O&M of infrastructures, support for enhancing local communities' flood/erosion disaster risk management capacity, and livelihood enhancement for project affected people. As explained in paragraph 2, the first tranche focuses on most urgent needs in the three subproject areas. Riverbank protection works will be constructed in a phased manner–short length at different reaches, instead of providing a long protection at one site, also for minimizing unexpected changes of downstream riverbank alignments potentially caused by new riverbank protection structures.

a. A1: Infrastructure improvement

10. This sub-component will provide flood and riverbank erosion protection infrastructure in the selected subproject areas. More specifically, the first tranche will include the provision of the following in the three high priority subproject areas:

- Construction of riverbank erosion protection structures in the three subproject areas (about 15 km in total) using appropriate technology with innovative cost effective materials and a systematic efficient construction method, and
- Rehabilitation/restoration of flood embankments in the JRB-1 area (about 12.5 km of restoration along the Jamuna River and around 10.5 km of rehabilitation along a tributary), with associated gated sluiceways (7 nos.) and road pavements on the embankments (around 5 km).

11. The investment program will construct/rehabilitate flood embankments in riverine areas which are safe from riverbank erosions. The first tranche will rehabilitate/restore flood embankments only in the JRB-1 area, as the area is largely protected by riverbank protection structures constructed under the JMREMP.

12. Design and quantity of riverbank protection works may be adjusted during the implementation, depending on changes in riverbank alignments, including morphology changes

and potential impacts of new riverbank protection structures on downstream river banks. Findings from river and bathymetry surveys will be incorporated. The provisions include emergency and/or adaptive riverbank protections works in the project area, including reaches other than the selected three subproject areas. The project will also plan and implement requisite social and environmental safeguards, such as (i) preparation and implementation of resettlement plans, and (ii) the implementation of environmental monitoring and management plans, following relevant policies and guidelines of the government and ADB.

b. A2: Community-based flood risk management

13. This sub-component will be implemented by the DDM. The project will support the formulation of community disaster management units and their capacity development in high priority sites of the three subproject areas where civil works will be executed during the first tranche. The community disaster management units (around 40 units during the first tranche) will be formulated at the ward level (under Upazila and union levels), following existing procedures and guidelines of DDM which were developed existing programs/projects, with necessary improvements. The new units will be established within the DDM's existing institutional framework, and each unit will organize average 15 volunteers who are locally prominent and influential people. Units will report to DDM's Upazila disaster management officers or unit level disaster management officers once they are activated.

14. The support will also cover capacity development of the units and volunteer, particularly on flood and riverbank erosion risk management. While necessary supports will be determined at the initial stage of the project through thorough needs assessments at each site, anticipated activities are: (i) training in community-level flood warning, (ii) training in community-level erosion warning, and (iii) participatory preparation of flood risk maps and action plans.

15. Activities will be supported by community-based disaster management specialists under the Institutional Strengthening and Project Management Consultant (ISPMC) team, which will support the overall project management, including both BWDB and DDM's activities. Local NGOs will be engaged for field activities.

c. A3: Participatory regular operation and maintenance (O&M)

16. This sub-component will be implemented by BWDB with close coordination with DDM's community-based disaster management activities (Sub-component A2). The sub-component aims at contributing to sustainability of infrastructures to be provided under the project, through involvement and support for capacity development of communities in regular (minor) O&M activities of flood management infrastructures in the three subproject areas. The support will be focused on communities adjacent to structures to be provided under the project and in areas which may be affected by operation of infrastructure, especially gated structures. The selected community disaster management units, which are to be formulated under Sub-component A2, will be involved in the participatory regular O&M, depending on their locations, in terms of distance from and influence of the structures.

17. The support will be initiated from awareness campaign to communities to provide knowledge of roles, functions and importance of flood and riverbank erosion risk management infrastructure, such as flood embankments, riverbank protection structures, and gated sluiceways. The communities, then, will be trained in regular O&M of infrastructure concerned. O&M activities will be linked with livelihood support activities for the communities and will be determined based on results of needs' surveys of each community. Examples of anticipated

activities are (i) operation of sluice gates in connection with agricultural and fishery use of water in land side areas, and (ii) planting and raising vegetation on the land side embankment surface.

d. A4: Livelihood support for project affected people

18. This sub-component will provide support for project affected people, largely by involuntary resettlement, who are usually landless vulnerable population. Vulnerable villagers in villages which will receive resettlers may also be benefitted from the sub-component. The provision will include the construction of resettlement areas with basic infrastructure (tentatively two areas during the first tranche), and livelihood support with improved resilience to flood, erosion and climate risks. Contents of the support will be finalized through needs assessments. The sub-component will be conducted with close coordination with the sub-components A2 and A3 where necessary.

Component B: Strengthening Institutional System for Flood and Riverbank Erosion Risk Management

19. This component will support for strengthening the institutional system of the flood and riverbank erosion risk management for the main rivers in Bangladesh, including knowledge base development, with special attention to the strategic river management and sustainable asset management.

a. B1: Institutional capacity strengthening for sustainable river management

20. This sub-component will support BWDB for its capacity enhancement of flood and riverbank erosion risk management for the main rivers. It will include: (i) capacity enhancement of BWDB at both technical and management levels, (ii) support for the initial set-up of the new Office of Chief Engineer River Management (if established), and (iii) development of sustainable asset management. Planned activities, including training topics, are indicated in **Table A1.3**.

b. B2: Knowledgebase Development

21. This sub-component will support BWDB for establishing data, information and knowledge base for flood and riverbank erosion management of the main rivers, which will become the basis for the strategic planning and sustainability. The provision will include: (i) comprehensive studies for long-term strategic river management, (ii) land recovery/river training piloting, (iii) flood and river survey database establishment and data analysis capacity enhancement, (iv) improvement of existing short-term riverbank erosion prediction model, and (v) information dissemination. Planned activities are indicated in **Table A1.3**.

22. **Comprehensive studies for long-term strategic river management.** The comprehensive studies for long-term strategic river management will include (i) long-term river stabilization study for the Jamuna-Padma-Lower Meghna river system and (ii) preliminary river network study for the Jamuna-Padma-Meghna river system. The long-term stabilization study will formulate a holistic long-term river stabilization program (like 25-year investment plan) of the river channel of the Jamuna-Padma-Lower Meghna river system with strategic future interventions for addressing flooding and riverbank erosion towards more stabilized and narrowing water courses of the rivers. The study will be supported by a comprehensive morphology study of the entire Jamuna River from the Indian border at the north end, though the Padma and Lower Meghna rivers and up to the estuary. The study will also verify the

selection of priority protection reaches for the subsequent tranches, and will be reflected on the design of the future tranches. The study will include assessment of impacts of new riverbank protection structures on downstream riverbanks, based on the comprehensive morphology analysis and results of surveys around the new riverbank protection structures. Findings of the assessment will be reflected in the verification of the selection of priority reaches, planning of future tranches, and structural design of riverbank protection structures, to prevent adverse impacts on downstream riverbanks.

23. The preliminary river network study will consider major rivers within the hydrological network of the Jamuna-Padma-Meghna rivers, such as the Upper Meghna (excluding the upstream Haor area), the Old Braphmaputra and other Jamuna distributaries linking the Jamuna and the Upper Meghna or Padma. The study will be a preliminary master planning study to identify required future in-depth studies for addressing various aspects related to sound river management. The study will examine river morphology, riverbank erosion, river training/stabilization, and associated land recovery, which will become basis of site selection of the piloting (refer to paras. 25 and 26). The study will also consider multi-functional use of the major rivers, including water uses for domestic and industrial water supply and irrigation, dry season water quality, navigation, and socio-economic implications of these water uses. With the consideration of nature of such water uses, the comprehensive flood management of the Jamuna-Padma-Meghna system including diversion of flood water through distributaries will be examined.

24. Building on findings of the long-term stabilization study for the entire main rivers, local hydraulic analyses at important locations with complex hydraulic conditions will also be conducted for further discussions of required and appropriate riverbank protections at sensitive areas. They may include confluence of the Padma and the Meghna, and the Jamuna and Ganges and Padma, and off-takes of tributaries along the Jamuna. Detailed study scopes will be developed as part of the long-term stabilization study.

25. **Land recovery/river training piloting.** This subcomponent is included in the first tranche, and will be fully financed by the Netherlands government's co-financing portion, except tax and duties to be financed by the Government of Bangladesh.

26. In line with the government's target of future river stabilization and increase of useful lands, the project includes physical works to stimulate recovery (creation and/or stabilization) of lands. The first tranche will include two types of piloting: (a) land recovery works along the main river using less costly riverbank protection works, vegetation, and other minor structures. This is largely for stabilizing existing sediment deposited areas (attached chars) from erosions and for stimulating further deposition, and (b) pilot-bases construction of innovative structures in rivers, which may include rather major structural works (and may be a combination with vegetation type of softer works) for river training to stabilize riverbanks, leading thalwegs towards the middle of the river to stimulate deeper thalwegs, and may also be for stimulating sediment deposition near riverbanks.

27. The (a) above is included in ordinary civil works packages for riverbank erosion protection under Component A, which will be financed by ADB with government's contribution largely for tax and duty portions as part of ordinary civil works cost. The above piloting (b) will be under this sub-component, and will be conducted in the smaller rivers (major rivers, small rivers, or other rivers), not in the main rivers. The ISPMC service will cover support for the selection of pilot sites and technology/structure, structural design, construction supervision, survey and monitoring, and the preparation of technical reports summarizing their findings and

implications/lessons for future interventions. The ISPMC will closely communicate, consult and work with BWDB, including its Design Circles concerned, at each step.

28. Flood and river survey database establishment and data analysis capacity enhancement. This will include support for regular flood and river bathymetry surveys at and around the riverbank protection works, which are provided by the project and JMREMP. Existing survey data accumulated since JRMEMP implementation period and future survey data will be compiled as database during the subsequent tranche. To prepare for the future development of the database, survey data record format will be designed during the first tranche. The support will cover training to BWDB staffs in recording, reading and interpretation survey data. The support will also cover analyses of response of riverbank protection structures to neighboring reaches.

29. **Improvement of existing short-term riverbank erosion prediction model.** The necessary improvement of the existing model will be examined as part of the long-term stabilization study. The project will support the improvement of the existing model, which could be used for the preparedness to disasters.

30. **Information dissemination** during the first tranche will cover support for the establishment of the project web-site, preparation and contribution of technical papers in international conferences, and participation of BWDB staffs in the international conferences.

Component C: Program Management

31. This component will support project management for smooth implementation, quality control, sound financial management, and timely completion of the project. The support will include the establishment of the management information system (MIS), which may comprise with the project management and asset management modules.

32. The sub-component will include the preparation of a PFR for the subsequent tranches. Technical feasibility, including selection of locations to be protected proposed during the project preparatory technical assistance, will be reviewed and assessed, based on the results of the long-term river stabilization study under Sub-component B1 supported by the latest river morphology conditions and on actual progress of riverbank erosion. Economic feasibility will also be reviewed. Detailed design of structures and activities will also be conducted. The support will also be extended to the preparation of all documents necessary for approvals of the government and ADB, including EIA reports, resettlement plans, ADB's report and recommendation of the president, and a Development Project Proposal/Proforma.

Table A1.3: Components and Subcomponents of the project

Components
Component A: Flood and Riverbank Erosion Risk Management Measures at Priority Reaches
Sub-component A1: Infrastructure improvement
A1-1. Construction of riverbank protection structures using appropriate technology/ methodology
A1-2. Rehabilitation/ construction of embankments
A1-3. Emergency/adaptation riverbank protection works
Sub-component A2 : Community-based flood risk management
B2-1. Forming community disaster management Units
1) Unit formulation
 analysis and preparation of basic documents required for unit formulation (focusing on flood and erosion disasters)

community flood disaster risk assessments
 community flood disaster risk reduction and provisional plans
A2-2. Capacity development for community disaster management Unit
1) Training in community-level flood warning
2) Training in community-level erosion warning
3) Preparing flood risk maps and action plans
Sub-component A3: Participatory regular O&M
A3-1. Capacity development of communities
1) Awareness campaign
2) Practical training of regular O&M flood and erosion management infrastructure
 Regular O&M of embankment slopes (social forestry and grazing on 5-year lease)
Sluice gate operation
3) establishing information flow to BWDB
Sub-component A4 : Livelihood support for project affected people
A4-1. Construction of resettlement areas with basic infrastructure and facilities
A4-2. Support for project affected people
1) Ivelihood support with improved resilience to flood, erosion and climate risks
Component B: Strengthening Institutional System for Flood and Riverbank Erosion Risk
Management
B1-1 Capacity enhancement of BWDB
1) Training in flood and riverbank erosion risk management (morphology, hydrology, other
background general science and technology, planning, design, construction supervision)
2) Training in O&M of structures
3) Study tours (river management flood risk management)
4) Participating training for DDM as resource person in basic technical knowledge of flood and
erosion risks
5) Support BWDB for coordination with DDM for the project implementation
6) Invite DDM other relevant representatives to annual workshops for disseminating the
project activities
B1-2. Initial set-up support for the new Office of Chief Engineer (River Management) (if the
establishment is approved during the MFF period.)
1) support developing clear job descriptions and clear delineation of responsibilities with other
BWDB's setups
2) Capacity development for in-depth knowledge of planning, design and construction of flood
and erosion risk management, and river data management using GIS.
B1-3. Developing sustainable asset management mechanism
1) Asset inventories 2) Development of MIC Flood and Diverbank excession QSM module
2) Development of MIS Flood and Riverbank erosion O&M module
5) Developing 5-year riverballik protection Oxivi and emergency work budgetary plan for main
A) establish construction materials (aco-bag) stocking plan
4) establish construction materials (geo-bag) stocking plan
B2-1 Studies for long-term strategic river management
1) Long-term river stabilization and river training study for the Jamuna-Padma-Lower Meghna
river system:
Morphological analysis
 25-vear investment plan
 morphology and hydraulic studies at confluences (Jamuna-Ganges, Jamuna-Meghna)
2) Preliminary river network study for the Januma-Upper Meghna River system
B2-2. Land recovery/river training piloting
1) Piloting site and technology selection
2) construction of piloting schemes
3) Monitoring and analysing the piloting

B2-3. Flood and river survey database establishment and data analyses capacity enhancement

- 1) flood and river bathymetry survey in SP areas
- 2) upgrading existing database
- 3) training in data analysis
- 4) analysis of response of bank protection structures to neibouring reaches

B2-4. Improving existing tools

- 1) Improvement of short-term river erosion prediction model
- 2) Updating Guidelines for Riverbank Protection Works

B2-5. Information dissemination

- 1) Establishment and dissemination on project web-site
- 2) Dissemination at international conferences

Component C: Program Management

C1-1. Implementation management

- 1) Program management (progress, quality, financial)
- 2) Development of MIS project management module

C1-2. Preparation for Tranches 2 and 3

- 1) verification of priority site and work selection
- 2) Feasibility studies
- 3) documents required for loan processing for ADB and government
- 4) detailed design and bid documents

APPENDIX 2: ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEM

The document can be accessed from the following web link of ADB.

http://www.adb.org/projects

- (i) Resettlement framework
- (ii) Resettlement plans for subprojects
- (iii) Environmental Assessment and Review Framework
- (iv) Environmental Impact Assessments (EIAs) including the environmental management plan (EMP)

APPENDIX 3: REFERENCE MATERIALS

A. Project Related Documents

A1. Basic Project Design

- Framework Financing Agreement
- Periodic Financing Request (PFR) No. 1
- Loan Agreement
- Project Agreement
- Report and Recommendation of the President (RRP) to the Board of Directors
- Facility Administration Memorandum (Tranche-1)
- Final Reports of the Project Preparatory Technical Assistance

A3. Safeguards

- Environmental Impact Assessment (EIA) Reports
- Environmental Review and Assessment Framework
- Resettlement Framework
- Resettlement Plans for Tranche-1

B. General ADB Documents for Project Administration³⁰

B1. General

- Anticorruption and Integrity (October 2010)
 <u>http://www.adb.org/documents/anticorruption-and-integrity-policies-and-strategies</u>
- Frequently Asked Questions on Anticorruption and Integrity: A Guide for ADB Staff (December 2011)

http://www.adb.org/documents/frequently-asked-questions-anticorruption-and-integrity

- Guidelines for the Economic Analysis of Projects (December 1993, revised February 1997) <u>http://www.adb.org/documents/guidelines-economic-analysis-projects</u>
- Project Financial Reporting and Auditing (July 2013) <u>http://www.adb.org/documents/project-financial-reporting-and-auditing</u>
- Handbook for Borrowers on the Financial Management and Analysis of Projects (December 2006) http://www.adb.org/documents/handbook-borrowers-financial-management-and-analysis-projects
- Financial Management and Analysis of Projects (July 2005) http://www.adb.org/documents/financial-management-and-analysis-projects
- Financial Management Technical Guidance Note: Preparing and Presenting Cost Estimates for Projects and Programs Financed by the Asian Development Bank (February 2014)

http://www.adb.org/sites/default/files/fmtgn-preparing-presenting-cost-estimates.pdf

- Financial Management Technical Guidance Note: Project Financial Reporting and Auditing (June 2013)
- http://www.adb.org/sites/default/files/project-financial-reporting-auditing.pdf
- Guidelines for Preparing the Design and Monitoring Framework (July 2007)
- E-Handbook on Project Implementation (March 2012) <u>http://www.adb.org/documents/handbook-project-implementation</u>
- Second Governance and Anticorruption Action Plan (July 2006)
- Revised Guidelines for Implementing ADB's Second Governance and Anticorruption Action Plan (GACAP II) (December 2011)

³⁰ Documents may be updated/revised time to time. The latest versions should be applied.

http://www.adb.org/documents/revised-guidelines-implementing-adbs-second-governance-andanticorruption-action-plan

- Operations Manual (Policies and Procedures) (updated October 2003 latest updates of individual BPs and OPs apply)
- Special Operations Loan Regulations (Applicable to Loans Made by ADB from its Special Funds Resources) (January 2006)
- Public Communications Policy (October 2011)

B2. Consultants

Guidelines on the Use of Consultants by the ADB and Its Borrowers (revised March 2013)

http://www.adb.org/documents/guidelines-use-consultants-asian-development-bank-and-itsborrowers

- Harmonized Request for Proposal (RFP) for the Recruitment of Consulting Firms (Standard Request for Proposal) (March 2013) <u>http://www.adb.org/site/business-opportunities/operational-</u> procurement/consulting/documents?guicktabs_10=2#guicktabs-10
- Consulting Services Operations Manual (December 2008)
 http://www.adb.org/documents/consulting-services-operations-manual

B3. Procurement

- Procurement Guidelines (revised March 2013) <u>http://www.adb.org/documents/procurement-guidelines</u>
- Guide to Completing Procurement Plans
- Handbook on Problems in Procurement for Projects Financed by the Asian Development Bank (Revised November 1987, reprinted October 1995)
- Standard Bidding Documents Procurement of Goods (including related services)
- Standard Bidding Documents Procurement of Works
- Standard Bidding Documents Procurement of Works (Small Contracts)
- Guide on Bid Evaluation (October 2009)

B4. Disbursement

Loan Disbursement Handbook (July 2012)
 http://www.adb.org/documents/loan-disbursement-handbook

B5. Environmental and Social Safeguards

• Safeguard Policy Statement (2009)

B6. Social Dimensions and Gender Development

- Handbook on Social Analysis: A Working Document (2007)
- Handbook on Poverty and Social Analysis: A Working Document (December 2012)
 http://www.adb.org/documents/handbook-poverty-and-social-analysis-working-document
- Core Labor Standards Handbook (2006)
- Strengthening Participation for Development Results: An Asian Development Bank Guide to Participation (February 2012)
- Quick Reference Guide on Gender and Project Performance Management System (2009)
- Project Gender Action Plans: Lessons for Achieving Gender Equality and Poverty Reduction Result (A Briefing Note, 2009)
- Gender, Law, and Policy Toolkit (2006)

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• Legal Empowerment for Women and Disadvantaged Groups (January 2009) http://www.adb.org/publications/legal-empowerment-women-and-disadvantaged-groups

B7. Others

• Executing Agency's Project Progress Report (PAI 5.01)

APPENDIX 4: SUGGESTED CONTENTS FOR PROJECT PROGRESS REPORT

A. Introduction and Basic Data

Provide the following:

- ADB loan number, project title, borrower, executing agency(ies), implementing
- agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds and cofinancing;
- dates of approval, signing, and effectiveness of ADB loan;
- original and revised (if applicable) ADB loan closing date and elapsed loan period based on original and revised (if applicable) loan closing dates; and
- date of last ADB review mission.

B. Utilization of Funds (ADB Loan, Cofinancing, and Counterpart Funds)

Provide the following:

- cumulative contract awards financed by the ADB loan, cofinancing, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB loan, cofinancing, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- re-estimated costs to completion, need for reallocation within ADB loan categories, and whether an overall project cost overrun is likely.

C. Project Purpose

Provide the following:

- status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

D. Implementation Progress

Provide the following:

- assessment of project implementation arrangements such as establishment, staffing, and funding of the PMO;
- information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;
- progress or achievements in implementation since the last progress report;
- assessment of the progress of each project component, such as,
 - recruitment of consultants and their performance;

- procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
- the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets, the reference framework or guidelines in calculating the project progress including examples are shown in page 4); and
- an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

E. Compliance with Covenants

Provide the following:

- the borrower's compliance with policy loan covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- the borrower's and EA's compliance with financial loan covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- the borrower's and EA's compliance with project-specific loan covenants associated with implementation, environment, and social dimensions.

F. Major Project Issues and Problems

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of loan proceeds).

Activities	(a) Assigned Weight	(b) Actual Progress (%)	(a) x (b) Weighted Progress (%)
Establishment and Staffing of PMO	4		
Consultants Recruitment (ISPMC)	4		
NGO Recruitment (CBFRM and RPs)	2		
Detailed Design and Tender Documents	2		
Tendering and contract award of Civil Works	4		
Tendering and contract award of Goods	4		
Land Acquisition and Resettlement	5		
Long-term stabilization study	4		
Land recovery piloting	2		
Knowledge Base Development and technical studies	4		
CBFRM Activities	4		
Project Management	6		
Establishment of MIS Project Management module	5		
Physical Completion of Works & Overall Disbursements	50		
Total Weight	100		

APPENDIX 5: COMPUTATION OF PHYSICAL PROGRESS

(a) Assigned weight for each activity; (b) Actual progress of each activity (a)/100 \times (b) weighted progress for each activity; Project progress = sum of all weighted

progress for each activity

APPENDIX 6: STATEMENT OF AUDIT NEEDS (Tranche-1)

A. Background

1. The ADB and the Government of Bangladesh (GOB) have entered into a Loan and Grant Agreement whereby, ADB shall provide \$65 million for the purpose of financing civil works, materials, equipment, consulting services, training, and project management. The Government of Netherlands funds \$15.300 million as grant basis for financing consulting services and piloting works. The GOB shall contribute \$23.3 million against these funding. This will be carried out through the Bangladesh Water Development Board (BWDB). BWDB shall maintain separate books of account which will be consolidated by the PCMU with respect to this Project, including all items of expenditure financed out of the proceeds of the loan and grant agreement.

B. Financial Reporting and Audie Requirements

2. BWDB will prepare project financial statements for each tranche on a cash basis of accounting, in accordance with its Financial Administrative Regulations (FAR). This shall not be construed to refer to the financial statements of BWDB as a whole. Separate financial statements shall be prepared for each Tranche.

3. The audit of the project financial statements shall be carried out by the Foreign-Aided Project Audit Directorate (FAPAD) within the Comptroller and Auditor General of Bangladesh (CAG) in accordance with CAGs Audit Manual.31, as supplemented by this Statement of Audit needs. The auditor will review that the funds received from all sources and expenditures incurred during the reporting period are as per agreed terms and conditions. This will include all expenditure to the extent that it relates to the activities of the investment program and BWDB supporting this Project.

4. BWDB will submit to ADB audited project financial statements as of June 30 each year, within 6 months of the end of the fiscal year in English. A complete set of audited project financial statements includes:

- (i) Audit opinion on the project financial statements
- (ii) Audit opinion on specific donor requirements ³²
- (iii) Project financial statements and statement of budget vs. actual along with complete notes to the financial statements including necessary break downs and details, summary of accounting policies and explanatory notes
- (iv) Management letter (Section F below)

5. To ensure the timely submission of audited project financial statements, BWDB will formally request the CAG to include FRERMIP project audits in their yearly work plan through the DEA, at the time of loan negotiations. To support timely submission, unaudited project financial statements should be submitted to the CAG for audit within 3 months of the end of the fiscal year.

³¹ Audit standards for CAG directorates are set out in an Audit Manual and are based on INTOSAI and Asian Organization of Supreme Audit Institutions standards

³² Separate or combined opinions on the Programme financial statements and specific ADB requirements may be provided

6. In addition, BWDB shall also submit a copy of their own entity level audited financial statements within one month of the date of their approval by the governing body of BWDB.

C. Specific Audit Needs

7. The audit would cover the entire Project i.e. covering all sources and application of funds, including the ADB and the GOB. The Financing Arrangement as currently agreed with ADB, includes Direct Payments by ADB to suppliers (DPs). The Project Director shall provide all pertinent information to the Auditors including preservation and use of resources procured and its reflection in the project accounts, so as to facilitate comprehensive audit coverage. The audits should be carried out annually from commencement of the Project. The audit for the first year should also cover transactions, which occurred from the commencement of the project, i.e. till the end of the fiscal year. In case the period is less than 6 months, GOB may agree with ADB to provide APFS from the commencement of the Project to the end of the subsequent fiscal year.

8. The auditor will provide assurance as to whether the project financial statements present a true and fair view of the receipts and expenditures, or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework.

9. In addition, ADB will also require an assessment by the auditors of compliance with provisions of the financing agreement with ADB, especially those relating to accounting and financial matters. Positive assurance should be provided in accordance with International Standard of Supreme Audit Institutions – 4100 on Compliance Audit. An audit opinion shall be provided that will inter alia include verification that:

- (i) All funds, including counterpart funds, have been used in accordance with the conditions of the loan agreements, with due regard to economy and efficiency, and only for the purposes for which the funds were provided;
- (ii) The BWDB were in compliance as at [insert date] with all financial covenants of the loan agreement;
- (iii) With respect to SOEs, (a) adequate supporting documentation has been maintained to support claims to ADB for reimbursement of expenditures incurred; and (b) except for ineligible expenditures as detailed in the audit observations, if any, appended to this audit report, expenditures are eligible for financing under the Loan Agreement;
- (iv) The Imprest Account gives a true and fair view of the receipts collected and payments made during the year ended [insert date], and (ii) these receipts and payments support the Imprest Account Liquidation/ replenishments during the year

10. ADB would expect that the auditors should advise a calendar for discussion/review of audit observations (particularly any serious matters) through tri-partite meetings and review meetings to facilitate executive follow-up on audit observations and recommendations. Moreover, ADB would need a review of actions taken on the recommendations presented in the previous audit report on the progress made.

D. Program Financial Statements (PFSs)

11. The Project Annual Financial Statements (APFSs) shall be prepared in accordance with international accounting best principles and practices as well as government's accounting laws and regulations. These should include:

- (i) Sources and Consolidated Uses of Funds showing the funds received and expended from ADB and GOB for the project, as well as imprest account balances.
- (ii) Statement of Budget vs Actual showing expenditure for the current year and cumulative year to date,
- (iii) Detailed notes to the financial statements including explanatory notes, break down of expenditure, reconciliation of reimbursements, Details of expenditure by Currency/Method of Funding/Output Component, Statement of Imprest Account, and Accounting Policies

12. Project Books of Account shall be maintained by the Project Management Office (PMO) of BWDB.

13. Project Financial Statements shall provide sufficient level of detail to identify types of expenditures as identified in the allocation Table of the Loan Agreement; namely civil works, consulting services, training, equipment, community initiatives and design and surveys.

14. The project financial statements shall also provide sufficient level of detail to be able to identify expenditure relating to each of the 3 Components of the Project; namely, (i) Component 1: Functioning flood and riverbank erosion risk mitigation at priority reaches, (ii) Component 2: Strengthening institutional systems for flood and riverbank erosion risk management and, (iii) Component 3: Program management.

15. Draft template for the Financial Statements shall be provided to the PMO during implementation to ensure maximum alignment with Cash Basis International Public Accounting standards as well as conformity with IBAS.

16. Please note that any financial statement template is a working draft, which may require adjustment based on the actual activities of the Project.

F. Management Letter

- 17. In addition to the audit report, ADB will require a separate management letter.
- 18. The management letter should specifically:\
 - Give comments and observations on the notes to the accounts, accounting records, systems, and internal controls that were examined during the course of the audit;
 - Identify specific deficiencies and areas of weakness in systems and internal controls and make recommendations for their improvement including MOE response to the identified deficiencies;
 - (iii) Communicate matters that have come to attention during the audit which might have a significant impact on the implementation of the Project; and
 - (iv) Bring to GOB and ADB attention any other matters that the auditor considers pertinent.

(v) The auditor should also make follow-up of audit recommendations to their conclusion.

19. Serious issues, which affect the auditor's opinion as to whether the financial statements give a true and fair view, should be referred to in the audit opinion. Management Letter should include only those issues which do <u>not</u> affect the fairness of the financial statements.

G. General

20. Review missions and normal program supervision will monitor compliance with financial reporting and auditing requirements and will follow up with concerned parties, including the external auditor.

21. ADB has made BWDB aware of ADB's policy on delayed submission, and the requirements for satisfactory and acceptable quality of the audited financial statements33. ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower, or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed.

22. ADB retains the right to verify or have audited (i) the project (ii) the validity of BWDB's certification for each withdrawal application, and (iii) that ADB's financing is used in accordance with ADB's policies and procedures.

23. In case an external auditor needs to be commissioned for a supplementary audit, the auditor should be given access to all legal documents, correspondences, and any other information associated with the commission and deemed necessary by the auditor. Confirmation should also be obtained of amounts disbursed and outstanding with ADB and the Government etc.

H. Public Disclosure

24. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011)34. After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The Audit Management Letter will not be disclosed.

Note: This is a statement of audit needs for ADB and does not in any way intend to limit the scope of the statutory audit.

³³ ADB Policy on delayed submission of audited project financial statements:

When audited project financial statements are not received by the due date, ADB will write to the executing
agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six
months, requests for new contract awards and disbursement such as new replenishment of imprest accounts,
processing of new reimbursement, and issuance of new commitment letters will not be processed.

When audited project financial statements have not been received within 6 months after the due date, ADB will
withhold processing of requests for new contract awards and disbursement such as new replenishment of
imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i)
inform the executing agency of ADB's actions; and (ii) advise that the loan may be suspended if the audit
documents are not received within the next six months.

[•] When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.

³⁴ Available from http://www.adb.org/documents/pcp-2011?ref=site/disclosure/publications

APPENDIX 7: PROCUREMENT CAPACITY ASSESSMENT

Executing Agency: Bangladesh Water Development Board (BWDB) under the	Proposed Amount (MFF)	(US\$):	250	million
Ministry of Water Resources (MoWR)				
Assessor: PPTA Team	Date: March 2013			

A. Expected Procurement

The envisaged procurements under the tranche-1 project will comprise (i) **civil works** including construction/ rehabilitation of 29 km embankment, construction of 16 km bank protection revetment and strengthening existing 10 km bank protection revetment; (ii) **goods** including 6 million geo-textile bags , 4 Barges, 6 transport vehicles, ICT equipment with peripherals and software packages and (iii) **services** including consulting firms for implementation support/ river stabilization studies/ feasibility study of next tranche project and NGO services for resettlement planning and implementation, NGO services for community based flood risk management, developing ADP and O&M MIS.

B. General Procurement Environment Assessment

Risk Assessment:

Risk assessment associated with general procurement environment has been conducted. Following are the identified criterion wise risk rating:

0
– Low
 Average
– Average
– High
– Average

Summary of Findings:

Bangladesh has enforced a comprehensive procurement law – the Public Procurement Act, 2006 (PPA 2006) which covers all types of procurement. The law is sought to ensure transparency and accountability in public procurement and fairness to all participants in Government purchases. The law is supported by Public Procurement Rules, 2008 (PPR 2008) which provides necessary explanation and modality of application. The provisions of the law and regulations are consistent with internationally accepted principles and practices. Standard bidding documents for Goods, works and consultancy services have been prepared and made mandatory for use in making procurements. Thus, the Act, Rule and Standard Bidding Documents provide a unified national procurement framework.

Implementation Monitoring and Evaluation Division (IMED) is the central and apex organization of the Government for Monitoring and Evaluation (M&E) of public sector development projects that are included in the Annual Development Program (ADP). IMED also deals with matters relating to PPA. The Central Procurement Technical Unit (CPTU), established under IMED in 2002, acts as the central organ of Government for policy formulation, coordination, monitoring and improvement of the public procurement process. The CPTU also has the authority to intervene in the bidding process if complaints are made by any or more bidders. It also acts to resolve such disputes or complaints. Recently CPTU has introduced the web based procurement system, called 'Electronic Government Procurement (e-GP) System' that provides online platform for carrying out procurement activities. Presently, some 16 units under four Government organizations are using e-GP

system for carrying out part of their procurements on pilot basis. BWDB is one of the four organizations.

In spite of existence of international standard law and regulation, the public procurement regime remains somewhat weak. This can be attributed to (i) a lack of understanding of applicable procurement rules and regulations among officials involved in procurement, (ii) unwarranted intervention from local politician (iii) inadequate oversight capacity of regulatory authority and (iv) largely in effective system of appeals and review of procurement decisions. All these factors appear to undermine the integrity of the public procurement system. However, as Government has targeted full introduction of e-GP System over the next few years, a meaningful oversight may be possible after the said system is fully introduced for all procurement cases. The e-GP system, when fully introduced will generate national procurement database as by product paving the way for evaluation of effectiveness of procurement framework.

C. Organizational and Staff Capacity

Risk Assessment: Low

Summary of Findings:

Bangladesh Water Development Board. BWDB is a major implementing agency of the Government. Since its creation in 1959, the organization has implemented large number of projects including big and medium sized projects. Most of the major and important projects were implemented with external assistance; in fact, up to the year 2000, project aid used to exceed Government funding in BWDB ADP. Seven aided projects are under implementation currently and cumulative project aid component constitutes 27.11% of ADP (BDT 2, 0858 million) for the current fiscal (2012-13).

As is a major implementing agency, procurements constitute major activities of BWDB. The engineering staffs of the organization are quite familiar with the processes of all types of procurement i.e. goods, works and consulting services. The donor agencies of water sector projects constitute agencies of friendly governments, international agencies and financial institutions. As most of donor agencies had imposed their own procurement policy and rules in respective aided project, BWDB staffs are also familiar with procurement rules and procedures of major donor agencies.

Over the decade long water sector reform initiatives beginning mid-1990s, BWDB underwent a staff reduction (mostly supporting staff) as well as complete halt on new recruitment in all categories. This put a strain on implementation capacity due to shortage of staff in the junior ranks. Only, since 2005, Government lifted ban and new recruitment has now become regular phenomenon. Moreover, a proposal for increasing staff strength of BWDB is under final stage of approval process. However, BWDB is facing the problem arising out of departure of significant number of new engineering recruits within initial years. Of the 88 young engineers recruited in 2005, 43 left the organization. This phenomenon requires carrying out induction repeatedly.

Project Management Office (PMO). The present PMO (called as PMO-JMREMP) was established with the responsibility of implementing the 'Jamuna-Meghna River Erosion Mitigation Project'. Historically speaking, PMU-CAD Project was designated as PMO-JMREMP. Though JMREMP closed after June, 2011, it is being continued for overseeing the

PPTA of the proposed investment program. It is understood that this unit will be entrusted with the implementation responsibility of the future investment project, may be with a changed name as was the case previously.

This unit, with changed names at different project period, is dealing with ADB assisted projects since quite long period in the past. The unit retains project related procurement documents and knowledge. There is one senior professional staff, working at this unit for the last 8 years, who had been specifically involved in ICB procurements under JMREMP. There is also one supporting staff from accounting cadre, who is working at this unit for even longer period, is familiar with ADB disbursement process and possesses hands on working experience.

Some of the professional staffs, which have recently joined this unit on transfer, possess substantial direct procurement experience. The present Project Director, who is very experienced in procurement will retire by the time the implementation of new project commences. However, it is agreed that the present PMO will be strengthened by upgrading its rank and staff strength. An Additional Chief Engineer, having procurement proficiency, in addition to other management capacity, is expected to be posted to work as Project Director. Thus, the capacity of PMO in respect of procurement activities will be at satisfactory level. Moreover, as always had been the case, any capacity gap, may be filled with provision of a procurement specialist in team of implementation support consultant.

D. Information Management

Risk Assessment: Information Management – Average

Summary of Findings:

Procurement records are maintained at the respective procuring units for longer periods beyond project implementation. Records are kept in paper/physical files. As the information are not maintained in a structured manner, instant retrieval is difficult. Moreover, shifting office location sometimes causes loss or misplacement of files and thereby loss of vital information.

E. Procurement Practices

1. Procurement of Goods and Works

Risk Assessment: Low

Summary of Findings:

Procurements of goods and works under aided projects are quite frequent in BWDB as a number of such projects used to be in the annual development program portfolio. In most cases, procurement is carried out following guidelines of concerned donor agencies. The national procurement framework is also in line with international practice. Following national guidelines leads to similar outcomes as following donor guidelines. Under NCB, bidding process can be completed by 4 months. However, guidelines of donor dictates little longer timeline at each stage of bidding process, and thereby requires about 50% more time to complete bidding process.

2. Consulting Services

Risk Assessment: Procurement Practices – Average

Summary of Findings:

During tranche-1 project implementation, implementation support consultancy service as well as long term river stabilization study and feasibility study of tranch-2 project consultancy services will be required. In addition, NGO services will be required for resettlement plan implementation and disaster preparedness. As these services are required for developing and application of innovative methods and procedures, recruiting qualified consultant will be challenging.

Procurement of consulting services is not as frequent as the procurement of goods or works. Time required for service procurement is much longer. Evaluation of expression of interest (EOI) and proposal evaluation requires special skill. Usually planning offices carryout consulting service procurement. BWDB have experience of recruiting international and national consulting services, but may not be enough for this project.

F. Effectiveness

Risk Assessment: Low

Summary of Findings:

The institutional arrangement and practice appear to be generally adequate for making procurement effectively.

G. Accountability Measures

Risk Assessment: Low

Summary of Findings:

Adequate process control and oversight mechanism is established in the national procurement framework and organizational practice. There is no provision and practice opposed to the ADB procurement guidelines.

All required procurements are detailed out in approved development project proposal/ proforma (DPP). Thereafter, no additional approval is required for initiating and carrying out procurement except approval bid evaluation from competent authority as per delegation of financial power. Draft bid document, when exceeded certain cost ceiling have to be approved by Director General. In the process, the draft is reviewed by Director, Central Procurement Cell which acts as knowledge procurement knowledge hub. This eliminates associated risk to great extent.

Summary Assessment

Overall Risk Rating: Low

National procurement environment is founded on sound legal procedural framework and is generally is conducive for making effective procurement under the project. The EA i.e. BWDB is quite experienced in procurement of Goods, works - both for exclusively government funded project as well as aided project. But their capacity is somehow limited for procurement of consulting services. There is wide variation of degree of knowledge and experience among individual staff member on procurement process and issues. Personnel assigned to the project, especially those who will be dealing with procurement may need undergoing

orientation training on ADB procurement guidelines and procedures. Another weakness about BWDB is that they does not maintain central database of procurement. Such information, if existed centrally, could help quick checking of bidders qualification and experience thereby lessening bid evaluation time as well as avoiding misinformation.

Specific Recommendations, Project Implementation		
Risks	Recommended Action	Responsibility and
		comment
High margin of domestic	Conduct survey of geotextile	ADB can engage an
preference scheme	manufacturing industry in the	independent expert to carry
	country and asses extent of	out the survey, analysis and
	value addition to fix a rational	recommendation (as
	margin for domestic	proactive action before
	preference scheme.	commencement of
Conceity Concerning	December ded Action	Implementation)
Capacity Constraint	Recommended Action	Responsibility and
Individual staff member	Import training on ADP	
assigned to the project may	procurement quidelines	BWDB and ADB
not have adequate	methods and procedures	
knowledge and experience		
of procurement under ADB		
aided project		
General Recommendations. EA/IA		
Risks/Capacity Constraint	Recommended Action	Responsibility and
		comment
Inadequate capacity for	Develop M&E procurement	BWDB may take initiative to
oversight of organization	oversight.	develop and institute a
wise procurement activities.		'Procurement Information
		Management System' with
		adequate tools for automatic
		auditing and surveillance.
		The action may be taken up
Concerned Decommendations	Decourses out Franking and and	under any aided project.
Biok/Consoity Constraint	Procurement Environment	Deeneneihility and
Risk/Capacity Constraint	Recommended Action	Responsibility and
No such risk is identified	None	