

বাংলাদেশ পানি উন্নয়ন বোর্ড  
BANGLADESH WATER DEVELOPMENT BOARD

Project Management Office: PMO-  
FRERMIP  
Flood and Riverbank Erosion Risk  
Management Investment Program  
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প্রকল্প ব্যবস্থাপনা দপ্তর :পিএমও-এফআরইআরএমআইপি  
ফ্লাড এন্ড রিভার ব্যাংক ইরোশন রিস্ক ম্যানেজমেন্ট  
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স্মারক নং- পিএমও-এফআরইআরএমআইপি/৬৭৬

তারিখ: ০৯/০৫/২০২৩ খ্রিঃ

সার্কুলার

এতদসংশ্লিষ্ট সকলের অবগতির জন্য জানানো যাচ্ছে যে, এশীয় উন্নয়ন ব্যাংক (এডিবি) ও রাজকীয় নেদারল্যান্ডস সরকারের আর্থিক সহায়তায় পানি সম্পদ মন্ত্রণালয়ের উদ্যোগে বাংলাদেশ পানি উন্নয়ন বোর্ড কর্তৃক গৃহিত “Flood and Riverbank Erosion Risk Management Investment Program (FRERMIP) (Project-2)” শীর্ষক প্রকল্পের সুষ্ঠু বাস্তবায়নের নিমিত্ত কারিগরি সহায়তা প্রদানের লক্ষ্যে মহাপরিচালক, বাপাউবো মহোদয়ের অনুমোদনক্রমে অতিরিক্ত মহাপরিচালক (পরিকল্পনা, নকশা ও গবেষণা) মহোদয়কে আহ্বায়ক করে ১৫ (পনের) সদস্য বিশিষ্ট ১টি কারিগরি কমিটি গঠিত হয়। উক্ত কমিটি গত ১৯/০২/২০২৩ তারিখে অনুষ্ঠিত সভায় সরেজমিনে প্রকল্প এলাকা পরিদর্শন করে ডিপিপিভুক্ত কার্যক্রমের ডিজাইন রিভিউয়ের প্রয়োজনীয়তা যাচাই, প্রকল্পের বর্তমান অবস্থার প্রেক্ষিতে ডিপিপিভুক্ত কার্যক্রমের সংযোজন/ বিয়োজন/ মোডিফিকেশনের প্রয়োজনীয়তা যাচাই এবং প্রকল্পের আরডিপিপিতে অন্তর্ভুক্তির জন্য বিচেনাধীন নদীভাঙ্গন প্রবণ এলাকাসমূহ চিহ্নিত করতঃ আরডিপিপিতে অন্তর্ভুক্তকরণের প্রয়োজনীয়তা যাচাই করার সিদ্ধান্ত গ্রহণ করে। সে মোতাবেক গত ২৫/০৩/২০২৩ তারিখে কমিটির সরেজমিনে প্রকল্প এলাকা পরিদর্শনের প্রেক্ষিতে প্রণীত কারিগরি প্রতিবেদন (অত্রসং সংযুক্ত) অদ্য ০৯/০৫/২০২৩ তারিখে মহাপরিচালক, বাপাউবো মহোদয় কর্তৃক অনুমোদিত হয়েছে। এমতাবস্থায়, কারিগরি প্রতিবেদনের সুপারিশের আলোকে পরবর্তী প্রয়োজনীয় ব্যবস্থা গ্রহণ এবং সংশ্লিষ্ট সকলের সদয় অবগতি/ অবগতির জন্য সার্কুলারটি জারি করা হলো।

  
(মোঃ রুহুল আমিন)


প্রকল্প পরিচালক/ অতিরিক্ত প্রধান প্রকৌশলী

অনুপিপি (সদয় জ্ঞাতার্থে/ জ্ঞাতার্থে ও কার্যার্থে): (জ্যেষ্ঠতার ভিত্তিতে নয়)

- ১। অতিরিক্ত মহাপরিচালক (পশ্চিম রিজিয়ন/ পরিকল্পনা, নকশা ও গবেষণা), বাপাউবো, ঢাকা।
- ২। প্রধান/ অতিরিক্ত প্রধান প্রকৌশলী, নকশা ও গবেষণা/ মনিটরিং/ পরিকল্পনা/ রিভার ম্যানেজমেন্ট, বাপাউবো, ঢাকা।
- ৩। জনাব এ. এম. আমিনুল হক, অবসরপ্রাপ্ত মহাপরিচালক, বাপাউবো।
- ৪। প্রফেসর ড. আব্দুল মতিন, পানি সম্পদ প্রকৌশল বিভাগ, বাংলাদেশ প্রকৌশল বিশ্ববিদ্যালয়।
- ৫। জনাব হারুন-অর-রশীদ, অবসরপ্রাপ্ত প্রধান প্রকৌশলী (নকশা), বাপাউবো।
- ৬। জনাব ড. মমিনুল হক সরকার, সিনিয়র উপদেষ্টা, CEGIS, ঢাকা।
- ৭। Team Leader, ISPMC, FRERMIP (Project-2)।
- ৮। তত্ত্বাবধায়ক প্রকৌশলী, নকশা সার্কেল-১/৭, বাপাউবো, ঢাকা।
- ৯। সিএসও টু মহাপরিচালক, বাপাউবো, ঢাকা।
- ১০। তত্ত্বাবধায়ক প্রকৌশলী, টাঙ্গাইল পানি উন্নয়ন সার্কেল, বাপাউবো, টাঙ্গাইল।
- ১১। তত্ত্বাবধায়ক প্রকৌশলী, পিএমও-এফআরইআরএমআইপি (প্রকল্প-২), বাপাউবো, ঢাকা।
- ১২। নির্বাহী প্রকৌশলী, কেতলা নির্মাণ বিভাগ/ মানিকগঞ্জ পানি উন্নয়ন বিভাগ/টাঙ্গাইল পানি উন্নয়ন বিভাগ, বাপাউবো, পাবনা/ মানিকগঞ্জ/ টাঙ্গাইল।
- ১৩। অফিস কপি।

**REPORT OF THE TECHNICAL COMMITTEE IN C/W FRERMIP-2**

**APPROVED**

  
02/08/2026

**(MD. NURUL ISLAM SARKER)**  
**Director General**  
**BWDB, Dhaka.**

**April 2023**

A Technical Committee for “Flood and Riverbank Erosion Risk Management Investment Program (Project-2) were formed (as stipulated in the DPP) as per approval of Director General, BWDB, Dhaka. **(Annexure-A)**

The 1<sup>st</sup> meeting of the Technical Committee was held on 19 February 2023, chaired by Muhammad Amirul Haq Bhuiya, Additional Director General (Planning, Design and Research), BWDB, Dhaka. The decisions of the meeting are as follows: **(Annexure-B: Minutes of the Meeting)**.

1. The members of the Technical Committee will visit the project area at the right and left bank of the Jamuna River at the downstream of the Bangabandhu Setu within the next few days,
2. The Committee will visit the site, identify vulnerable locations, review the situation of adjustment of length (if necessary) for revision of DPP following prevailing rules and regulations.
3. The Committee will recommend (if necessary) to review the design/designs to be followed for the proposed protection works and
4. The Committee will also visit the vulnerable areas at the immediate upstream of Chauhali and recommend for necessary measures.

Following the decisions of the 1<sup>st</sup> meeting of the Technical Committee, the team members visited the Lower Jamuna and Upper Padma rivers on 25 March 2023. The objective of the visit are as follows: **(Annexure-C: Tour Program)**

- i) Review and advise on complex and/or controversial technical issues encountered during project execution.
- ii) Resolving technical issues raised during project implementation and provide the best solution in favour of the project.

**The alignment of the field trip is shown in Figure 1.**

The field visit was attended by the following members of the Technical Committee:

1. Muhammad Amirul Haque Bhuiyan, Additional Director General, BWDB, Dhaka.
2. Dr. Shamal Chandra Das, Chief Engineer (Civil), Planning, BWDB, Dhaka.
3. Md. Ruhul Amin, Project Director, PMO-FRERMIP, BWDB, Dhaka.
4. Md. Abdul Basit, Superintending Engineer, Design Circle 1, BWDB, Dhaka. (Representative of Chief Engineer, Design, BWDB)
5. Md. Sultan Mahmud, Superintending Engineer, PMO-FRERMIP, BWDB, Dhaka.
6. Poly Das, Executive Engineer, Design Circle – 7, BWDB, Dhaka (Representative of Chief Engineer, Design, BWDB)
7. M. Nazmul Islam, Executive Engineer, PMO-FRERMIP, BWDB, Dhaka. (Representative of PMO-FRERMIP, BWDB)
8. Md. Mahbubur Rahman, Executive Engineer, Construction Division Koitola, FRERMIP, BWDB, Koitola, Pabna.
9. Md. Shazzad Hossain, Executive Engineer, Tangail O&M Division, BWDB, Tangail.
10. Professor Dr. Abdul Matin, Department of Water Resources Engineering, BUET, Dhaka.
11. Md. Harun-ur-Rasheed, Ex- Chief Engineer (Civil), Design, BWDB.
12. Sudipta Kumar Hore, Associate Specialist, CEGIS, Dhaka. (Representative of Dr. Maminul Haque Sarkar, Senior Advisor, River, Delta and Coastal Morphology, CEGIS, Dhaka)
13. Knut Oberhagemann, Team Leader, ISPMC, FRERMIP (Project 2)

The committee members started visiting FRERMIP Project-2 areas from upstream of the Jamuna Bridge crossing where the new railway bridge is currently under construction to observe if there are any noticeable changes due to the respective construction activities.

**Technical Committee member's observations during site visit are as follows:**

**Site 1: Left bank between Pungly and Dhaleswari:**

The Committee first visited the site at the bank line on the left bank between Pungli River and Dhaleswari River. This area is eroding and up to 150 m bankline was eroded along some 6 km lengths. FRERMIP has a provision for emergency works which could stop the erosion to a large extent. The emergency works may be built within the DPP allocation at the downstream of the Dhaleswari River during 2023-2024. Initially 2.95 km length emergency protection measure will be taken within the cost of DPP package from the right bank offtake of Dhaleswari to ongoing protective of package W-04 towards the downstream. Additional emergency works may be taken up immediately from left bank offtake of Dhaleswari towards the upstream as much length as possible. Also the emergency works done maybe strengthened during next dry season by necessary adaptation works.

**Site 2: Right bank downstream of the Western Guide Bund**

The right bank opposite of site 1 where a power plant and a private economic zone are located. Here the char deposited after completion of the western guide bund in 1996 has started eroding with the bankline approaching to the power plant. To protect the bank line necessary protective measures may be taken up.

**Extension of work lengths within the contract provisions**

The Team Leader, ISPMC mentioned that contracts W-01 and W-02 comprise 10.5 km of riverbank protection at the Jamuna right bank with five layers of underwater coverage. He explained that the current contracts implemented along the right bank (W-01 and W-02) would have sufficient allocations to address part of this erosion potentially before the onset of the 2023 monsoon. Given that the JMREMP works downstream has sustained the Jamuna River for 20 years, even though consisting of only three layers of protection, the project could decide to reduce the number of layers to three. Three layers would be still more resistant than the proven JMREMP works, given that now 250 kg sand filled geo-bags are used, as opposed to the 78 kg and 126 kg sand filled geo-bags placed during JMREMP.

There could be two ways to address this issue:

- (i) A pilot section having the length 1.0 to 1.5 km with 3 layers of sand filled geo-bags could be built at the downstream part of ongoing W-05 package. The pilot work would be monitored and jointly assessed through multi-beam echo-sounder survey and diving,
- (ii) Or, the work could be built in phases, with the first three layers before the 2023 flood season, while the additional two layers could be dumped after the 2023 flood season.

**Site 3: W-04 and W-03 contract**

Only the upstream part of this site at the Jamuna left bank has been visited due to the shallow river conditions. The most downstream part (approximately 2 to 3 km length) of contract W-03 connecting with the existing Chauhali works is currently not required as the channel is silted up. The decision on this work will be taken after the 2023 flood season depending on the river developments during the coming monsoon. Considering the present physical condition, the dredging of W-04 is not required.

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**Site 4: Benotia**

At Benotia the protective works of contract W-01 had started several days earlier. Five sets of barges (each more than 60 m in length) were dumping sand filled geo-bags. The contractor informed that three more sets of barges will be placed within the next few days. Each set of barges can dump approximately 7 times per day, allowing completing one strip in six days. This means that approximately 500 m of bankline could be completed per week of dumping.

The committee visited the upstream end of the works, which ties into the existing Kajjuri revetment. There is an approximately 700 m long char (Figure 2). The committee discussed to provide the protection along the existing char.

- (i) The char is protected in places through emergency works and likely to eroded.
- (ii) The char is high, reaching floodplain level.
- (iii) The char overlaps some 200 m with the downstream end of the Kajjuri works.
- (iv) There are a number of houses along the bankline in the old alignment of the works, requiring quite intensive resettlement activities.
- (v) The char extends the safety margin to the constructed embankment (FRERMIP Project-1).
- (vi) The existing ditches of this char land needs to fill-up.

The downstream end of the work was intended to wrap into the left bank of the Hurashagar River. However, BIWTA dredging activities have completely filled this part to a level reaching floodplain level. The committee discussed to extend the protection along this recent fill instead of re-dredging through the deposited sand maintaining the original river boundary.

**Fish passes**

The committee discussed the provision of fish passes, which are part of the project design. An earlier design committee rejected the construction due to a lack of information about fish migration. In the meantime, the ISPMC has prepared a memo providing background about fish migration and fish passes. This additional information now allows to add the fish passes to the two new regulators planned to build.

**Site 5: JMREMP work**

The committee inspected the existing JMREMP works. The works covers 7 km of the bankline from the Hurasagar outfall to the outlet channels of the Kaitola pump house. The work was constructed from 2004 onwards and is nearly 20 years old and in very good conditions with only few places with small displacements in the upper slope despite minimal adaptation and maintenance works. The JMREMP works was built with three layers of 126 kg and 78 kg sand filled geo-bags under water. The work also includes 1.2 km of grout-filled mattresses piloted in 2006 that is still in good condition and performs its intended function.

Besides there are ditches in the inner area of pitching slopes at Awal Bandh, which should be filled up for stability of work. It may be completed through Package W-01.

**Site 6: Solimabad emergency works**

The Solimabad channel was intended to be closed during the preparation of Project-2 and thereby protecting some 15 km of riverbank against erosion. However, the morphological development over the past flood seasons has led to the substantial widening of the channel, which now carries the dominant

flow. Therefore, it has become necessary to provide emergency protection along some part of the eroding bankline (around 6 km).

**Site 7: Ganges – Jamuna confluence area – Pabna and Rajbari district**

Project-2 considers using unutilized project funds to protect parts of the bankline of this area to permanently take it out of the river corridor and therefore classify it as ‘reclaimed’. The former Chief Engineer Design and member from IWM informed that RHD plans to build a road connection over the triangular shaped char. The alignment of the road was shared with the ISPMC team for consideration in their proposal for protection. The IWM team will report about the protection plans in their report to RHD. Overall, up to 9-10 km of riverbank protection would be required, around 6-7 km along the Jamuna left bank at Kajirhatand up to 3-4 km along the Ganges left bank at Mizanpur in Rajbari upazilla.

**Site 8: Ganges – Jamuna confluence area – Manikganj District**

The area between Aricha and the Harirampur site could be a potential area for applying riverbank protection based on a recent study completed by IWM. The IWM member explained that the study does not foresee any work between Aricha and Paturia. The committee observed that the area downstream of Paturia to a recently formed low-lying shoal is largely stable, in places protected by large wave protection elements. The area downstream of the char towards the Harirampur extension work could be considered for a 4 km additional riverbank protection upto Maluchi. The ISPMC member pointed out that the project needs to be careful in adding great lengths of expensive riverbank protection, given that each subproject required an individual economic feasibility for ADB’s financing.

**Site 9: Harirampur downstream**

Some 2-3 km of the downstream works at Harirampur requires adjustment. After construction in 2016 the upper slope protection could not be maintained due to a shortage of funds. Over time the temporary wave protection layer (single layer with 10% overlap) has eroded and the channel has moved into the floodplain overtopping the underwater slope protection. A new channel is forming behind the underwater slope protection. In addition to adaptation of the protective works along the 3.77 km downstream length, the works could require extension by 2-3 kilometers, depending on the developments during the 2023 flood season.

**Discussion on (falling/launching) aprons**

The committee discussed the performance of falling/launching aprons consisting of sand filled geo-bags. The ISPMC member pointed to past model studies and diving investigations results. The committee members felt that it would be useful to conduct large-scale model tests to demonstrate the launching (potentially in comparison to rock and concrete block aprons) and potential effects of adaptation works (including placing a second apron over a partly launched apron). Furthermore, model tests could consider the launching behavior itself, but also the stability of the launched plus a later upgraded layer to high flow velocities. To this end, a second set of tests could be conducted that looks particularly at the failure of the sand filled geo-bags under extreme flow conditions. The ISPMC budget (financed from a Dutch grant) has contingencies available, which could be used to conduct the model tests. The ISPMC can prepare an outline methodology and cost estimate for the committee to decide on the model tests.

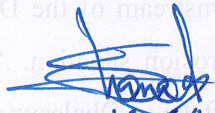
As discussed in the earlier para, Pilot work by dumping of 3 layers of sand filled geo-bags in lieu of 5 layers as within the downstream length of 1.00-1.50 km of package W-05 may be considered to be implemented. This pilot work needs close monitoring through regular survey (Bathymetric, diving and multi-beam survey). After the flood season necessary sand filled geo-bags may be dumped as adaptation work on the basis of survey reports.

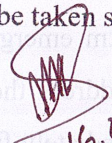
**Recommendations:**

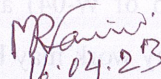
01. The Committee agrees that the 2.95 km emergency works downstream of the Dhaleswari (upstream of W-04) are required to address the most urgent erosion situation. Additional emergency work may be taken up immediately from left bank oftake of Dhaleswari towards upstream in addition to the 2.95 km already under process. The emergency work in this area will be strengthened with the adaptation work in the next dry season. Also, the dredging of W-04 may be excluded.
02. Total 13.00 km protective work at different locations along the right bank of Jamuna river may be taken up (5.00 km at EPZ area, additional 2.00 KM at the U/S of ongoing W-02 work at Enayetpur, 6.00 km at Kazirhat).
03. Total 12.00 KM protective work at different locations along the left bank of Jamuna may be taken up (6.00 km at upstream of ongoing W-04 at Kalihati area, 6 km at Solimabad area).
04. Total 10.00 km protective work at different locations along the left bank of Padma may be taken up (4 km at Mizanpur, Rajbari area, 4 km additional work at Maluchi, upstream of ongoing W-05 and additional 2 km at downstream of W-06 at Horirampur area).
05. The high char along the original bank line will be included into the ongoing protection of W-01. Also, the ditches /low lying areas to be filled up. The downstream 200/300m of the protection work will be placed alongside the sand deposited by BIWTA dredging activities at the left bank along the out-fall of Hurasagor maintaining the river boundary.
06. 2.00 km Protective work at the down-stream end of W-03 package may be kept under observation. The works can be completed if there is a possibility of further erosion in this area. Otherwise, this reach may be excluded from the W-03 package work or may be adjusted within the upstream 5.00 km reach.
07. The quality of the JMREMP work was appreciated. The ditches/ low lying areas near Awal Bundh may be filled up.
08. Fish-pass provision may be incorporated in two nos. regulators at Shazadpur embankment.

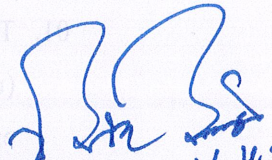
09. The design of launching apron may be reviewed by the concerned design circle of BWDB for a length of about 1.00 km of downstream part of ongoing package W-05 for implementing in two phases. In first phase 3 layers of geo-bags may be provided in launching apron if calculated scour depth is same or <sup>above</sup> ~~below~~ the existing scour depth. Through close monitoring by regular survey (Bathymetric, diving and multi-beam survey), the performance of 3 layers may be observed and accordingly remaining 2 layers of geo bags to be provided as per approved design.

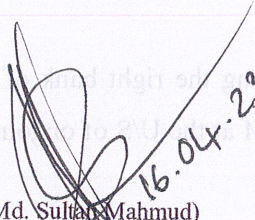
10. New protective works may be taken subjected to approval of revised DPP.

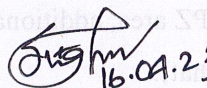
  
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(Md. Shazzad Hossain)  
Executive Engineer, Tangail  
WD Division,  
BWDB, Tangail.

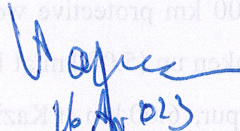
  
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(Md. Mahabubur Rahman)  
Executive Engineer,  
Construction Division,  
FRERMIP, Koitola,  
Bera, Pabna, BWDB

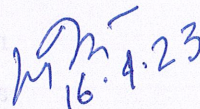
  
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(Md. Razaul Karim)  
Executive Engineer,  
Office of the Chief  
Engineer, Planning, BWDB,  
Dhaka.

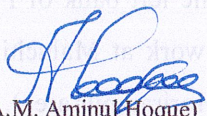
  
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(Md. Sirajul Islam)  
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Tangail WD Circle,  
BWDB, Tangail

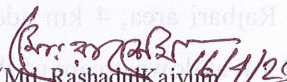
  
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(Md. Sultan Mahmud)  
Superintending Engineer,  
PMO-FRERMIP,  
BWDB, Dhaka.

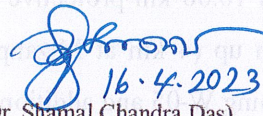
for,   
16.04.23  
(Dr. Maminul Haque Sarker)  
Senior Advisor,  
CEGIS, Dhaka.

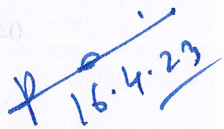
  
16.4.23  
(Knut Oberhagemann)  
Team Leader, ISPMC,  
FRERMIP (Project 2)

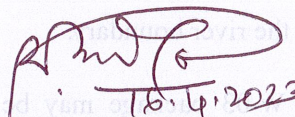
  
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(Md. Harun-ur-Rasheed)  
Ex-Chief Engineer,  
Design, BWDB.

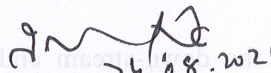
  
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(A.M. Aminul Hoque)  
Ex-Director General,  
BWDB, Dhaka

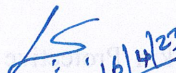
  
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(Md. Rashadul Kaiyum  
Bhuiyan)  
Chief Engineer (AC),  
River Management,  
BWDB, Dhaka.

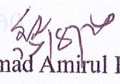
  
16.4.2023  
(Dr. Shamal Chandra Das)  
Chief Engineer (Civil),  
Planning, BWDB, Dhaka.

  
16.4.23  
(Md. Ruhul Amin)  
Project Director,  
PMO-FRERMIP,  
BWDB, Dhaka.

  
16.4.2023  
(Md. Rafiqul Islam Choubey)  
Chief Engineer (Civil),  
Monitoring,  
BWDB, Dhaka.

  
24.08.2023  
(Md. Enayet Ullah)  
Chief Engineer (Civil),  
Design, BWDB, Dhaka.

  
16/4/23  
(Prof. Dr. Abdul Matin)  
Department of Water  
Resources Engineering,  
BUET, Dhaka.

  
(Muhammad Amirul Haq  
Bhuiya),  
Additional Director  
General (Planning,  
Design and Research),  
BWDB, Dhaka.



বাংলাদেশ পানি উন্নয়ন বোর্ড  
BANGLADESH WATER DEVELOPMENT BOARD

Project Management Office: PMO-  
FRERMIP  
Flood and Riverbank Erosion Risk  
Management Investment Program  
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72 Green Road, Dhaka-1205.  
Tel: + 880222230242  
E-mail: [pdjmremp@gmail.com](mailto:pdjmremp@gmail.com)



প্রকল্প ব্যবস্থাপনা দপ্তর :পিএমও-এফআরইআরএমআইপি  
ফ্লাড এন্ড রিভার ব্যাংক ইরোশন রিস্ক ম্যানেজমেন্ট  
ইনভেস্টমেন্ট প্রোগ্রাম  
পানি ভবন, লেভেল-১০, ব্লক-বি এবং ডি  
৭২ গ্রীন রোড, ঢাকা-১২০৫।  
ফোনঃ +৮৮০২২২২৩০২৪২  
ই-মেইল: [pdjmremp@gmail.com](mailto:pdjmremp@gmail.com)

Memo no. PMO-FRERMIP/C-1/555

Date: 6 February 2023

## Office Order

A Technical Committee for “Flood and Riverbank Erosion Risk Management Investment Program (Project 2)” is hereby formed upon the approval of Director General, BWDB (Vide Dairy no. 6507, dated-2/01/2023 & no. 6706, dated 31/01/2023) consisting the following officials:

Sl.	Designation (Not according to seniority)	Position in the Committee
1	Additional Director General (Planning, Design and Research), BWDB, Dhaka.	Chairperson
2	Chief Engineer (Civil), Planning, BWDB, Dhaka.	Member
3	Chief Engineer (Civil), Design, BWDB, Dhaka.	Member
4	Chief Engineer (Civil), Monitoring, BWDB, Dhaka.	Member
5	Chief Engineer (Civil), River Management, BWDB, Dhaka.	Member
6	Professor Dr. Abdul Matin, Department of WRE, BUET, Dhaka.	Member
7	A. M. Aminul Hoque, Ex- Director General, BWDB, Dhaka	Member
8	Md. Harun-ur-Rasheed, Ex-Chief Engineer (Civil), Design, BWDB, Dhaka.	Member
9	Team Leader, ISPMC, FRERMIP (Project 2)	Member
10	Dr. Maminul Haque Sarker, Senior Advisor, River, Delta and Coastal Morphology, CEGIS, Dhaka.	Member
11	Superintending Engineer, PMO-FRERMIP, BWDB, Dhaka.	Member
12	Superintending Engineer, Concerned O&M/WD circle, BWDB	Member
13	Executive Engineer, Office of the Chief Engineer, Planning, BWDB, Dhaka.	Member
14	Executive Engineer Concerned O&M/WD Division, BWDB	
15	Project Director, PMO-FRERMIP, BWDB, Dhaka.	Member-Secretary

The Terms of Reference (ToR) of the Technical Committee:

- Review and advise on complex and/or controversial technical issues encountered during project execution, and other studies to be conducted under the project.

- ii. Resolving technical issues raised during project implementation and provide the best solution if favour of the project.
- iii. Review and monitor the progress of studies and design work
- iv. Recommend findings to the PSC

The committee may co-opt any other member if required.

6.2.2023

**(Md. Ruhul Amin)**  
Additional Chief Engineer (Civil)  
&  
Project Director

**Distribution (Not as per seniority):**

1. Additional Director General (Planning, Design and Research), BWDB, Dhaka.
2. Chief Engineer (Civil), Planning, BWDB, Dhaka.
3. Chief Engineer (Civil), Design, BWDB, Dhaka.
4. Chief Engineer (Civil), Monitoring, BWDB, Dhaka.
5. Chief Engineer (Civil), River Management, BWDB, Dhaka.
6. Professor Dr. Abdul Matin, Department of WRE, BUET, Dhaka.
7. A. M. Aminul Hoque, Ex- Director General, BWDB, Dhaka.
8. Md. Harun-ur-Rasheed, Ex-Chief Engineer (Civil), Design, BWDB, Dhaka.
9. Team Leader, ISPMC, FRERMIP (Project 2), BWDB.
10. Dr. Maminul Haque Sarker, Senior Advisor, River, Delta and Coastal Morphology, CEGIS, Dhaka.
11. Superintending Engineer, PMO-FRERMIP, BWDB, Dhaka.
12. Superintending Engineer, Pabna O&M circle, BWDB, Pabna.
13. Superintending Engineer, Tangail WD circle, BWDB, Tangail.
14. Superintending Engineer, Dhaka O&M circle, BWDB, Dhaka.
15. Executive Engineer, Office of the Chief Engineer, Planning, BWDB, Dhaka.
16. Executive Engineer, Construction Division, FRERMIP, Koitola, BWDB, Koitola, Bera, Pabna.
17. Executive Engineer, Tangail WD division, BWDB, Tangail.
18. Executive Engineer, Manikganj WD division, BWDB, Manikganj.

**Copy for information:**

1. Additional Director General (East Region/ West Region), BWDB, Dhaka.
2. CSO to Director General, BWDB, Dhaka.
3. Office Copy.

Government of the People's Republic of Bangladesh  
Ministry of Water Resources  
Bangladesh Water Development Board (BWDB)  
Pani Bhaban, Dhaka

Subject: Minutes of the 1<sup>st</sup> meeting of the Technical Committee for "Flood and Riverbank Erosion Risk Management Investment Program Project-2 (FRERMIP P-2)"

Chairperson: Muhammad Amirul Haq Bhuiya, Additional Director General (Planning, Design and Research), BWDB, Dhaka.

Date of meeting: 19 February 2023

Time: 04: 00 pm

Venue: Chief Engineer Planning's conference room and Virtual platform

Attendances: Appendix-Ka

#### A. Introduction

Chairperson started the meeting with a welcome note to everybody. He requested all the members of the Committee to contribute in providing their wise and expert opinion for better and smooth implementation of the "Flood and Riverbank Erosion Risk Management Investment Program, Project-2 (FRERMIP P-2)". He asked Mr. Md. Ruhul Amin, Project Director to give the background and the objective of the meeting.

With the permission from the Chairperson, Mr. Md. Ruhul Amin, Project Director at first described the background of constituting the Technical Committee. He informed the meeting that the Steering Committee on FRERMIP P-2 taken the decision to constitute the Technical Committee as mentioned in the DPP in their 1<sup>st</sup> meeting held on 17 Jan 2023. The objective is to identify the necessity of adjustment of lengths, locations for additional/emergency works under the project and provide their recommendation. He stated that FRERMIP P-2 is under implementation with the loan from ADB, grant from the Netherlands government and funding from the Bangladesh Government. The total approved cost of the Project is 180306.81 lac taka (GoB Tk 32173.90 lac, ADB loan Tk 132977.37 lac and Netherlands' grant Tk 15155.54 lac) and Project duration is from January 2022 to December 2025. The Project Director then briefed the detail information and salient features of the Project in the meeting.

With the help of a power point presentation, the Project Director informed the meeting that a total of 15.50 km of underwater river protection work will be implemented under Package W-03 and W-04 at upstream of Chouhali under Tangali Sadar Upazila on the left bank of Jamuna River. He added that the condition at the upstream of Package W-04 is vulnerable, there is a possibility of outflanking of the implementable riverbank protection works under Package W-04 due to severe erosion in this area. A minimum of 3.5 km riverbank protection work is required on emergency basis in this area. Apart from this, he added, erosion has occurred at the upstream of Package W-02 (Enayetpur) and at downstream of Package W-05 (Harirampur). Implementation of riverbank protection work is required in these areas on emergent basis. He mentioned, under the Project, there is an allocation of Tk 35 cr. for implementing 6.00 km of emergency riverbank protection work against Package W-09. But to implement the said 6.00 km of protection work following the Emergency Precautionary design would require about Tk 80 cr. He informed the meeting that there will be a savings of Tk 111 cr. from the awarded packages due to less quoted rate as per DPP provision. There would be an additional savings also due to change in the USD-BDT conversion rate and savings from some non-implementable works because of remaining inadequate project time. He mentioned that all these savings/unutilized money may go up to the extent of BDT 650-700 crore. In conclusion, he said that all these savings/unutilized money can be used for necessary additional and emergency works with the funds available by inter-component adjustment in the DPP (reappropriation/revision of DPP) in future.

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## B. Discussions

The following discussions were held in the meeting.

Mr. Knut Oberhagemann, Team Leader, Consultant Team (ISPMC) mentioned that there are three main issues to implement the project, (i) only two dry seasons are available in place of planned four, (ii) by the time the DPP was approved, the morphology of the river has been changed, (iii) Some major works like closing Salimabad channel and Ghior khal Offtake structure cannot be implemented due to morphological change and inadequate implementation time. Presenting a power point presentation, the TL described that the works proposed in the DPP are to be adjusted and some new areas has become vulnerable due to erosion which need also to be included in the Project. He also mentioned that an additional 30 km of underwater riverbank protection work can be implemented with the savings/unutilized money. He categorically mentioned the possibility of reducing the layers of Geobags and requested the meeting to give a thoughtful consideration on this. He suggested to use 4 layers of Geobags instead of 5 layers which may allow to cover 20% more length before the flood season. He also gave a brief on the Follow-on project and ongoing ADB Inception Mission.

Dr. Abdul Matin, Professor, Dept. of WRE, BUET: He mentioned that the performance and achievement of previous JMREMP and FRERMIP T-1 projects should be acknowledged. He appreciated the adaptive approach and added that the experience of those projects would be useful and present condition of those works may be observed for guidance. He also mentioned that the morphological change of Jamuna is a regular phenomenon for which there should be enough flexibility for selection and execution of works. Some failure or damage in the executed work is obvious due to further erosion, he added. Citing some examples of international rivers, he mentioned that method of stabilization or reducing the width of the river must be selected very carefully on the basis of sufficient study. He also mentioned that for dominant discharge, the river should have allowable regime. In conclusion, he agreed to the proposed change and adjustments of locations which to be finalized after a site visit by the Technical Committee members.

Mr. Md. Harun ur Rashid, Ex-Chief Engineer, Design, BWDB suggested that the temporary protection may be done for new locations and permanent measures can be planned for the Follow-on project. He mentioned that there should not be any discontinuation between the original dumping and the adaptation works. He also suggested for a gradual stabilization of the river over a period of 30-40 years. He summarized the points of discussions as (i) Inclusion of new locations in the project, (ii) Exclusion of some works due to morphological change and time constraint, (iii) Reducing the layers of Geobags and following adaptive approach.

Mr. Enayetur Rahman, Chief Engineer, Design, BWDB said that some limitations of Protection work by Geobags like dumping during dry season when the maximum scour depth is being silted up. He opined that number of Geobag layers depends up on the nature of the work like Temporary, Precautionary or Permanent and reduction of layers should be decided very carefully.

Dr. Maminul Haque Sarker, Senior Advisor, River, Delta and Coastal Morphology, CEGIS stated that the erosion prediction for Jamuna River is reliable and dependable for one year. The validity for more than one year is uncertain and may not be accurate. He mentioned about the approach and technology adopted for the protection works in case of Padma Bridge.

Dr. Shamal Chandra Das, Chief Engineer, Planning, BWDB mentioned about other projects like Jamuna River Sustainable Management Project-Phase-1(BWDB, BIWTA, FID) . He added that the Geobags cannot be dumped during high flood and monsoon when there is the maximum scour in the river.

Ms. Poly Das, Executive Engineer, Design 7, BWDB informed that the Precautionary works consists of three layers and Permanent works have five layers of Geobags. She suggested that to incorporate the works for the additional proposed locations beyond approved DPP, should be finalized after site visit by the Committee members. Accordingly, design is also to be adopted as discussed and decided.

Mr. Mahbubur Rahman, Executive Engineer, Sirajgonj O&M Division, BWDB virtually joined, he suggested to consider the inclusion Soyedabad area, at down of Bangabandhu Setu to protect a private EPZ area from the erosion.

#### C. Decisions

After detail discussion by the members, the following decisions have been taken:

1. The members of the Technical Committee will visit the project area at the right and left bank of the Jamuna River at the downstream of the Bangabandhu Setu within the next few days.
2. The Committee will visit the site, identify vulnerable locations, review the situation for adjustment of length (if necessary) for revision of DPP following prevailing rules and regulations.
3. The Committee will recommend (if necessary) to review the design/designs to be followed for the proposed protection works and
4. The committee will also visit the vulnerable areas at the immediate upstream of Chauhali and recommend for necessary measures

#### D. Conclusion

Summarizing the discussions, the chairperson requested all the members of the Committee to do their best in respect to the decisions taken in the meeting.

As there were no other discussions, the meeting was ended with vote of thanks from the Chair.

  
**Muhammad Amirul Haq Bhuiya**

Additional Director General (Planning, Design and Research)  
BWDB, Dhaka.

Distribution (Not according to seniority):

- 1 Additional Director General (Planning, Design and Research), BWDB, Dhaka.
- 2 Chief Engineer (Civil), Planning, BWDB, Dhaka.
- 3 Chief Engineer (Civil), Design, BWDB, Dhaka.
- 4 Chief Engineer (Civil), Monitoring, BWDB, Dhaka.
- 5 Chief Engineer (Civil), River Management, BWDB, Dhaka.
- 6 Project Director, PMO-FRERMIP, BWDB, Dhaka.
- 7 Professor Dr. Abdul Matin, Department of WRE, BUET, Dhaka.
- 8 A. M. Aminul Hoque, Ex- Director General, BWDB, Dhaka
- 9 Md. Harun-ur-Rasheed, Ex-Chief Engineer (Civil), Design, BWDB, Dhaka.
- 10 Team Leader, ISPMC, FRERMIP (Project 2)
- 11 Dr. Maminul Haque Sarker, Senior Advisor, River, Delta and Coastal Morphology, CEGIS, Dhaka.
- 12 Superintending Engineer, PMO-FRERMIP, BWDB, Dhaka.
- 13 Superintending Engineer, Dhaka, Pabna & Tangail O&M circle, BWDB
- 14 Executive Engineer, Office of the Chief Engineer, Planning, BWDB, Dhaka.
- 15 Executive Engineer, Construction Division, FRERMIP, Koitola, BWDB, Pabna.
- 16 Executive Engineer, Manikganj WD Division, BWDB, Manikganj.
- 17 Executive Engineer, Tangail O&M Division, BWDB, Tangail.
- 18 Office copy

# Attendance sheet

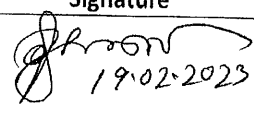
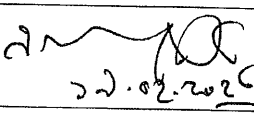
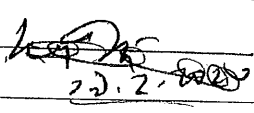
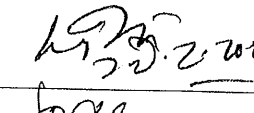
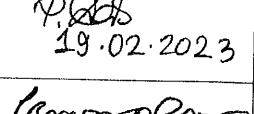
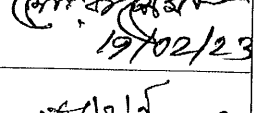
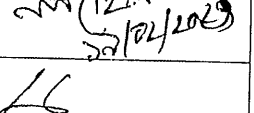
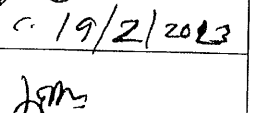

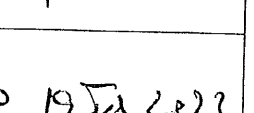
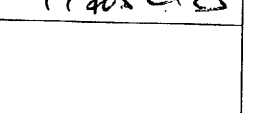
Technical Committee Meeting

Flood and Riverbank Erosion Risk Management Investment Program (Project 2)

Date: 19/02/2023

Venue: Conference Room, Chief Engineer (Civil), Planning, BWDB, Dhaka

Chairperson: Additional Director General (Planning, Design and Research), BWDB, Dhaka

Sl. No.	Name	Designation	Signature
1.	Dr. Skamal Chandra Das	Add. Chief Engr. Planning	 19.02.2023
2.	Md. Enayet Ullah.	Chief Engineer, Design, BWDB.	 22.02.2023
<del>3.</del>	<del>Md. Harun-ur-Rasheed</del>	<del>Ex-Chief Engineer, (Civil), Design, BWDB.</del>	<del> 22.2.2023</del>
4.	Md. Harun ur Rasheed	Senior Deput Engg, JRC Committee Member	 22.2.2023
5.	Poly Das	Executive Engineer	 19.02.2023
6.	Md. Rashadul K. Bhuiyan	SE/RMO/BWDB	 19/02/23
7.	Nasima Jahan	SE/Design Circle - 7	 20/02/2023
8.	M. A. Matin	BUET	 19/2/2023
9.	Dr. Mamirul Haque Sarkar	(EGIS)	
10.	Md. Ruhul Amin	PD, FRERMP	
11.	Kamruddin Hossain	ISPMCL	 19 Feb 2023

## বাংলাদেশ পানি উন্নয়ন বোর্ড

## BANGLADESH WATER DEVELOPMENT BOARD

Project Management Office: PMO-  
FRERMIP

Flood and Riverbank Erosion Risk  
Management Investment Program  
Pani Bhaban, Level-10, Block B & D  
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Tel: + 880222230242

E-mail: [pdjmremp@gmail.com](mailto:pdjmremp@gmail.com)



প্রকল্প ব্যবস্থাপনা দপ্তর :পিএমও-এফআরইআরএমআইপি  
ফ্লাড এন্ড রিভার ব্যাংক ইরোশন রিস্ক ম্যানেজমেন্ট

ইনভেস্টমেন্ট প্রোগ্রাম

পানি ভবন, লেভেল-১০, ব্লক-বি এবং ডি

৭২ গ্রীন রোড, ঢাকা-১২০৫।

ফোনঃ +৮৮০২২২২৩০২৪২

ই-মেইল: [pdjmremp@gmail.com](mailto:pdjmremp@gmail.com)

Memo. No.T-1/653

Date: 22/03/2023.

### Tour Order

Technical Committee of Flood & Riverbank Erosion Risk Management Investment Program (Project-2) (vide Memo No PMO-FRERMIP/C-1/555; Date: 6 February 2023) will visit the Project Area & newly proposed location for project work on 25/03/2023. The visit will start from Dhaka at 6.00 a.m. and will cover Tangail, Koitola & Manikganj area respectively.

Executive Engineer-1, 2 of PMO-FRERMIP, BWDB, Dhaka will be a part of this tour.

The objectives of the tour are:

- Review and advise on complex and/or controversial technical issues encountered during project execution.
- Resolving technical issues raised during project implementation and provide the best solution in favour of the project.

(MD. RUHUL AMIN)

Project Director

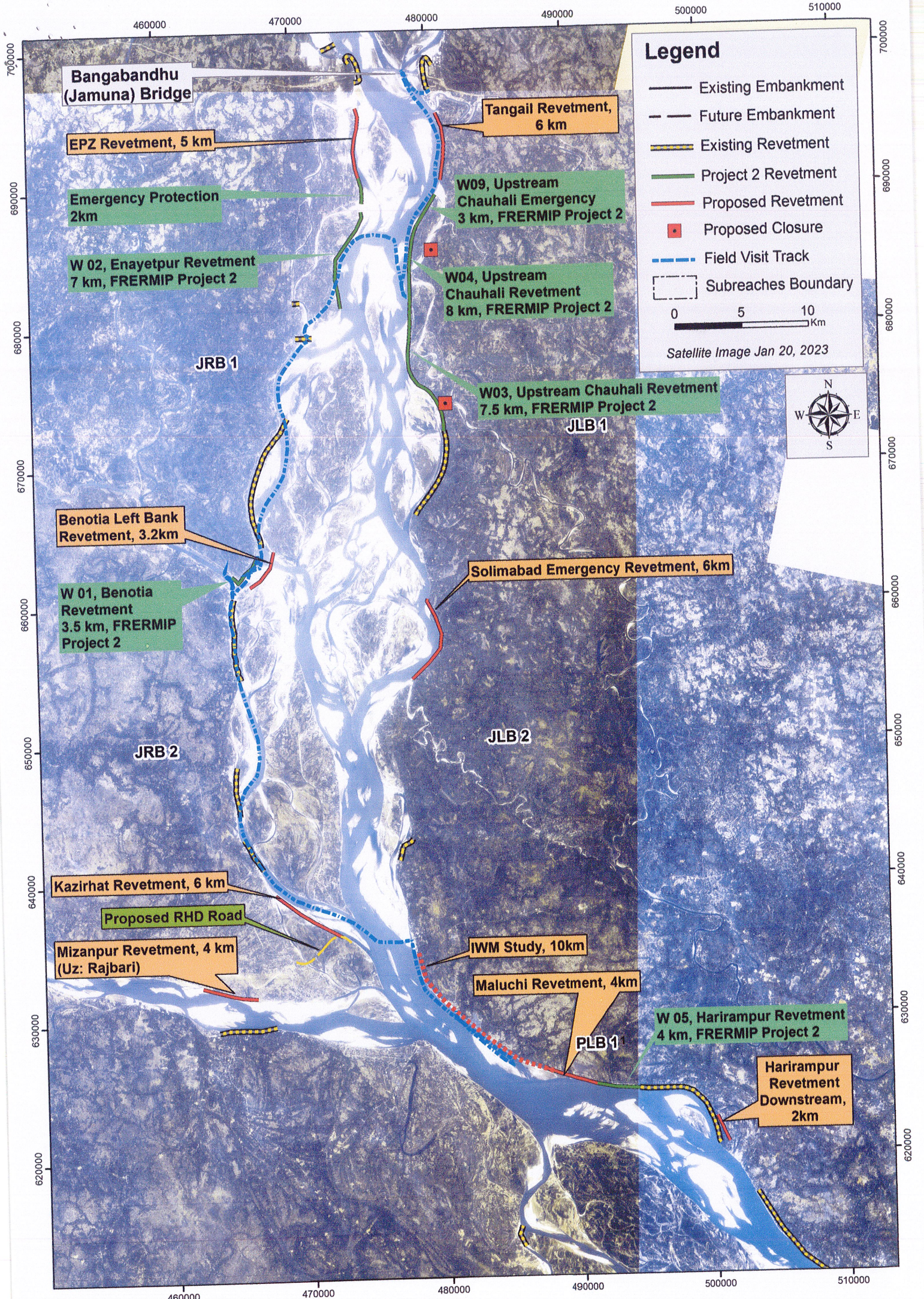
FRERMIP (Project-2)

BWDB, Dhaka

Distribution (Not as per seniority):

1. Additional Director General (Planning, Design and Research), BWDB, Dhaka.
2. Chief Engineer (Civil), Planning, BWDB, Dhaka.
3. Chief Engineer (Civil), Design, BWDB, Dhaka.
4. Chief Engineer (Civil), Monitoring, BWDB, Dhaka.
5. Chief Engineer (Civil), River Management, BWDB, Dhaka.
6. Professor Dr. Abdul Matin, Department of WRE, BUET, Dhaka.
7. A. M. Aminul Hoque, Ex- Director General, BWDB, Dhaka.
8. Md. Harun-ur-Rasheed, Ex-Chief Engineer (Civil), Design, BWDB, Dhaka.
9. Team Leader, ISPMC, FRERMIP (Project 2), BWDB.
10. Dr. Maminul Haque Sarker, Senior Advisor, River, Delta and Coastal Morphology, CEGIS, Dhaka.
11. Superintending Engineer, PMO-FRERMIP, BWDB, Dhaka.
12. Superintending Engineer, Pabna O&M circle, BWDB, Pabna.
13. Superintending Engineer, Tangail WD circle, BWDB, Tangail.
14. Superintending Engineer, Dhaka O&M circle, BWDB, Dhaka.
15. Executive Engineer, Office of the Chief Engineer, Planning, BWDB, Dhaka.
16. Executive Engineer, Construction Division, Koitola/ Tangail WD division /Manikganj WD division
17. Executive Engineer, PMO-FRERMIP, BWDB, Dhaka.

Figure 1





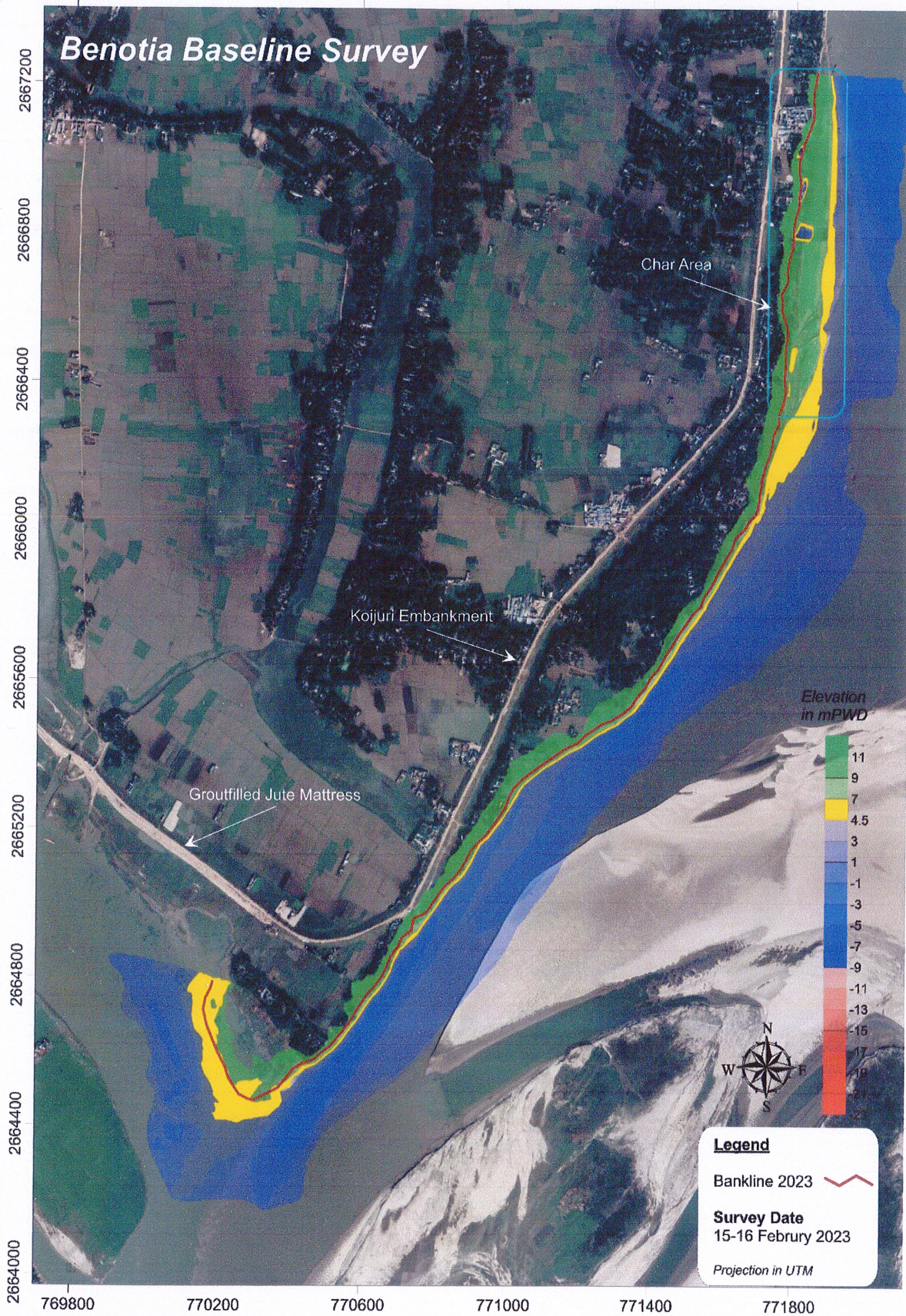


Figure 1 W01 site condition