

## RISK ASSESSMENT AND RISK MANAGEMENT PLAN

| Risk Description   | Risk Assessment | Management Measures or Risk Management   |
|--|-----------------|--|
| <b>A. Public Financial Management</b><br>Inadequate PMO staff provided by BWDB   | Low             | 1. Specific loan covenant is provided to ensure that BWDB fields the full PMO staff complement from its present staff resources and through fresh recruitment, if required.<br>2. PMO staff will be supported by experienced project management consultants, and will receive training in ADB procurement and disbursement procedures.   |
| Potential decline of financial management capacity due to changes of PMO staff   | Medium          | 1. PMO accounting staff will receive training in ADB procedures.<br>2. BWDB will ensure that regular internal and external auditing of the project will be prioritized.<br>3. Computerized accounting will be adopted and staff will be trained. Financial information will form part of the management information system to be established under the project.  |
| Insufficient interagency coordination, especially between BWDB and DDM   | Medium          | 1. Key relevant government agencies, including BWDB and DDM, will be members of a program steering committee chaired by the Secretary, Water Resources; and the committee will oversee program implementation and ensure proactive participation of all agencies concerned.<br>2. BWDB and DDM will sign MOU before the commencement of physical works, defining clear distribution of responsibilities.<br>3. A single project management consultant team will provide project implementation support for both BWDB and DDM.<br>4. BWDB will hold annual workshops, inviting stakeholders from different agencies to share project achievements and concerns. |
| Inadequate support from <i>upazila</i> (administrative unit under a district) disaster management committees under DDM | Low             | 1. The program will provide NGO services to support communications between <i>upazila</i> and community-based disaster management committees.<br>2. During the initial phase, DDM, with the support of the project management consultant team, will establish communication link between the consultant team, NGOs, and <i>upazila</i> and community-based disaster management units.<br>3. DDM headquarters will continue close monitoring of and guidance to <i>upazila</i> disaster management committees.  |
| <b>B. Procurement</b><br>Delayed payment to the consultants and contractors  | Low             | 1. Specific loan covenant is provided to ensure that BWDB fields the full staff to the PMO, including financial officers.  |

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| <b>C. Anticorruption</b>   |                 | <ul style="list-style-type: none"> <li>2. BWDB, as standard operating procedures of externally aided projects, will apply ADB's direct payment method to international consultants and contractors.</li> <li>3. ADB will monitor and facilitate PMO's timely submission of financial documents to ensure timely replenishment of an imprest account.</li> </ul>  |
| Potential discrepancies between required and executed work quantities of underwater riverbank protection works | Medium          | <ul style="list-style-type: none"> <li>1. PMO will ensure transparency, through developing a project website, and posting procurement and recruitment information on the project and ADB websites.</li> <li>2. The project design minimized the number of contracts.</li> <li>3. Bid documents and civil works contracts will include regular underwater surveys during and after the construction and submission of survey results to BWDB.</li> <li>4. Regular inspection of completed underwater works by BWDB using technologies that can make underwater works visible, such as video recording by divers or surveys by high resolution echo-sounders.</li> <li>5. PMO and SMO will ensure systematic and detailed recording of physical progress of underwater works.</li> <li>6. The project management consultant team will include adequate inputs of quality control experts, and PMO and SMO staff supported by the consultants will visit sites regularly.</li> <li>7. The project management consultant team will include adequate inputs of procurement experts.</li> <li>8. BWDB's project staff will receive procurement training from ADB.</li> </ul> |
| <b>D. Others</b>   |                 | <ul style="list-style-type: none"> <li>1. The program contains support for enhancing community resilience against excessive floods through community capacity enhancement and early warning.</li> <li>2. MFF's flexibility allows BWDB to provide the necessary rehabilitation or mitigation measures to affected areas during the subsequent tranches.</li> </ul>   |
| Excess floods exceeding design return period   | Low             |  |
| Increased flooding caused by climate change  | Low             | <ul style="list-style-type: none"> <li>1. Climate change related risk reduction measures are built in the program design, and incorporated in the design of flood embankments.</li> </ul>  |
| A shift in the government's development priority moving away from the river stabilization of the main rivers   | Low             | <ul style="list-style-type: none"> <li>1. ADB will maintain close dialogue with the government and BWDB to ensure priority remains.</li> <li>2. ADB will continue close dialogue with other development partners involved in the sector for continued priority of the river stabilization</li> </ul>   |

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| Delayed commencement of civil works for flood embankments caused by long delays in land acquisition by deputy commissioners at district level | Medium          | <p>of the main rivers.</p> <ol style="list-style-type: none"> <li>1. Land acquisition and resettlement plan implementation form part of the agreed advance actions to be initiated prior to loan approval.</li> <li>2. BWDB and ADB will monitor implementation of the time-bound action plan and initiate corrective measures, if necessary.</li> <li>3. PMO will maintain frequent communication with deputy commissioners' offices, and will continue stringent monitoring of the progress.</li> </ol>   |
| Inadequate construction quality of underwater riverbank protection works  | Medium          | <ol style="list-style-type: none"> <li>1. Bid documents and civil works contracts will include regular underwater surveys during and after the construction and submission of survey results to BWDB.</li> <li>2. Regular inspection of completed underwater works by BWDB using technologies that can make underwater works visible, such as video recording by divers or surveys by high resolution echo-sounders.</li> <li>3. PMO and SMO will ensure systematic and detailed recording of physical progress of underwater works.</li> <li>4. The project management consultant team will include adequate inputs of quality control experts, and PMO and SMO staff supported by the consultants will visit sites regularly.</li> </ol>  |
| Inadequate attention to non-structural measures by BWDB, which is largely oriented toward structural measures                                 | Medium          | <ol style="list-style-type: none"> <li>1. BWDB is fully aware of the emphasis of the government and development partners on non-structural measures for flood and erosion risk management that forms part of the project design.</li> <li>2. The community-based flood risk management subcomponent, one of non-structural measures, will be implemented by DDM, an agency mandated for the task. BWDB and DDM will sign an MOU incorporating the respective functions and responsibilities in implementing the subcomponent.</li> <li>3. The team of consultants tasked with the implementation of BWDB's structural and non-structural measures will also assist DDM in implementing the community-based flood management subcomponent, maintaining integration of all structural and non-structural measures.</li> </ol> |
| <b>Overall</b>  | <b>Medium</b>   |   |

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, DDM = Department for Disaster Management, MFF = multitranchise financing facility, MOU = memorandum of understanding, MOWR = Ministry of Water Resources, NGO = nongovernment organization, PMO = program management office, SMO = subproject management office.

Source: Asian Development Bank.