

## SUMMARY OF PROJECT PERFORMANCE

### A. Background

1. The Asian Development Bank (ADB) approved the Irrigation Management Improvement Project on 30 June 2014, and it was declared effective on 16 September 2016. The project was originally expected to close on 31 December 2020 but was extended on 2 November 2018 by 1.5 years to 30 June 2022. The ongoing project is financed by an SDR29.6 million concessional loan, which was equivalent to \$46.0 million at that time.<sup>1</sup> There was counterpart funding from the Government of Bangladesh totaling \$7.60 million and from the beneficiaries of \$4.40 million, giving a total project cost of \$58.00 million. The executing agency is the Bangladesh Water Development Board (BWDB). A project management unit (PMU) has been established in the BWDB's main office in Dhaka. A project implementation unit (PIU) has been established under the Muhuri Irrigation Project. For the Teesta Barrage Irrigation Project and Ganges–Kobadak Irrigation Project, a design support unit has been set up at each project site.

2. The project is aligned with the following impact: sustainable high growth of agriculture in Bangladesh. The ongoing project will have the following outcome: increase productivity and sustainability of the Muhuri Irrigation Project.

### B. Performance of the Project

3. The ongoing project is performing well as assessed against the following aspects:

4. **Delivery of expected outputs.** The ongoing project is *on track* to achieving the project outcome. Achievements towards project outputs are as follows:

(i) **Output 1. Performance-based irrigation management and agriculture support services established.** The construction-phase irrigation management operator (C-IMO) for the Muhuri Irrigation Project was recruited on 18 January 2016 under a performance-based management contract. As agreed during the project design, the C-IMO's performance is to be evaluated by an independent panel. The panel's findings will help develop the terms of reference and chose the contracting modality of a long-term operator that will take over from the C-IMO. As of May 2021, only a small area of the modernization works in the Muhuri Irrigation Project have been commissioned, and therefore the independent evaluation has been postponed and is now scheduled to be conducted in mid-2021 once enough tertiary distribution systems are commissioned. The project completed 35 training sessions on more productive irrigated agriculture that benefited 1,391 farmers, including 286 female farmers. Recruitment of the long-term management-phase irrigation management operator (M-IMO) for the Muhuri Irrigation Project will begin after the C-IMO's performance assessment has been completed. The BWDB is targeting mobilizing the M-IMO by the end of 2022.

(ii) **Output 2. Irrigation system infrastructure rehabilitated and modernized.** Activities under this output include physical rehabilitation and modernization of irrigation infrastructure including (i) repair or resectioning of about 373 kilometers (km) of *khals* (canals) and about 17 km of coastal embankments with ancillary facilities; (ii) development of about 18,000 hectares (ha) of a modern and highly efficient piped water distribution system with prepaid card meters and full

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<sup>1</sup> Asian Development Bank (ADB). 2014. [Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Irrigation Management Improvement Project](#). Manila.

electrification of pumping, including a pilot of solar pumping for about 60 ha; (iii) rehabilitation of water control structures of the Muhuri Irrigation Project; and (iv) rehabilitation of the BWDB building in the Muhuri Irrigation Project. All related contracts have been awarded, and four of these have been substantially completed. For the construction works of the piped water distribution systems, out of 81 low-lift pump schemes commissioned, 66 were operated during the 2021 irrigation season. The remaining 15 low-lift pumps were partially operated, as the farmers under these schemes were already receiving irrigation water from their earlier system. By June 2022, about 656 of the 850 schemes under the project should be commissioned and the remaining schemes by June 2023.<sup>2</sup> The project generated employment opportunities for women and men as unskilled workers in the construction of house pumps, pipe-setting, and meter box installation and tree planting. There were 1,435 (3%) female labor-days out of a total of 44,000 labor-days. To date, no women have been recruited as pump operators and/or water unit vendors for the schemes. Feasibility studies for the Teesta Barrage Irrigation Project and Ganges–Kobadak Irrigation Project have been finalized. The detailed engineering design of the Ganges–Kobadak Irrigation Project is ongoing.

- (iii) **Output 3. Project efficiently managed with effective institutional development.** The PMU and PIU have been established. The project management and design consultant's contract was awarded on 18 February 2015. A temporary public–private partnership (PPP) unit has been formed in the PMU office and a PPP officer has been appointed by the BWDB. A project management information system and a project performance monitoring system has been developed and user training for the PMU and PIU staff has been completed.

5. **Satisfactory implementation progress.** As of 30 June 2021, cumulative contract awards were \$38.67 million against a target of \$39.98 million (97%), and disbursement was \$32.17 million against a target of \$29.76 million (108%). The ongoing project is rated *on track* to deliver all envisaged outputs. As of May 2021, the cumulative physical progress was estimated to be about 56%. Although the impact of the coronavirus disease (COVID-19) pandemic on the project progress has been moderate—affecting the 2020 and 2021 working seasons—an extension of the overall project's implementation period (including a second 1.5-year extension for the ongoing loan, for a cumulative extension period of 3.0 years) up to 31 December 2023 is necessary because of the continuing risk that the COVID-19 pandemic may affect the timely completion of remaining works.

6. **Satisfactory compliance with safeguard policy requirements.** The ongoing project is classified category *B* for environment and for involuntary resettlement, and category *C* indigenous peoples. As per the project's resettlement framework, a resettlement plan has been implemented to (i) acquire 1,335 square meters of land owned by five households for construction of a substation and (ii) compensate 34 nontitled entities relocated during construction of an embankment. There is no involuntary resettlement expected under the additional financing. The semiannual environmental monitoring reports were submitted under the ongoing project and all safeguard requirements were complied with.

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<sup>2</sup> Physical progress for ongoing contracts was 100% for CW-03, 37% for CW-05, 40% for CW-06, and 42% for CW-07 as of May 2021. The progress of the CW-04 contract depends on the progress of civil works contracts CW-05, CW-06, and CW-07.

7. **Successful management of risks.** The ongoing project's risks and mitigation measures proposed are presented in the table, with updates.

### Summary of Risks and Actions

Risk Description	Mitigation Measures	Remarks
<b>1. Political</b>		
1. Changes in government affects commitment to developing PPP for irrigation	<ul style="list-style-type: none"> <li>(i) ADB maintains close dialogue with the government and other stakeholders to ensure commitment remains.</li> <li>(ii) Project communication strategy keeps farmers and local politicians committed.</li> </ul>	<ul style="list-style-type: none"> <li>(i) ADB is maintaining close dialogue.</li> <li>(ii) The communication strategy framework prepared and submitted to PMU in November 2020 is under review. C-IMO organizes farmers' training on irrigation.</li> </ul>
<b>2. Transboundary</b>		
2. Water availability in the river is decreasing because of increased uptake from upstream countries.	<ul style="list-style-type: none"> <li>(i) Government of Bangladesh pursues international dialogue on transboundary water sharing agreement through the Joint River Commission.</li> <li>(ii) The project increases water use efficiency and water productivity.</li> <li>(iii) The project does not increase irrigated area beyond existing command areas.</li> </ul>	<ul style="list-style-type: none"> <li>(i) Joint River Commission is active (last meeting held in Sept 2019).</li> <li>(ii) Through modernization and PPP, water use efficiency and water productivity will increase.</li> </ul>
<b>3. Institutional</b>		
3.1. BWDB personnel resist transfer of management, operations, and maintenance to private operators.	<ul style="list-style-type: none"> <li>(i) BWDB field staff are provided opportunities to join private operators.</li> <li>(ii) Project communication strategy ensures farmers and BWDB staff stay committed to the change and support IMO option.</li> </ul>	BWDB agrees that long-term M-IMO will be recruited by the end of 2022.
3.2. The private sector shows little interest in PPP for irrigation despite government promotion.	<ul style="list-style-type: none"> <li>(i) The project follows a two-stage approach. The first stage financed by the project will establish the sustainability of the scheme.</li> <li>(ii) There is thorough risk analysis and allocation of the risks to the parties that can best control it.</li> <li>(iii) Government finances the viability gap.</li> <li>(iv) Communication campaign enhances private sector awareness on the project objectives and PPP approach.</li> </ul>	<p>C-IMO was successfully recruited from private sector.</p> <p>C-IMO performance, contractual difficulties, and remedies will be assessed in 2021 by an independent panel of experts. Long-term M-IMO will be recruited in 2022 based on modalities recommended by the panel of experts.</p>
3.3. Financing of recurrent operation and maintenance of project assets after project completion is uncertain.	<ul style="list-style-type: none"> <li>(i) BWDB will finance level 1 infrastructure. The Project Agreement includes assurance that the government will allocate BWDB adequate resources to carry out the necessary O&amp;M activities.</li> <li>(ii) A third-party M-IMO will be engaged to manage, operate, and maintain the secondary and tertiary irrigation assets.</li> <li>(iii) Farmers have expressed willingness to pay an annual ISF that exceeds the M-IMO requirements depending on provision of quality service delivery, which will be closely monitored by the BWDB and the farmers. The ISF for each year will be prepared and approved by the Implementation Coordination Committee with farmer representatives.</li> </ul>	Irrigation water fees for 2019-2020 have been approved by the 1 <sup>st</sup> ICC and implemented for 66 schemes. The tariff for the entire 850 schemes will be finalized after full commissioning.

Risk Description	Mitigation Measures	Remarks
3.4. Price increase in farm inputs and power and/or decrease in farm gate prices endanger the financial sustainability of the IMO	<ul style="list-style-type: none"> <li>(i) The project through the IMO supports farmers' organizations for collective purchase and/or production of quality farm inputs and commercialization of the production.</li> <li>(ii) Risk allocation clearly defined in IMO contract with mitigation measures.</li> </ul>	C-IMO and the project organizes farmers' training on improved agriculture practices, crop diversification, agriculture marketing.
<b>4. Environmental and social</b>		
4.1. Farmers object to paying for water delivery (Ganges–Kobadak Irrigation Project and Teesta Barrage Irrigation Project)	<ul style="list-style-type: none"> <li>(i) Ganges–Kobadak Irrigation Project and Teesta Barrage Irrigation Project design involve intensive consultation with farmers and follow a participatory modernization approach.</li> <li>(ii) Farmers of Ganges–Kobadak Irrigation Project and Teesta Barrage Irrigation Project visit Barind Multipurpose Development Authority irrigation system and Muhuri irrigation scheme.</li> </ul>	<ul style="list-style-type: none"> <li>(i) The extensive program of communication and engagement is ongoing. The communication strategy framework prepared and submitted to PMU in November 20 is under review</li> <li>(ii) Farmers have visited Barind project and Muhuri Irrigation Project where farmers have agreed already to pay for irrigation services.</li> </ul>
4.2. Climate change affects the performance of the irrigation scheme and endangers the financial sustainability of the IMO	<ul style="list-style-type: none"> <li>(i) Disaster and climate-change-related risk reduction measures are incorporated into the design criteria.</li> <li>(ii) Risk allocation is clearly defined in IMO contract, with mitigation measures.</li> </ul>	Lease bidding documents for long-term M-IMO will be prepared in 2021 and will include climate change risk reduction measures.
4.3 Cultural barriers could limit participation of women	<ul style="list-style-type: none"> <li>(i) The stakeholder communication strategy will promote women participation in the project. Women will be included in the different training programs (more productive irrigated agriculture methods, pump operators, prepaid card water unit vendors).</li> <li>(ii) Evaluation of challenges encountered during the gender action plan implementation will be conducted at project completion.</li> </ul>	Gender targets in the project's design and monitoring framework have been reformulated to reflect the realities in the project area.
<b>5. Project Management</b>		
5.1. BWDB does not provide adequate staff to the PMU	<ul style="list-style-type: none"> <li>(i) Specific loan covenant is provided to ensure the Ministry of Finance supports BWDB staff requirement for the PMU, including recruitment from the market if required.</li> <li>(ii) PMU staff will be supported with experienced project management consultants and will receive specific training in ADB procurement and disbursement procedures.</li> </ul>	<p>PMU is staffed and equipped.</p> <p>PMDC is recruited and supports the PMU.</p> <p>PMU has received training in ADB procurement and disbursement procedures and financial management.</p>
5.2. Tension arises between PMU, IMO, and farmers	<ul style="list-style-type: none"> <li>(i) An implementation coordination committee is established to resolve potential conflict in the Muhuri Irrigation Project.</li> <li>(ii) Project communication strategy ensures stakeholders are kept aware of the project achievements and issues.</li> </ul>	The implementation coordination committee has been formed and is meeting on a regular basis. Awareness and orientation training and/or workshops are being held regularly across the Muhuri Irrigation Project area.
5.3. Weak financial management capacity that may lead to material misstatement in project financial statements and qualified audit reports	<ul style="list-style-type: none"> <li>(i) Continuous training will be provided to the PMU accounting staff in ADB's financial and audit procedures</li> <li>(ii) More comprehensive financial information will need to be submitted as part of quarterly progress reports.</li> <li>(iii) Detailed instructions and reporting templates will be included in the updated project administration manual.</li> <li>(iv) Accounting software will be adopted at the PMU level to capture receipts and payments under ADB financing.</li> </ul>	<p>PMU staff has been trained on ADB's financial management and disbursement procedure.</p> <p>Accounting records are maintained manually but acquisition of accounting software will be explored.</p>

Risk Description	Mitigation Measures	Remarks
5.5. Low quality of civil works because of corruption	(i) Increased transparency through the project communication strategy. (ii) Independent construction supervision. (iii) Provision of procurement consultant expertise. (iv) Reduced number of contracts. (v) Financial and procurement activities are centralized in Dhaka PMU.	C-IMO is undertaking day-to-day construction supervision and recommending rectification when quality is not adequate.  ADB review mission and BWDB regular monitoring missions are checking quality of the works and advising C-IMO and contractors on necessary improvements.
5.6 Prolonged impact of the COVID-19 pandemic could delay civil works progress and the recruitment of M-IMO, resulting in delayed project completion.	The situation in Bangladesh will be monitored and the construction work schedule updated regularly. The project will be extended, as required, to account for possible delays if the COVID-19 pandemic prevents timely completion of all activities.	Extension of the ongoing loan will be processed alongside the additional financing loan approval.  BWDB will seek approval of the no-cost extension of the development project proforma for this project.
<b>6. Technical</b>		
6. Power supply does not meet pumping requirement and endangers Muhuri Irrigation Project modernization efficiency	(i) Double pumping capacity installed to allow faster pumping if load shedding is higher than project estimates. (ii) Existing private diesel pumps kept mobilized to provide emergency backup. (iii) 60 ha of solar pumping piloted under Muhuri Irrigation Project; first 2,000 ha modernization and may be expanded if successful.	(i) Private diesel pumps will be kept until commissioning of the project (ii) MOU was signed with REB to guarantee reliable power supply to Muhuri Irrigation Project (iii) Transmission lines and electric power substation are being installed under the project.

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, C-IMO = construction-phase irrigation management operator, COVID-19 = coronavirus disease, ha = hectare, ICC = Implementation Coordination Committee, IMO = irrigation management operator, M-IMO = management-phase irrigation management operator, MOU = memorandum of understanding; O&M = operation and maintenance, PMDC = project management and design consultant, PMU = project management unit, PPP = public-private partnership, REB = Rural Electrification Board.  
Source: ADB.

8. **Rating.** As of 30 June 2021, the ongoing project is rated *on track*.

### C. Cost Overruns

9. The government has requested additional financing for the ongoing project to finance cost increases experienced because of (i) higher award price for four works contracts compared to the cost estimates prepared during project preparation and (ii) increase in quantities. The additional financing will also cover the amount lost in the ongoing loan, which is denominated in special drawing rights, because of depreciation against the dollar.

### D. Conclusion

10. The ongoing project is assessed *performing well* based on the criteria of (i) delivery of expected outputs, (ii) satisfactory implementation progress within a reasonable period, (iii) satisfactory compliance with safeguard policy requirements, (iv) successful management of risks, and (v) *on track* rating. The ongoing project meets ADB's eligibility criteria for additional financing for projects performing well. The ongoing project components remain a high priority of the government. The additional financing will ensure successful achievement of project outputs and does not change the envisaged outcome.