ADB ASIAN DEVELOPMENT BANK

Bangladesh: Restoration of Waterbodies for Sustainable Water Management in Dhaka Watershed

Project Name	Restoration of Waterbodies for Sustainable Water Management in Dhaka Watershed
Project Number	54398-002
Country	Bangladesh
Project Status	Approved
Project Type / Modality of Assistance	Technical Assistance
Source of Funding / Amount	TA 6675-BAN: Restoration of Waterbodies for Sustainable Water Management in Dhaka Watershed Technical Assistance Special Fund — US$ 500,000.00
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships
Sector / Subsector	Water and other urban infrastructure and services - Urban sanitation - Urban water supply
Gender Equity and Mainstreaming	No gender elements
Description	The transaction technical assistance (TA) facility will support for sustainable water management of the megacity Dhaka city by focusing on restoration of severely degraded waterbodies in Dhaka watershed through capacity building support under two projects: (i) ongoing project: Dhaka Water Supply Network Improvement Project and (ii) ensuing project: Piloting of Online Continuous Effluent Monitoring System for Surface Water Quality Improvement in Dhaka Watershed (for approval in 2021). The TA facility will deliver following three key outputs: Output 1. Support hydrogeological study of Upper and Lower Dupi Tila aquifers with comprehensive plan for aquifer recharge. The TA will support the ongoing project through completion of hydrogeological study to assess the storage capacity of the aquifers, groundwater reserves, and recovery status. The following activities will be conducted: (i) assess the storage capacity of aquifers, threats of pollution from endogenous and exogenous process, and analyze groundwater reserve and recovery status, and (ii) explore suitable location and techniques for aquifer recharge and prepare a comprehensive plan for artificial aquifer recharge. As surface waterbodies contribute to aquifer recharge, water quality monitoring and restoration measures supported by ensuing project will directly contribute to the outcome of ongoing project. Output 2. Prepare comprehensive water quality monitoring plan for restoration of waterbodies in Dhaka watershed. The TA will support the ensuing project through preparation of comprehensive water quality monitoring plan including measures for restoration of waterbodies in Dhaka watershed. The following activities will be conducted: (i) assess supply augmentation potentials of available surface waterbodies that are partially or entirely within Dhaka City by detailed mapping, (ii) prepare a list of waterbodies with restoration potential focusing on all season storage enhancement, groundwater recharge, and enhanced ecosystem services to be supported under the project, (iii) pollution mapping including pollution levels of waterbodies, quality of receiving influents, and sources for both surface water and groundwater, (iv) identify and evaluate suitable restoration measures including technical and nature-based solutions for pollution prevention and reduction, and flow augmentation, and (v) develop a mechanism for online water quality monitoring. The results will support in preparation of the ensuing project particularly on ensuring adherence to ADB's due diligence requirements. Output 3. Review policies and institutional framework to support restoration of degraded waterbodies. Considering both surface water quality and groundwater supply augmentation, the TA will help identify the gaps and suggest policy measures in Dhaka watershed. Artificial aquifer recharge through various measures will be reviewed that can help the ensuing project in exploring design options to facilitate the restoration of surface waterbodies. The policy analysis would bridge the capability gaps, apply best practices, and foster innovative solutions for restoration of waterbodies with a focus on sustainable water supply challenges in the urban water sector which will be utilized in the design of the ensuing project.
Project Rationale and Linkage to Country/Regional Strategy	The megacity Dhaka, established on the bank of Buriganga River, had a functional natural drainage system of over 65 canals and lakes and four rivers (i.e. Buriganga, Turag, Balu and Tongi Khal). Over the past few decades, lakes and rivers of the city were severely degraded and groundwater aquifer has rapidly depleted due to high population growth (from 0.1 million in 1906 to 20.2 million in 2020) and unplanned urbanization. Water management practices are environmentally unfriendly and unsustainable because of direct discharge of 2 million cubic meters of untreated wastewater from 7,000 industries, 200 million liters of untreated municipal sewage, and improper disposal of 4,000 metric tons of solid waste from the two city corporations every day. As a result, surface waterbodies have been highly degraded and filled with solid waste. The natural drainage system has also collapsed due to illegal encroachment of major drainage canals, rivers, and ponds. The polluted surface waterbodies, such as ponds, canals, lakes, and rivers are also contributing to aquifer recharge. Dhaka City extracts 87% of its water supply from groundwater aquifers. Increased dependency on groundwater has led to a rapid fall of groundwater table by 2-3 meters per year, putting the city at the risk of subsidence. The natural process of groundwater recharge is very slow due to increased impervious built-up area and thick impermeable clay cover on the Dupi Tila aquifers. Dhaka's dependence on groundwater remains relevant despite the government initiatives for treatment of surface water to meet the demand. Therefore, availability of groundwater in the Upper and Lower Dupi Tila aquifers in Dhaka watershed needs to be studied well for sustainable management of this resource. Government has not been able to restore the waterbodies and minimize surface water pollution in the city. Implementation of these priority activities remains a challenge as detailed studies on the current conditions or the best suitable solutions are yet to be explored.
Impact	

Project Outcome
Description of Outcome
Progress Toward Outcome
Implementation Progress
Description of Project Outputs

Status of Implementation Progress (Outputs, Activities, and Issues)	
Geographical Location	Dhaka Division

Summary of Environmental and Social Aspects
Environmental Aspects
Involuntary Resettlement
Indigenous Peoples
Stakeholder Communication, Participation, and Consultation
During Project Design
During Project Implementation

Business Opportunities	
Consulting Services	ADB will engage consultants following the ADB Procurement Policy (2017, as amended from time to time) and its associated staff instructions. Procurement of goods and non-consultancy services, if any, will be procured by following the ADB Procurement Policy (2017, as amended from time to time) and the Procurement Regulations for ADB Borrowers (2017, as amended from time to time). TA implementation will be carried out through a mix of firm and international/national individual consultants (40 person-months). A consulting firm will be recruited through open competitive bidding procedures, local advertisement, and/or limited competitive bidding using quality- and cost-based selection method, simplified technical proposal, or biodata technical proposal. Individual consultants will be recruited for other positions as needed, following individual consultant selection method, international or local advertisement, based on project requirements.
Procurement	ADB will administer the TA facility, in consultation with the executing and implementing agencies. ADB's South Asia Department will select, supervise, and evaluate consultants, and procure goods. Advance contracting will be undertaken for recruitment of the TA consultant firm and individual consultants and will comply with PAI 2.04 on Specific Requirements for Recruiting Consultants by ADB. The consultants will (i) procure the goods and equipment; (ii) conduct studies and surveys; and (iii) awareness on conservation of water resources.

Responsible ADB Officer	Chowdhury, Farhat Jahan
Responsible ADB Department	South Asia Department
Responsible ADB Division	Bangladesh Resident Mission
Executing Agencies	Dhaka Water Supply and Sewerage Authority 98 Kazi Nazrul Islam Avenue, Kawran Bazar, Dhaka Ministry of Local Government, Rural Development, and Co-operatives Rural Development and Cooperatives Room 632, Bldg 7 Block-B, Dhaka-1207, Bangladesh

Timetable	
Concept Clearance	-
Fact Finding	-
MRM	-
Approval	11 Dec 2020
Last Review Mission	-
Last PDS Update	11 Dec 2020

TA 6675-BAN

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
500,000.00	0.00	0.00	0.00	0.00	0.00	500,000.00	-	0.00

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Request for Information	http://www.adb.org/forms/request-information-form?subject=54398-002
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