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Conference on Water Reuse and Recycle

Water Resources Planning Organization (WARPO), Ministry of Water Resources and 2030 Water Resources Group of the World Bank jointly organized the “Conference on Water Reuse and Recycle: Launching of National Alliance” on 21 May 2025, at Pan Pacific Sonargaon, Dhaka. Syeda Rizwana Hasan,

Honorable Adviser, Ministry of Water Resources and Ministry of Environment, Forest and Climate Change inaugurated the Conference as Chief Guest and Dr. Sheikh Abdur Rashid, Cabinet Secretary, Cabinet Division presided over the Conference.



Syeda Rizwana Hasan, Honorable Adviser, Ministry of Water Resources and Ministry of Environment, Forest and Climate Change; Dr. Sheikh Abdur Rashid, Cabinet Secretary, Cabinet Division and other guests in the conference

Approximately 350 participants, including representatives from various ministries, heads of organizations, government agencies, academia, private sector including textile and leather factories and more than 20 fashion brands, wastewater treatment technology providers, civil society organizations and representatives from the World Bank were present at the conference. Prof. Mohidus S Khan, BUET, presented the keynote in the conference.

In her inaugural speech, Adviser Syeda Rizwana Hasan said, “On the one hand, we are encroaching on rivers and polluting them in the name of 'development', while on the other hand, mass people are suffering due to the lack of safe and clean water. This cannot continue. We have to remember that water is a finite and very precious resource. We cannot waste it whatever we like.” The Ministry of Water Resources is going to adopt a policy named “Industrial Water Management Policy” to stop the pollution and illegal practice of extracting unlimited groundwater for industry at free of cost. According to the proposed policy, the practice of extracting unregulated groundwater without any cost for industry will be stopped.

After the Inaugural session, there were also three

plenary sessions in the conference. The 1st session “Unlocking Finance for Water Re-use” was moderated by Harsh Goyal, Senior Water Specialist, World Bank. This session was enriched with the discussants i.e. Secretary, Ministry of Water Resources, representative from Ministry of Industry and representative from Local Government Division. The 2nd Plenary Session “Accelerate Water Resilience through Water Reuse and Recycle” was moderated by Ekaterina Ghosh, World Bank and the discussants in the session included Director General, WARPO; representatives from Primark, H&M, EKN, EU and BSCIC. In the conference Primark also showcased a case study on water recycling and reuse. WARPO, CEGIS, IWM and different private branded companies showcased their reuse and recycle related activities and products in their stalls in the conference.

The conference ended with the aim to bring together all stakeholders, both public and private, with a common vision to ensure water security, and to provide guidance for the formulation and implementation of a joint action plan for water reuse and recycle by combining knowledge and resources.

The 19th Board of Governors (BoG) Meeting of the Water Resources Planning Organization (WARPO)

The 19th Board of Governors (BoG) meeting of WARPO was held on 12 February, 2025 at WARPO conference room. The meeting was chaired by Syeda Rizwana Hasan, Honorable Adviser, Ministry of Water Resources and Ministry of Environment, Forest and Climate Change. Dr. Neyamat Ullah Bhuiyan, Member (Senior Secretary), Agriculture, Water Resources and Rural Institutions Division, Bangladesh Planning Commission graced the meeting as Vice-Chairman. Mr. Nazmul Ahsan, Secretary, Ministry of Water Resources and all respected members of the BoG attended the meeting.



At the very beginning of the meeting, Syeda Rizwana Hasan, Honorable Adviser and the Chairperson of the WARPO BoG, started her introductory speech by remembering the participation of the youth and students and all the martyrs and wounded patriots who sacrificed their lives during July 2024, showing the bold commitment to build a non-discriminatory, modern technology-based, sustainable water management system in the country. Then she welcomed the Vice Chairman of the BoG and all the honorable members of the board and requested everyone to introduce themselves.



Honorable Adviser, Ministry of Water Resources and Ministry of Environment, Forest and Climate Change Syeda Rizwana Hasan graced the 19th BoG meeting of WARPO as the Chairperson held at WARPO Conference Room on 12 February, 2025.

After a brief introduction by the members and a welcome speech by the Chairperson, Director General, WARPO, Mr. Mohammad Lutfur Rahman, Ph D gave a detailed presentation as per the request by the Chairperson. In the presentation, DG, WARPO, clearly addressed all the time-bound agenda of the 19th BoG meeting including the achievements of the last 18th BoG meeting decisions. He also affirmed to the BoG about the commitment and dedication of WARPO to continue as a Center of Excellence in the water sector. After the presentation, all the BoG members appreciated the invaluable activities performed by WARPO and joined in an enthusiastic detailed discussion.

The meeting ended with the major decisions: (1) The Board of Governors agreed to recommend the approval of “Water Resources Planning Organization (WARPO)” being transformed into “Department of Water Resources Planning and Management” and directed to take necessary initiatives. (2) Dissemination workshops on

Bangladesh Water Act, 2013 and Bangladesh Water Rules, 2018 should be continued and expedited in remaining divisions/districts as well as upazilas and unions. (3) All concerned agencies/institutions must take necessary Clearance/NOC from WARPO before undertaking any water sector development projects. (4) The Draft “Industrial Water Management Policy” needs to be finalized soon based on the opinions of the stakeholders and needs to be sent to Ministry for further necessary action. (5) Initiatives need to be taken to update the National Water Policy, 1999 and Bangladesh Water Act, 2013 with the provisions for inclusion of Bangladesh Water Act, 2013 into the Mobile Court Act, 2009.

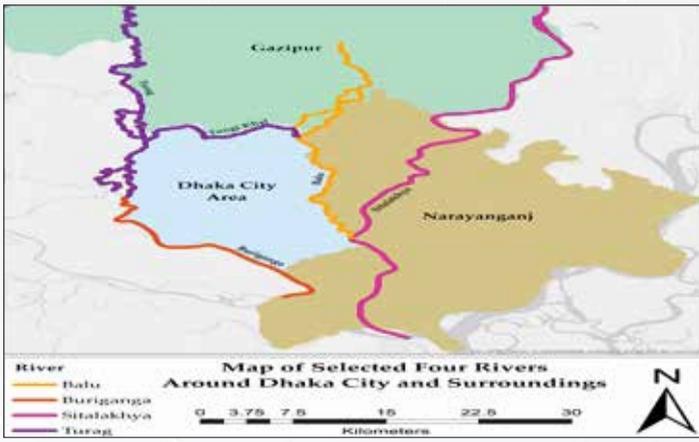
The Honorable Adviser and all the board members highly appreciated the valuable services provided by WARPO as a center of excellence for the wellbeing of the nation and expressed their expectations to render its further better services for the betterment of the water sector of the country.

Action Plan for Restoration of Dhaka Rivers

The 4 rivers of Dhaka - Buriganga, Turag, Balu, and Shitalakshya are crucial for Dhaka’s ecological balance and socio-economic activities but have suffered severe degradation due to pollution and encroachment. Recognizing the urgent need for decisive action, the Honorable Advisor to the Ministry of Water Resources and the Ministry of Environment, Forest and Climate Change has formed a high-level Committee with 15 members to develop a comprehensive action plan aimed at pollution control, environmental protection, and sustainable river management. The Committee is headed by the Secretary of the Ministry of Water Resources, comprising representatives from various relevant ministries and agencies, with secretariat support from the Director General, Water Resources Planning Organization (WARPO). The Committee conducted a joint visit to the rivers on 11 January 2025 headed by the Secretary,

Ministry of Water Resources (MoWR) and accompanied by high officials from MoWR and representatives from relevant organizations (DoE, BIWTA, DNCC, DSCC, DWASA, WARPO, BWDB, NRCC, RRI, IWM, RDRC, Riverine People etc.) to get the idea about pollution sources and illegal encroachments. The Committee examines the impact of pollution and encroachment, stressing the urgency of immediate action.

After a series of meetings, the Committee proposed an Action Plan with a structured, multi-phase approach (short-term, medium-term and long-term) to reverse the environmental crisis and ensure long-term sustainability. The Action Plan emphasizes the importance of identifying pollution sources, mapping pollution hotspots, river demarcation, and improvements in sewage treatment system. The role



Map of Rivers around Dhaka City



River Visit by Committee Members

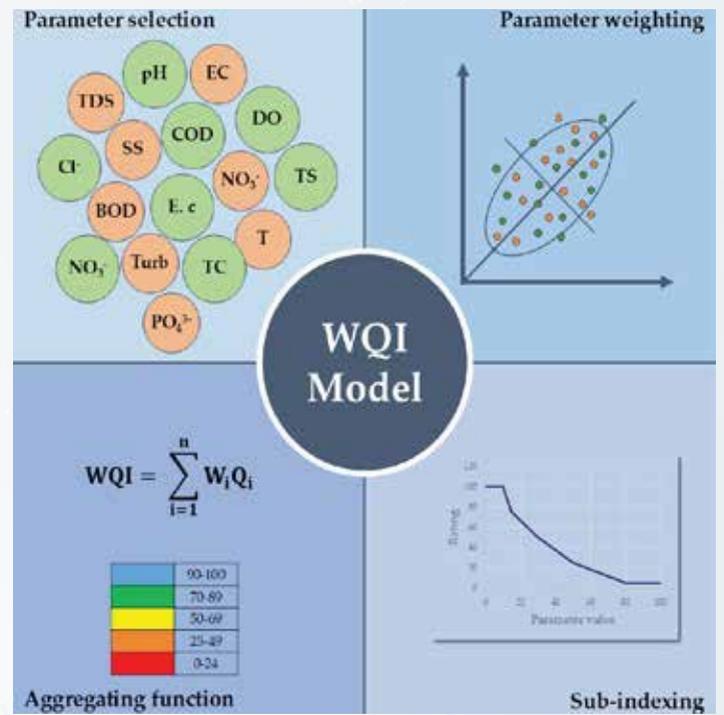
of Common Effluent Treatment Plants (CETPs) for industrial waste management and the establishment of a Water Quality Index (WQI) for river health monitoring are emphasized. Major pollution and encroachment challenges are outlined, along with proposed solutions such as nature-based interventions (constructed wetlands, tree plantation) and technological advancements (improved effluent treatment, innovative cleanup devices). The plan also emphasizes the

necessity of public awareness campaigns and stricter monitoring of river pollution. The Action plan advocates for a unified effort among government agencies, industries, and local communities to enforce stringent pollution controls, reclaim encroached land, and maintain rigorous river monitoring. With a structured, long-term strategy, Dhaka city can restore its rivers and preserve their ecological and economic value for future generations.

Research on Establishment of Water Quality Index (WQI) for the Dhaka-based Rivers

Rivers around Dhaka-Buriganga, Turag, Balu, and Sitalakhya are facing severe pollution due to rapid urbanization, industrial effluent discharge, sewage dumping, and encroachment. These rivers, once vital to the region's ecology and economy, now pose serious risks to aquatic life and human health. Traditional water quality monitoring methods are complex and resource-intensive, prompting the Water Resources Planning Organization (WARPO) and the Department of Chemical Engineering, BUET, to develop a simplified, data-driven Water Quality Index (WQI) model using Principal Component Analysis (PCA).

The study collected water quality data from 36 monitoring stations across four seasons (dry, pre-monsoon, monsoon, and post-monsoon). Parameters analyzed included physical, chemical, and microbial

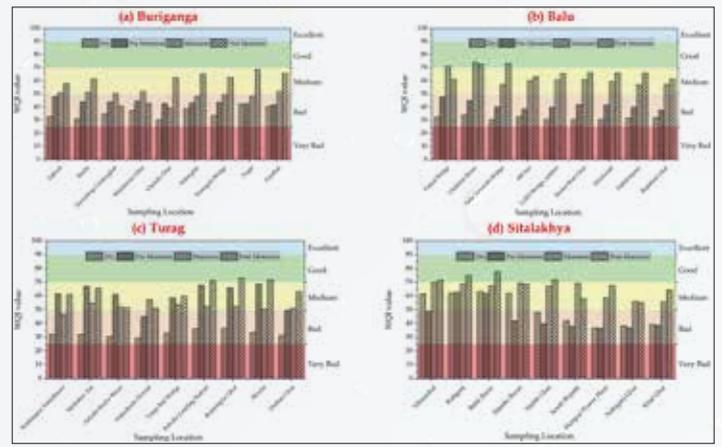


indicators. PCA was used to reduce dimensionality, identify key pollution drivers, and guide parameter selection. The first three principal components accounted for 74% of the variance. Eight key parameters were chosen for WQI development using PCA and correlation analysis. Sub-indexing methods included quality rating curves and linear interpolation.

The WQI model revealed significant seasonal variations. The Buriganga and Turag rivers showed the worst water quality, especially during the dry season, with WQI values as low as 30.50 (Chandir Ghat) and 29.78 (Fulpukuria Thread), categorized as “Bad.” The Balu and Sitalakhya rivers had better quality, reaching “Good” classification during monsoon and post-monsoon due to higher dilution. TS, COD, and chloride were identified as the most

influential parameters. DO and ammonia-nitrogen showed strong interaction effects. Bootstrapping validation confirmed Balu as the most polluted (mean WQI: 40.99), while Sitalakhya had the highest mean WQI (48.5), though still below desirable levels.

The study recommends strict enforcement of wastewater treatment regulations, real-time pollution monitoring, and public awareness campaigns. Future research should include long-term monitoring, GIS-based pollution mapping, and investigation of emerging contaminants. This PCA-based WQI model provides a reliable, scalable framework for water quality assessment and offers actionable insights for policymakers to restore the river systems of Dhaka city.



Leveraging Advanced Technologies for Enhanced Groundwater Data Imputation and Forecasting in the North Western Region

Groundwater level monitoring in the North Western hydrological region of Bangladesh faces a critical challenge due to the presence of missing or incomplete data. Such data gaps arise from the technical limitations of measurement instruments, environmental disturbances, or inconsistencies in data collection methods. These issues compromise the reliability of groundwater management systems and hinder informed decision-making. With groundwater being a vital resource for agriculture and daily living in the region, an effective mechanism for data imputation and forecasting becomes indispensable.

To address these challenges, the proposed research leverages advanced machine learning techniques, particularly deep learning models like Long Short-Term Memory (LSTM) networks. These models are well-suited for learning temporal patterns in time-series data, allowing them to impute missing values with high accuracy. The approach goes beyond simplistic statistical methods by considering complex dependencies within the data. Additionally, multiple forecasting methods—including LSTM, BiLSTM, ARIMA, and SARIMA—are employed to predict future groundwater levels, with a weighted ensemble strategy enhancing overall robustness and reliability.

Imputation using Groundwater Level Data

Imputation using Secondary Data

RAJ003
Kachhan Kayali Para, Baghmara, Rajshahi, Rajshahi

Earliest Date: 1/1/1979 | Latest Date: 3/14/2005

Start Date: mm/dd/yyyy | End Date: mm/dd/yyyy

Show Missing Data Rate

Artificial Missing Rate: Season-Based Type: OVERALL, PEAK - OFF-PEAK

Rank Models

Model Weights:

| | | | | |
|------|--------|-------|--------|------------|
| LSTM | BiLSTM | ARIMA | SARIMA | Derivative |
| 1 | 1 | 1 | 1 | 1 |

Imputation Type: New Calculation for Imputation

Note: Choose whether to reuse the imputed data from model ranking or run a new imputation.

Submit

DOWNLOAD AS CSV | DOWNLOAD AS PDF | CLOSE WINDOW

RAJ003
Kachhan Kayali Para, Baghmara, Rajshahi, Rajshahi

Select Version of Imputation

RESET ZOOM | SAVE IMAGE

Filter Data: Data Points: All

Water Level (m)

Measurement Time

Click on the cell to sort it ASC ↑ or DESC ↓

| Measurement Time | Water Level | Is Imputed? |
|-----------------------|-------------|-------------|
| 1/1/1979, 12:00:00 AM | | No |
| 1/8/1979, 12:00:00 AM | | No |

By combining imputation and forecasting within a unified data-driven framework, this research facilitates proactive groundwater resource planning. The system is designed with user interactivity in mind, offering a dashboard that supports real-time visualization of both historical and projected data. This empowers policymakers and field professionals to make more accurate and timely decisions, ensuring sustainable management of groundwater resources in the face of environmental and infrastructural uncertainties. Most importantly, the

forecasting capability of the system will directly support officials from the Water Resources Planning Organization (WARPO) in issuing No Objection Certificate (NOC) for groundwater abstraction. By providing accurate future projections and filling critical data gaps, the tool enables faster and more confident decision-making, streamlining the NOC approval process and promoting transparent groundwater governance.

Bringing Policy to the People: Activities and Plans of WARPO's District-Level Operations

Water Resources Planning Organization has established 7 district offices in 7 divisional cities. Since its inception, the offices have taken significant steps to establish a functional and collaborative workspace in coordination with Bangladesh Water Development Board (BWDB) in the respective districts.



Visit of High Official to WARPO District Office

Implementation of Legal Directives

In accordance with the “Bangladesh Water Act, 2013” and “Bangladesh Water Rules, 2018”, the District Offices formally communicate with industrial entities to ensure compliance regarding groundwater abstraction. Actions taken: (a) Letters issued to industries urging compliance with legal NOC (No Objection Certificate) requirements; (b) Regular follow-up activities conducted to ensure integration into the NOC system; (c) Industries informed about the legal restriction on groundwater abstraction.

Infrastructure Development

To establish a permanent office building, necessary steps have been taken in coordination with the Head Office. In alignment with the decision 6(a) of the 18th meeting of the Governing Board of the Water Resources Planning Organization (WARPO), it was resolved that: “For the construction of WARPO buildings in each district, necessary steps will be taken to allocate 10 Katha (approximately 15 decimals) of unused land under the control of the Bangladesh Water Development Board (BWDB) in favor of WARPO.”

Following this directive, an important milestone has been achieved for all the seven District Office. A total of 10 Katha of land for the establishment of a permanent WARPO office is under process. This land allocation marks a significant step toward the realization of a dedicated office infrastructure, which will not only enhance operational capacity but also ensure a stable institutional presence in the region. Meanwhile, to address space constraints and improve working conditions, the District Offices are planning to rent a suitable office floor near their current location.

Public Awareness Activities

To raise awareness about sustainable water use, the District Offices have undertaken various public relations initiatives throughout the year. Key activities include: (a) Distribution of leaflets prepared to raise public awareness about the Right to Information Act and its regulations among various individuals and institutions at the field level; (b) Awareness-based outreach programs; (c) Direct communication and consultation with stakeholders.



Participatory Activities of WARPO District Offices

Participatory Activities

The District Offices actively participate in seminars and field visits on District/ Upazilla/ Union Integrated Water Resources Management (IWRM). These engagements are contributing to enhance local coordination in water resource management.

Future Plans

The District Offices are planning to organize seminars with stakeholders who use groundwater outside WASA jurisdiction, to introduce them to the proper law and restriction on groundwater abstraction. To minimize the use of ground water and increase the use of surface water the District Offices are planning to develop a database of all public and private institutions that extract ground water for commercial purposes. In spite of several challenges, the District Offices are committed to improving the situation with priority.

Assessment of Water Resources Availability and Lowest Safe Yield of Aquifer in 10 Districts of the North-Central Hydrological Regions of Bangladesh for Effective Implementation of Bangladesh Water Act, 2013

The study project aims to ensure sustainable water governance by assessing the availability, quality, and safe extraction limits of surface and groundwater in a region facing rapid urbanization, industrial growth, and population pressure. The key targets of the project are: (a) Identify Water Stress Areas based on the current and projected water

demand, and the quality of both surface and groundwater. (b) Map the spatial and vertical extent of aquifers and determine the safe yield through assessment of recharge potential and groundwater trends at the mouza level. (c) Conduct surveys, stakeholder consultations, and hydrological modeling to prepare a comprehensive report on

sustainable water resource management. (d) Develop GIS-based maps and databases detailing the availability, quality, usage, and demand of water across key sectors such as agriculture, irrigation, industry, fisheries, and domestic use.

The project covers a significant portion of Bangladesh's north-central hydrological region, encompassing 10 districts including Dhaka, Gazipur, Tangail, Manikganj, Narayanganj, Munshiganj, Narsingdi under Dhaka Division and Mymensingh, Sherpur, Jamalpur under Mymensingh Division. The project is structured around three core components: (i) Component 1: Participatory Rural Appraisal (PRA) and Baseline Study; (ii) Component 2: Hydrological Investigations and Modeling; (iii) Component 3: Establishment of a Modern Water Quality Laboratory.

Component 1: Participatory Rural Appraisal (PRA) and Baseline Study

Till date, the project has successfully completed 727 Questionnaire Surveys, 365 Focus Group Discussions (FGDs), and 51 Participatory Rural Appraisal (PRA) Validation Workshops, ensuring a robust and inclusive data collection process that reflects the perspectives of diverse stakeholders across the project area.



PRA Validation Workshop at Islampur Upazilla, Jamalpur

Component 2: Hydrological Investigations and Modeling

Under the Hydrological Investigation & Modelling section, the national consultants will analyze surface and groundwater behavior, recharge potential, and usage trends using scientific methods. They will also develop predictive models to guide sustainable water extraction and management decisions, alongside mapping aquifers,

assessing groundwater recharge, determining safe yield levels up to the Mouza level, and identifying current and future Water Stress Areas.



PRA Validation Workshop at Kaliganj Upazilla, Gazipur

Component 3: Establishment of a Modern Water Quality Laboratory

Establishing a water quality testing laboratory at WARPO will enhance its capacity to support the National Water Resources Plan by enabling accurate, timely, and cost-effective analysis of water's physical, chemical, and biological parameters. An in-house lab ensures quality control, faster results, and immediate response to water quality issues, while also fostering staff expertise and maintaining data confidentiality. This strategic move will strengthen WARPO's ability to make informed decisions and uphold regulatory standards efficiently. The Atomic Absorption Spectrometer will enable detection of trace heavy metals, while Ion Chromatography will analyze key anions and cations essential for chemical profiling. The portable multimeter will support field measurements of parameters such as pH, conductivity, temperature, and dissolved oxygen etc. The COD meter with multiparameter photometer and reactor will measure chemical oxygen demand and the BOD incubator will assess biochemical oxygen demand.

This integrated and data-driven initiative highlights the Government of Bangladesh's strong commitment to sustainable water resource management, participatory planning, and the robust implementation of the Bangladesh Water Act, 2013 and Bangladesh Water Rules, 2018, ensuring water security for future generations.

Present Activities on Research Projects

A. Assessing Rainwater Potential for Managed Aquifer Recharge (MAR) to Enhance Water Sustainability

This study aims to evaluate the potential of rainwater harvesting for Managed Aquifer Recharge (MAR) in urban and peri-urban areas of Gazipur, Bangladesh, where high groundwater abstraction and extensive impervious surfaces have compromised natural recharge. Using 35 years of rainfall data, land cover analysis, runoff coefficients, and GIS-based Multi-Criteria Decision Analysis, the project will identify high-priority MAR zones and estimate infiltration volumes under varying conditions with tools like the WetSpass model and the rational method. Field surveys, remote sensing, rainwater quality assessments, and spatial analysis using Python, R, and GIS software will support the research. The research is scheduled to run from March, 2025 to February, 2027. The study will provide actionable insights for implementing rainwater-based MAR systems, contributing to national water policy, SDG-6, and the Bangladesh Water Act, 2013 to improve groundwater sustainability in Bangladesh.

B. Assessing Sedimentation in Long-Term Morphological Time-Scale in GBM Delta

Bangladesh lies at the heart of one of the world's largest and most dynamic river deltas—the Ganges-Brahmaputra-Meghna (GBM) delta. This research initiative is a continuation of the recently completed WARPO-BUET collaborative project, which studied floodplain sedimentation and various sediment management strategies in the Bangladesh delta based on short-term simulation (one hydrological year) using the Bangladesh Delta Model (BDM). The research study is designed to fulfill the objectives: (a) Assess sediment balance considering long-term morphological time-scale; (b) Assess long-term sedimentation rate on the delta floodplains; (c) Assess long-term impacts of sedimentation due to various sediment management strategies. The study applies a combination of historical data analysis, hydro-morphological modelling, and sediment budget estimation. The administrative approval of the research was granted on March, 2025. The research is scheduled for completion over a 24-month period.

Upcoming Projects of WARPO

1. Hydrogeological Survey and Aquifer Mapping for Freshwater Availability in 11 Districts of the South-East Hydrological Region in the Context of Climate Change Adaptation, Increasing Salinity, and Groundwater Extraction

As part of the government’s green and climate-resilient development priorities, the Planning Commission has featured the project “Hydrogeological Survey and Aquifer Mapping for Freshwater Availability in 11 Districts of the Southeast Hydrological Region in the Context of Climate Change Adaptation, Increasing Salinity, and Groundwater Extraction” on its Green Page. Led by WARPO and funded by the Government of Bangladesh with an allocation of BDT 4937.16 lakh, the project will be implemented from July 2025 to December 2028. Targeting the districts of Chattogram, Cox’s Bazar, Bandarban, Rangamati, Khagrachhari, Cumilla, Brahmanbaria, Chandpur, Feni, Noakhali, and Lakshmipur, the initiative focuses on mapping aquifers, assessing freshwater availability, identifying safe yield levels, and determining water-stressed areas. The project supports the implementation of the Bangladesh Water Act, 2013 and Bangladesh Water Rules, 2018 and integrates IoT-based real-time monitoring and climate modeling to address salinity intrusion and emerging contaminants. Aligned with the goals of the Bangladesh

Delta Plan 2100, this initiative will play a vital role in ensuring sustainable water management, equitable access, and long-term socio-economic and environmental resilience in the region.

2. Aquifer Mapping through Hydrogeological Investigation and Mathematical Modeling in South-West Hydrological Region for Climate Change Adaptation and Freshwater Availability

The project will be implemented from July 2025 to December 2028 with an allocated budget of BDT 4711.30 lakh. The main objective of the project is to effectively implement the Bangladesh Water Act, 2013 and Bangladesh Water Rules, 2018 in 13 districts of the South-West hydrological region of Bangladesh and to formulate aquifer mapping by determining the availability and quality of groundwater and surface water resources, identifying sources of potable water, and identifying water-stressed areas by determining the quality and safe yield limits of aquifers in order to ensure the availability of fresh water and adaptation to climate change in 13 districts of the South-West hydrological region of Bangladesh. The central considerations of the project are the industrial zones, economic zones, salinity levels of groundwater and surface water, surface water pollution, identification of emerging contaminants, and urbanization trends.

WARPO Highlights: Workshops, Lab Insights and Groundwater Model



Workshop on Updating National Water Policy (1999) and Bangladesh Water Act, 2013



Workshop on 5th Industrial Revolution: AI in Water Resources Management



Workshop on Harnessing Machine Learning for Water Sector Innovation



Workshop on Harnessing Machine Learning for Water Sector Innovation



Physical Model of Groundwater Hydrology of Bangladesh Installed at WARPO



Water Quality Parameter Testing Lab Established at WARPO

Rampura-Jirani Canal Cleanup Campaign

In observance of National Youth Day 2024 on November 1, a sweeping nationwide cleanup initiative was launched across all 64 districts of Bangladesh, focusing on the rehabilitation of 64 designated canals and waterbodies. As part of this transformative endeavor, the Rampura-Jirani Canal Cleanup Campaign in Dhaka was formally inaugurated, marking a significant step toward sustainable urban waterway management.

The inauguration ceremony was honored by the presence of Mr. Asif Mahmud Shojib Bhuyain, Honorable Adviser to the Ministry of Youth and Sports and the Ministry of Local Government Division, who officially commenced the campaign. The event was further distinguished by the attendance of Syeda Rizwana Hasan, Honorable Adviser to the Ministry of Water Resources and the Ministry of Environment, Forest and Climate Change, who graced the occasion as

the Chief Guest. The ceremony also welcomed other esteemed dignitaries, including Mr. Nazmul Ahsan, Secretary of the Ministry of Water Resources; Mr. Md. Rezaul Maksud Jahedi, Secretary of the Ministry of Local Government Division; and Mr. Mohammad Lutfur Rahman, Director General of the Water Resources Planning Organization (WARPO), alongside senior officials from the Ministry of Water Resources and affiliated institutions.

The Water Resources Planning Organization (WARPO) played an instrumental role in this campaign, actively engaging in the restoration and ecological rejuvenation of the Rampura-Jirani Canal. The active participation of the organization underscores its steadfast commitment to the protection, preservation, and sustainable management of the nation's water resources.



Inauguration of the Rampura-Jirani Canal Cleaning Campaign



Canal Cleaning Campaign



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