River Research Institute
Ministry of Water Resources
Govt. of the People's Republic of Bangladesh

RRI Newsletter

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COLLABORATIVE MEETING BETWEEN MOWR AND RRI

An important collaborative meeting took place on 4th April 2024 between Ministry of Water Resources and River Research Institute. Mr. Zaheed Farooque, MP, Hon'ble State Minister, Ministry of Water Resources presided the meeting in presence of Mr. Nazmul Ahsan, Secretary, Ministry of Water Resources and Mr. S M Abu Horayra, Director General of RRI along with all officers. The purpose of this meeting was to engage all officers in productive discussions and collaborative efforts for the future aspiration and prosperity of RRI.

BOG MEETING OF RRI HELD AT PANI BHABAN

54th Board of Governors (BoG) meeting of RRI was held at Pani Bhaban, 72, Green Road, Dhaka on 24th April 2024. Mr. Zaheed Farooque, MP, Hon'ble State Minister, Ministry of Water Resources and the Chairman of BoG, chaired the meeting. Mr. Shahdab Akbar, MP and the member of BoG and other members of BoG were present in the meeting. This is the apex board of RRI that makes the decisions on different issues that arises from time to time. Some important decisions were taken in the meeting.

RECENTLY COMPLETED MATHEMATICAL MODEL STUDY

Recently River Research Institute completed two Mathematical Model study based on a contract between River Research Institute and Roads and Highways Department. RRI is assigned to conduct Hydro-Morphological Study for Moyur Bridge-2 over the Moyur River and Old Shibsa Bridge over the Old Shibsa River under Roads and Highways Division, Khulna.

1. Hydro-Morphological Study for construction of Old Shibsa Bridge over the Old Shibsa River at 2nd Km of Paikgacha-Soladana-Batiaghata Road (Z-7608) under Road Division, Khulna.

Objectives of the Study: The overall objective of the proposed study was to determine the suitable location of bridge along with alignment of approach road and provide the hydraulic design of bridge and approach road including the river training works, if required, from hydraulic hydrological and morphological considerations.

Progress: The final reports of the study were submitted to the client.

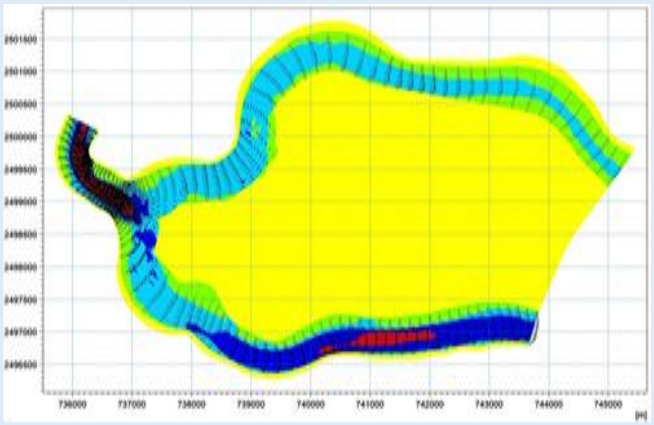


Figure: Velocity field at and around the proposed Old Shibsa Bridge for 100-year return period discharge.

Figure: One of Proposed Bridge, approach road and existing road alignment.

2. Hydro-Morphological Study of the Moyur River for Construction of Moyur Bridge-2 over the Moyur River at 4th km of Bangabandhu Economic Zone Road under Road Division, Khulna.

Objectives of the Study: The overall objective of the proposed study was to determine the suitable location of the bridge along with the alignment of the approach road and provide the hydraulic design of bridge and approach road including the river training works, if required from hydraulic hydrological and morphological considerations.

Progress: The final reports of the study were submitted to the client.

Figure: Suitable river stretches for siting the proposed bridge on the Moyur River.

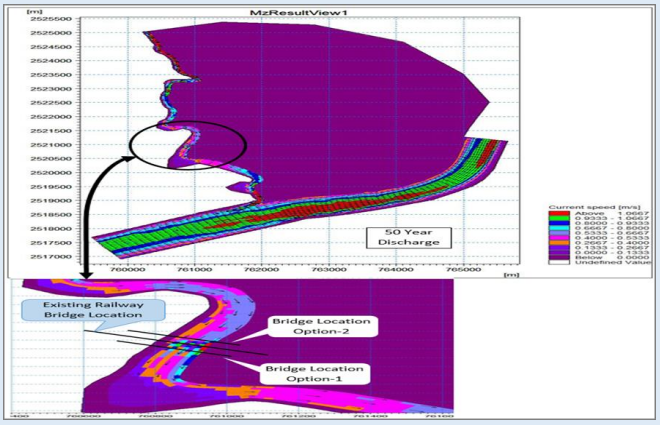


Figure: Velocity fields at and in the vicinity of the likely bridge locations (Option-1 and 2) for 50 year return period discharge.

ONGOING PHYSICAL MODEL STUDY

1. Physical Model Study in connection with Updating the Feasibility Study of Surface Water Treatment Plant for Rajshahi WASA.


Figure: Left picture represents the model bed (before run) and right picture represents the model during running condition for the physical model study of Surface Water Treatment Plant for Rajshahi WASA.

Figure: A view of Physical Model Study of Surface Water Treatment Plant for Rajshahi WASA.

2. Physical Model for Detailed Study for Restoration and Development of Water Resources Management System of Polder 31 under Dacope Upazila in Khulna District.


Figure: Left picture represents the model bed (before run) and right picture represents the model during running condition for the physical model in connection with Restoration and Development of Water Resources Management System of Polder 31

EXPERT TEAM OF RIVER RESEARCH INSTITUTE VISITED BWDB PROJECT


Figure: Left picture refers the soil sample collection and right picture refers the testing of that soil samples in soil laboratory of GRD in connection with BWDB Project under Cox's Bazar O & M Division, Cox's Bazar District.

OFFICIAL VISITS TO RRI


Figure: Dr. A. N. M. Bazlur Rashid, Additional Secretary of the MoWR attended in a seminar of RRI as a chief guest entitled "Role of Smart Water Resources Management for building Smart Bangladesh" (left) held in May 28, 2024 and visited Geotechnical Research Directorate's activities and laboratories facilities along with DG of RRI and other Officials (right).

INNOVATION EXHIBITION AT PANI BHABAN

A day-long Innovation Exhibition (showcase) organized by the Ministry of Water Resources on 16 May 2024 at Pani Bhaban, 72 Green Road, Dhaka and River Research Institute participated that exhibition. Mr. Nazmul Ahsan, Secretary, Ministry of Water Resources inaugurated the program and visited the River Research Institute stall along with different high officials including Additional Secretary Dr. A. N. M. Bazlur Rashid, Joint Secretary Mr. Lutfur Rahman of the Ministry of Water Resources and Director General of Bangladesh Water Development Board, Water Resources Planning Organization, Bangladesh Haor and Wetland Development Department, River Research Institute. They are seen in the picture below.


NATIONAL ADAPTION PLAN EXPO 2024 HELD AT BICC, DHAKA, BANGLADESH

Dr. Md. Alauddin Hossain, Principal Scientific Officer, RRI

A four-day long NAP Expo 2024 dated 22-25 April, conducted at the Bangabandhu International Conference Centre in Dhaka, Bangladesh. This annual event, organized by the Least Developed Countries Expert Group (LEG) under the UNFCCC, serves as a crucial platform for global stakeholders to exchange experiences and foster partnerships to advance National Adaptation Plans (NAPs). Ministry of Environment, Forest and Relief administered the event in favor of Bangladesh. With this year's theme centered on "Driving Transformational Adaptation through National Adaptation Plans," the expo brought together 383 delegates from 104 countries.

The event commenced with an inaugural address by Hon'ble Prime Minister Sheikh Hasina, MP who emphasized the imperative of increasing adaptive capacity and resilience to safeguard the future for generations to come. She highlighted the need for coordinated risk reduction initiatives to achieve this vision, inaugurating both the UN Climate Adaptation Conference and the Bangladesh Climate Development Partnership (BCDP).

Throughout the expo, 23 stalls showcased adaptation efforts from various countries. Notably, MoWR including its cistern organizations (BWDB, RRI, WARPO, BHWDD) presented their climate-friendly activities, with a spotlight on the Water Resources Development Project such as River bank protection, Coastal embankment protection, River Training Works etc. Representatives from MoWR provided project details and disseminated information to visitors through demonstrations and leaflets. It is noticed that through 2050 NAP investment forecast is approximately 230 billion dollars which of 52% will be utilized by Ministry of Water Resources alone. International community and development partners are more focused with water related development programs/projects aiming at climate change adaptation. MoWR felt that they could at least give an overview of their strength to accept the upcoming challenges.

The Expo featured 34 sessions where experts deliberated on transformative adaptation, financial process, adaptation activity observation, evaluation tools, and gender-responsive adaptation. These discussions underscored the importance of international collaboration in addressing climate challenges. In essence, the NAP Expo serves as an international forum for countries, organizations and stakeholders to formulate and share experiences in implementing NAPs. As the event concluded, there was a resounding call for robust international support for climate adaptation efforts, reflecting the collective commitment to combatting climate change.

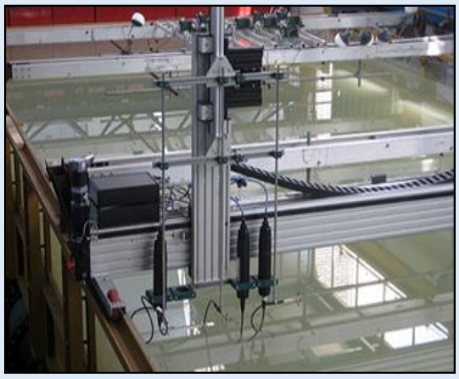
Figure: Few views of visiting the stall of MoWR. Different high officials visited the stall such as Joint Secretary of MoWR and DG of BWDB, ED of CEGIS along with other officials of different organization under MoWR.

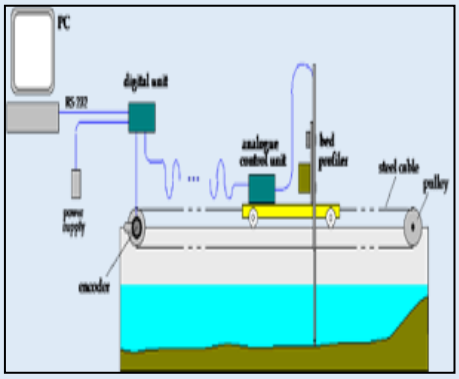
BED PROFILER - A NEW ATTACHMENT IN RRI

Md. Zubayerul Islam, Senior Scientific Officer, RRI

River Research Institute (RRI) currently uses a state-of-the-art instrument in the Hydraulic Research Directorate purchased during the Institutional Development and Capacity Building (IDCB-Phase II) project. The name of the instrument is 3D bed profiler. The bed profiling system is used to assess the water-flowing effect on mobile sediment beds i.e. to measures and mapping the topography of sediment beds and other surfaces. This tool employs various technologies, including sonar, LiDAR, or laser scanning systems, to produce high-resolution three-dimensional images and models that precisely represent the contours and features of a surface.

The 3D bed profiler sends signals or laser beams toward the bed surface and then records the reflected signals to determine the elevation at numerous points across the surface area. These elevation points are collected in a dense grid, resulting in a point cloud data set that can be processed and analyzed. The analysis often includes creating a digital elevation model of the surface, which can be essential for understanding sediment transport, erosion, and deposition patterns, and for designing and testing hydraulic models in a controlled environment.





The 3D bed profiler used in laboratory settings functions by employing a traverse system to position the profiler accurately in both 2D and 3D environments. This system is designed to assess the impact of flowing water on mobile sediment beds and is equipped with a choice of probes suitable for various applications. The profiler can operate with or without water and offers the option of laser or touch-sensitive probes, ensuring an accuracy of ±0.5mm vertically and horizontally. The data collected by the profiler is stored in ASCII format, making it easy to analyze. The touch-sensitive probe detects the bed with minimal contact pressure, while the laser probe maintains a constant height above the bed using a visible red laser distance sensor. Control of the profiler is managed through a Windows PC, allowing users to set parameters, allocate file names, and view data graphs in real-time. The system also includes a radio remote control for precise vertical and horizontal movement, enhancing user convenience and efficiency during data collection.

The benefits of a 3D bed profiler, especially in hydraulic engineering and sedimentological studies, are significant due to the detailed and accurate measurements it provides. This technology is crucial for RRI researchers and engineers who need to monitor and simulate natural water systems. The detailed data obtained from a 3D bed profiler is also vital in verifying theoretical models, ensuring that computer simulations align with real-world measurements. Moreover, the capacity to visualize bed morphology in three dimensions provides valuable insights that can enhance predictions related to water flow dynamics and sedimentary processes.

Right picture refers of a team of River Research Institute is working on ambient air quality and meteorological data collection for a solar panel project at 500m up of the Dhawapara ghat, Rajbari along the right bank of the Padma river using Haz Scanner HIM 600 model that is procured recently.

PROMOTION FROM PSO TO CSO



RRI has immense pleasure and pride to congratulate Mrs. Uma Saha, Mr. A K M Ashrafuzzaman, and Mr. Azizul Haque Podder (from left to right respectively) for their promotion to Chief Scientific Officer from Principal Scientific Officer on 9th May 2024. Moreover, the first two personnel have been appointed as Director (In-charge) in addition to their regular duties. Each of them demonstrated remarkable expertise and leadership in their respective fields. Their innovative thinking, rigorous research, and collaborative spirit have consistently driven the organization towards new heights of scientific excellence. Whether through groundbreaking discoveries, successful project completions, or effective team leadership, their efforts have made a profound impact on our collective mission. RRI expect them to continue embracing challenges with the same enthusiasm and resilience that have brought them this far along with mentoring and guiding the next generation of scientists, fostering an environment where creativity and innovation can flourish. RRI wish them the best for their future endeavors.

FAREWELL CEREMONY

River Research Institute (RRI) organized a heartfelt farewell ceremony on 06th June, 2024 to honor **Engr. A K M Ashrafuzzaman's** retirement. Mr. Ashrafuzzaman started his journey at RRI in December 24, 1992 as a Scientific Officer. Then he promoted to Senior Scientific Officer, Principal Scientific Officer and Chief Scientific Officer on 17th August 2000, 13th March 2013 and 09th May 2024 respectively. At last, recently he takes off as Director (in charge) of Hydraulic Research Directorate of RRI on 13th May, 2024. In his academic career, he completed Bachelor's degree in Civil Engineering from Bangladesh University of Engineering and Technology (BUET). He also completed his Master's degree from IHE Delft, Institute for Water Education in 2000 during on job service. He was a dynamic Scientist who has implemented a number of research project and model studies in his career as a Team leader. Mr. Ashrafuzzaman was a longest serving professional and contributed a lot to RRI. Mr. Ashrafuzzaman demonstrated remarkable expertise and leadership in his respective fields specially in physical modelling. His

innovative thinking, rigorous research and collaborative spirit have consistently driven the organization towards new heights of scientific excellence. RRI family will remember his contribution for a long time. After a very successful career, his post-retirement leave (PRL) has been started from 08 June 2024. RRI family wish his good health, good time and all the success in the future.

WE DEEPLY MOURN

With deepest sorrow, sharing you all that **Mr. Md. Abdul Karim**, Office Assistant has passed away (Inna lillahi wa inna ilaihi rajeun) on 02 April, 2024 at around 6.00 AM due to brain stroke. He was a very honest, sincere and dedicated staff of RRI and contributed a lot in RRI. He was only 49. He left behind his beloved wife and two sons. His funeral was arranged at his hometown Chapai Nawabganj. All the members of RRI are heartbroken at the sad demise of Md. Abdul Karim. RRI family extremely grieving for his immature and sudden departure. Heartiest condolence and sincere sympathy to the bereaved family members on this difficult time. RRI's thoughts and prayers are forever for his work and active contribution. May his soul rest in eternal peace and may Allah grant him a place in the paradise.

EID-UL-FITR REUNION AND CELEBRATING BAISHAKH

River Research Institute's officers and staffs celebrated reunion after Eid-Ul-Fitr and Baishakh in April 18, 2024 with the enthusiasm lead by Director General. A banquet was organized in the rest house on this occasion, the event was thoroughly enjoyed by all of officers and staffs.

COURTESY AND GREETINGS

Figure: Mr. Shahdab Akbar, MP and the member of the BoG of RRI is greeted by DG, RRI in April 22, 2024 (Left). A team of RRI officers greeted Mr. S M Mahabubur Rahman, the newly appointed Executive Director of IWM in 3rd June, 2024 (Middle). A view of Election Commission Secretariat's training workshop held at RRI on 10th May, 2024 organized by EC, Faridpur where DG, RRI were present and he welcomed the EC.

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