



"RRI should be an International Standard Research Organization"- Hon'ble Advisor, MoWR

RRI Newsletter

Issue-25 A quarterly Newsletter of RRI March 2025

55TH BOG MEETING OF RRI HELD AT FARIDPUR

The River Research Institute has a Board of Directors (BoG), which is the apex board of the Institute that takes decisions on various important issues based on arising from time to time and the River Research Institute implements those decisions. Honorable Advisor/Minister of the Ministry of Water Resources is the Chairman of BoG of RRI. The 55th Board of Governors (BoG) meeting of RRI held at RRI Main Campus Harukandi, Faridpur on 27th January 2025 after a long period. Syeda Rizwana Hasan, Honorable

Advisor, Ministry of Water Resources, and the Chairman of BoG, chaired the meeting. Mr. Nazmul Ahsan, Secretary, Ministry of Water Resources, and other respected members of BoG were present at the meeting. Director General, S M Abu Horayra, Joint Secretary attended this BoG meeting as the member secretary. This was the maiden visit to RRI for the Honorable Advisor, Ministry of Water Resources. Some important decisions and directions were taken in this meeting.



RRI PROVIDES EFFICIENT, EFFECTIVE, SUSTAINABLE AND COST-EFFECTIVE SERVICES THROUGH SMART MODELING IN WATER RESOURCES DEVELOPMENT

- S M Abu Horayra, DG, RRI and Dr. Engr. Md. Alauddin Hossain, CSO (Add. Charge), RRI



River Research Institute's (RRI) journey was started in 1948 named as Hydraulic Research Laboratory (HRL) at Kuli road (at present Green road) of Tejkunipara Mouza in Dhaka city

under Irrigation Directorate. After independence of the country in 1972, the facilities available in the laboratory were not quite sufficient to accommodate ever-increasing tests



and studies in the field of civil and hydraulic engineering. The then government established Bangladesh Water Development Board (BWDB) from East Pakistan Water and Power Development Authority (EPWAPDA) and took many projects related to water resources development such as irrigation and drainage project, flood control project, river bank protection project, river dredging and management project etc. To make these projects sustainable and cost-effective, the then government took initiative for a project "River Research Institute" in 1973 and approved it in ECNEC in July, 1975. Following the decision, the then government merged HRL with RRI in 1978 and founded as River Research Institute (RRI) in 1979 at Harukandi, Faridpur which is located at the left side of the Dhaka-Barisal highway. It is 140 km far away from the Dhaka City and its compacted premises cover an area of about 39 ha. At the end of the RRI project works in Faridpur, RRI was shifted from Green road, Dhaka to Faridpur in July, 1989. Later on, the government of Bangladesh approved RRI as a Statutory Public Authority by an ordinance of Act No. 53, July 1990 and placed directly under the Ministry of Water Resources with a view to enhancing its activities and to lift up the standard of service in international level in the field of water resources engineering.

As per Act 53 of 1990, RRI has the mandate for conducting hydrodynamic and morphological study of the river through physical and mathematical modelling mainly to derive and verify the design parameters of any hydraulic structures, bank protection and river training works. For a long time, RRI has successfully conducted more than 200 physical model studies under different water resources development projects since its establishment related to town/infrastructure/agricultural land protection projects from river bank erosion, irrigation and drainage system development projects through barrage or dam or sluice gate, communication development projects through bridge along with road/embankment, river dredging projects to increase river capacity, maintain river navigability and protect the specific area and river restoration projects through dredging with structural and non-structural measures. RRI has also been involved in mathematical modelling since 2009.

It is noticed that the world is on the shores of the 4th Industrial and Technological Revolutions. Bangladesh is not out of this event. For this, Government of Bangladesh's intension is to promote the development of new technologies in all engineering and business management areas. In continuation of this to meet the new changes and challenges, the Government of the People's Republic of Bangladesh embarked in 2009 with the initiative 'Digital Bangladesh' as the first implementation of the 4th Industrial Revolutions. As a part of that initiative, RRI had started Mathematical modelling in 2009 which is customized based software. Besides this, recently RRI has purchased modern and sophisticated equipment, machine and software (Geotechnical investigations and Hydraulic Research Study specially for Physical and Mathematical Model Study related) under Institutional Development and Capacity Development (IDCB) Project (Phase-II) of RRI which are a potent tool for achieving the objectives of the 4th Industrial Revolution. It should be mentioned that IDCB Project (Phase-II) of RRI has been implemented with a view to enhancing its activities, capacity and to uplift the standard of service at the international level in the field of water resources engineering.

It should be noted that Physical and mathematical modelling tools are complementary to each other. Both physical and mathematical model have been proved to be very essential for sound engineering judgments to find out solutions for different water resources development projects. With a view of developing, RRI has adopted hybrid modelling approach by using physical and mathematical modelling to improve the understanding of different water systems presently which may lead to SMART BANGLADESH through safe, sustainable, efficient and cost-effective solutions for engineering problems in water resources development in Bangladesh.

RRI is the only one Government research organization in Bangladesh in water sector where both physical and mathematical modelling facilities are available. So, it is possible to receive specialized service through hybrid modelling approach from a single source organization as RRI at a low cost and lesser time for making a project sustainable and cost effective in water resources development.

Exchange Views Meeting of RRI Employee with Honorable Advisor

Syeda Rizwana Hasan, Honorable Advisor, Ministry of Water Resources, on her maiden visit to RRI, gave her valuable time to listen the employee's urges. They (employees) were happy to have her in person and expressing their views, expectations, and wanting more works from different entities under the Ministry of Water Resources. In conversation, it came out that RRI employees once got pension but currently, it is postponed. Scientists of RRI received a less adequate budget for doing research work. After hearing from the employees, she said that she would do what in her capabilities. She also gives orders to

the Secretary, MoWR to convey her message to other entities under the Ministry of Water Resources. In that meeting Secretary, Ministry of Water Resources and Director General of Bangladesh Water Development Board and other respected members of BoG joined accordingly. Before that Honorable Advisor along with the Secretary, MoWR and RRI high officials, visited the physical and Mathematical modeling facilities of RRI and also observed the test facilities of Geotechnical Research Directorate with eagerness.



3D and 2D Multi-element Wave Maker for Model Studies

- Engr. Omar Al Maimun, Senior Scientific Officer



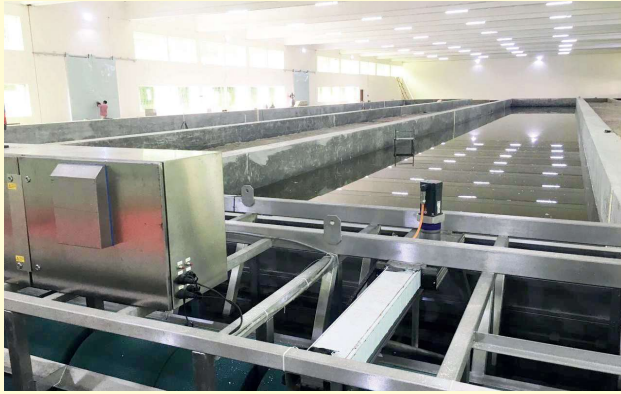
River Research Institute (RRI) has enhanced its research capabilities with the acquisition of a state-of-the-art 3D and 2D multi-element wave maker equipped with a tide generation system (shown in the bellow). Manufactured by HR Wallingford, UK, this advanced system is playing a crucial role in conducting hydraulic and coastal model

studies in RRI, significantly improving the institute's ability to simulate and analyze wave dynamics, tidal behaviors, and coastal interactions.

The wave maker is facilitating in-depth research on wave propagation, sediment transport, and coastal erosion, making it a valuable asset for both academic and practical applications. This acquisition was made possible through

funding from the Institutional Development and Capacity Building (IDCB) project (Phase-II), reflecting a commitment to advancing hydraulic and environmental engineering research in Bangladesh. With this new collection, RRI aims to contribute a better input regarding flood control, riverbank

protection, and sustainable coastal management system, ensuring a stronger scientific foundation for hydraulic infrastructure development and climate resilience projects.



FAREWELL CEREMONY

River Research Institute (RRI) organized a heartfelt farewell ceremony on 09th January, 2025 to honor Mr. Md. Azmal Hossain Fakir's retirement. Mr. Fakir started his journey at RRI in November 22, 1993 as a Cataloger. Then he promoted to Librarian on 25th September 2004 continued till his retirement date. At the end, he also served as Deputy Director (additional charge) of RRI. In his academic career, he completed a Bachelor's degree from Rajshahi University. He also completed his Master's degree from Rajshahi University. In his career, he had hosted different meetings, festivals, etc, as an anchor. He also performed in different cultural activities, including drama. Beyond his official duty, he willingly joined different social organization like Rotary International etc and also took part on various humanitarian activities outside the RRI premises. His collaborative spirit has consistently driven the organization toward 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 10 January 2025. RRI family wishes him good health, a good time, and all the success in the future.

JOINING AS A NEW LIBRARIAN



Mst. Shamima Akter joined in RRI on 26th December 2006 as a Cataloger. She completed BSS (Hons) and MSS in Information Science and Library Management from Rajshahi University. Recently, she got promoted to Librarian on 10th March 2025. RRI family welcomes her cordially. Mst. Shamima was born on 13th July, 1981. Her father's name is Md. Shamsher Ali, who is a freedom fighter and mother's name is Sufia Khatun. Mst. Shamima is the mother of a daughter.



Picture: Beauty of Nature in RRI Campus in Faridpur

Basanta Baron and Pitha Utshob Celebrated at RRI in a Grand and Upretentious Atmosphere

Basanta Baron and a Pitha Utshob is celebrated at River Research Institute, Head Office, Faridpur in February 20, 2025 in a grand and unpretentious atmosphere. Mr. Md. Abdul Latif Mollah, Joint Secretary of the Ministry of Water Resources was the chief guest for the program. DC, Faridpur; Chief Executive Officer of Faridpur Zilla Parishad, Chief Engineer, Superintendent Engineer and Executive Engineer of Bangladesh Water Development

Board (BWDB), Faridpur, Senior Officials of other organizations of Faridpur were present as special guests in that event. Besides this, few Senior High Officials of MoWR were invited and attended on the occasion. Mr. S M Abu Horayra, Director General of River Research Institute welcomed all. All officers and staffs of the River Research Institute participated and enjoyed a lot in the grand program with their families.



In the Pitha Utshob, 50 kinds of Pitha and around 3000 Pitha, payesh, chocolates, chips, sweets, betel nuts, and various kinds of fruits were contributed by the employees of River Research Institute and their families. A wonderful cultural program and special attraction Raffle draw was organized. All the employees of River Research Institute worked tirelessly to organize this Basanta Baraon and Pitha Utshob, which was celebrated for the second

consecutive time in River Research Institute and Mr. S M Abu Horayra, Director General of River Research Institute, gave full support and valuable guidance at every step. On behalf of all the officers and staff of RRI and their families, we express our gratitude to the Director General and the members of the committee and sub-committee in this connection.

NEW RESEARCH PROJECT (ON GOING)

Title of the Research: Performance evaluation of some magnetically responsive nanoparticles (NPs) and metal-organic frameworks (MOFs) for heavy metals removal and organic dye degradation in polluted water.

Water pollution is one of the acute problems in developing countries. Rapidly growing industrialization and untreated effluent water, urbanization, over-abstraction, diversity loss, and climate change cause the global freshwater crisis to be severe. With the economic growth, Bangladesh is also facing a similar problem. The major sources of water pollution include untreated wastewater from the textile and leather industries and agricultural pesticides through surface runoff. Industrial pollutants include heavy metals and organic dyes. The effluent needs to be treated before being released to the

environment. One of the main reasons for releasing untreated effluent into the environment is the operational cost of conventional treatment methods. Therefore, a cost-effective and easy wastewater treatment method is of higher priority. To address this situation, RRI has taken the initiative to find cost-effective materials which can remove heavy metal and degrade organic dyes from polluted water. Advanced materials with high surface area having semiconductor-like behavior can effectively adsorb heavy metals and photodegrade organic dyes from polluted water.

Incorporating them with magnetic elements can enhance the probability of recovering them after treatment. This research aims to synthesize some magnetically susceptible metal-organic framework materials, study their structural, mechanical, and magnetic characteristics, and evaluate their

adsorptive performance to remove heavy metal and photocatalytic performance to degrade organic dye from wastewater, and finally find out suitable materials to treat different pollutants in water

EVENT OUTLINE (JANUARY-MARCH 2025)

From January to March 2025, RRI was so busy with recruitment, promotions and various important decision-making meetings that was relevant in improving RRI as well as in quality work. A brief outline of the main events is given below:

January 08, 2025: RRI's monthly coordination meeting.

January 10, 2025: Meeting on amendments to the regulations (RRI employee job Probidhanmala, 2019) of RRI held at MoWR.

January 18, 2025: Written preliminary examination for 3rd and 4th class employee recruitment of RRI.

January 21, 2025: Oral examination for 3rd and 4th class employee recruitment of RRI.

January 27, 2025: Board of Governors (BoG) meeting held at RRI main campus, Faridpur.

January 29, 2025: Round table discussion on Geopolitics of water: Bangladesh perspective organized by Bangladesh Institute of International and Strategic Studies (BIISS).

February 05, 2025: RRI's monthly coordination meeting.

February 05, 2025: Workshop on "Safe and Just Operating Space for Achieving Sustainable Development Goals in Bangladesh" organized by University of Glasgow, UK and Bangladesh University of Professional (BUP) held at BUP campus.

February 12, 2025: Meeting for the promotion of 3rd and 4th class employee of RRI.

February 20, 2025: Basanta Baron and Pitha Utshab celebrated at RRI in a grand and unpretentious atmosphere.

February 21, 2025: Meeting and site visit (GR building, RRI campus) with RRI Officials by Mohd. Enamul Haque, Additional Secretary, Irrigation wing, Planning Commission of Bangladesh for the proposed DPP purpose.

February 27, 2025: Meeting for the promotion and recruitment of RRI scientist and officer headed by 2 nos scrutiny and selection committee.

March 12, 2025: Meeting for the promotion of RRI scientist headed by 1 no scrutiny and selection committee.

March 13, 2025: RRI's monthly coordination meeting.

March 16, 2025: Consultation Workshop on Sectoral Gender Action Plan for Adaptation to Climate Change (GAPACC) organized by UN WOMEN held at BMA Bhaban, Dhaka.

March 17, 2025: Inter-ministerial meeting on amendments to the "Water Resources Planning Act, 1992 of WARPO held at MoWR.

March 19, 2025: Meeting between RRI and CEGIS regarding collaboration work entitled "Development Nature-based Solutions for Sustainable Bank Protection of Medium-sized Rivers of Bangladesh".

March 20, 2025: Meeting on amendments to the regulations (Probidhanmala, 2019) of RRI held at MoWR.

Right picture refers 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.



PLANNING COMMISSION TEAM VISITED RRI

Mr. Mohd Enamul Haque, Additional Secretary, Irrigation Wing, Planning Commission visited the RRI Campus on February 21, 2025, in connection with the proposed DPP submitted to the Agriculture, Water Resources, and Rural Institutions Division of the Planning Commission. He was accompanied by S. M. Shafiqul Islam, Deputy Chief, and Md. Rahat Mannan, Deputy Chief of the Planning Commission during the visit. They observed the actual situation and conditions of GR building, staff quarters buildings and boundary wall of RRI campus as well as Physical Modelling facilities. Before this, a meeting took place with the scientists at RRI Conference room. The Director General of RRI, S M Abu Horayra, Joint Secretary, welcomed and briefed them, emphasizing the necessity of approval of the proposed DPP for the Institutional Development and Capacity Building of RRI. After observing all the sites, Mr. Mohd Enamul Haque, Additional Secretary, provided suggestions to submit three research proposal that should be prioritized in the upcoming DPP. He assures about its approval and funding by the Planning Commission. Following his advice, RRI has already prepared and submitted three different DPPs to the Ministry of Water Resources, which will subsequently be scrutinized by the Planning Commission.



National Day Celebration in RRI

International Mother Language Day and Independence Day, 2025 were celebrated at the River Research Institute with due dignity and solemnity. Special prayers were offered for the martyrs along with various programs on the occasion of International Mother Language Day and Independence Day.



INITIATIVE A SMART UP PROGRAM BY RRI

Bangladesh, a low-lying deltaic and downstream country crisscrossed by a dense network of rivers, faces acute challenges related to flood, riverbank erosion, sediment instability, and land degradation. With over 700 rivers coursing through its geography, the livelihoods of millions are directly tied to these dynamic river systems. The southwest coastal region and the northeast Haor (wetland) region are particularly vulnerable due to their geomorphological characteristics and exposure to climate-induced hazards, including rising sea levels, riverbed sedimentation, intense monsoons, and flash floods. In addition, various socio-economic activities (including sand mining), sediment deposition, tidal effect and water

diversion from upstream; the navigability of important rivers in Bangladesh, are negatively impacting rivers and their basins. To address these concerns, the 55th Board of Governance meeting of RRI decided to conduct research study. In accordance with this decision, four separate teams such as Team Jaflong, Team Somesweri, Team Baral and Team Jhopjhopia were assigned to carry out reconnaissance surveys to assess the problem identification, current conditions and probable solution. The Director General of RRI, S M Abu Horayra, Joint Secretary, supervised the team and visited the activities of Team Someshwari and Team Baral during the survey.



FUTURE COLLABORATION ATTEMPT

RRI is going to start a joint venture collaboration research work with CEGIS entitled “Development Nature-based Solutions for Sustainable Bank Protection of Medium-sized Rivers of Bangladesh” very soon. In this regard, a meeting was held at CEGIS conference room on 19 March, 2025 between DG, RRI and ED, CEGIS along with their high Officials. In this meeting, different important issues were discussed among them.



Editorial Committee

Chief Advisor

S M Abu Horayra, Director General

Advisor

Engr. Pintu Kanungo, Director (Admin and Finance) & Director (Hydraulic Research)
Engr. Md. Azizul Hoque Podder, Director (In charge), Geotechnical Research

Chief Executive Editor

Dr. Engr. Md. Alauddin Hossain, Chief Scientific Officer (A.C)

Executive Editor

Engr. Md. Zubayerul Islam, Senior Scientific Officer

Member

Nayan Chandra Ghosh, M.Phil., Senior Scientific Officer
Engr. Omar Al Maimun, Senior Scientific Officer
Shamima Akter, Librarian
Engr. Md. Masuduzzaman, Assistant Programmer
Tarik Jamil Tamim, Store Officer

Contact

RIVER RESEARCH INSTITUTE

Head Office: Faridpur-7800, Bangladesh; Dhaka Office: 72, Green Road, Dhaka-1205, Bangladesh

Telephone: +880 2478803007, Fax: +880 2478863065

Website : www.rri.gov.bd; Email: dg@rri.gov.bd; Facebook: <https://www.facebook.com/rribd>