



BARC

# Newsletter

Towards Building Advance Intelligent System for Agriculture

■ Volume 22, No. 01

■ January- March 2024

■ www.barc.gov.bd

## BARC- IWMI MoU Signing Event



*In Photos: L to R: Dr. Alok Sikka, Dr. Mark Smith, Dr. S M Bokhtiar, Ms. Wahida Akter and Dr. Md. Abdus Shahid, Hon'ble Minister of Agriculture, GoB*

The Bangladesh Agricultural Research Council (BARC) and the International Water Management Institute (IWMI) announced the commencement of a collaborative effort aimed at strengthening research in irrigation and agriculture water management within Bangladesh. This strategic partnership was formalized through a Memorandum of Understanding (MoU) signing event, the MoU signing ceremony took place at the InterContinental Hotel in Dhaka on March 24, 2024.

Recognizing the critical importance of efficient water management for agricultural development, BARC and IWMI have come together to establish joint activities focused on various aspects of water

management. The activities include the efficient utilization of irrigation, mapping of irrigated water resources, drainage management systems, region-specific irrigation techniques, automated irrigation systems, solar irrigation, and climate adaptation strategies. These are the efforts that are aligned with the objectives outlined in the Bangladesh Delta Plan – 2100.

Through this collaboration, IWMI aims to leverage its expertise to assist BARC and other key partners in optimizing water resources for the benefit of farmers across Bangladesh. By fostering partnerships with BARC and other relevant stakeholders and engaging in needs-based projects IWMI seeks to enhance national capacity in

water management and contribute to the sustainable development of agriculture in Bangladesh.

During the inaugural session, Dr. S M Bokhtiar, Executive Chairman, BARC and Dr. Mark Smith, Director General, IWMI, signed the MoU, solidifying the commitment of both organizations to this collaborative endeavor.

Dr. Alok Sikka, IWMI's country representative for India and Bangladesh, highlighted ongoing projects in Bangladesh. He introduced the Solar Irrigation for Agricultural Resilience (SoLAR) project, funded by the Swiss Agency for Development and Cooperation.

Dr. Mark Smith, DG IWMI, underscored the indispensability of

partnership for IWMI's success in fulfilling its mandate. Emphasizing collective action as vital, he elucidated the institute's commitment to addressing evolving water risks driven by the climate crisis.

Wahida Akter, Secretary, Ministry of Agriculture, GoB congratulated the IWMI and BARC on the occasion of the MoU signing event, for it marks a significant step towards addressing urgent water resource management issues in Bangladesh. She emphasized that despite achieving food security for its 170 million citizens, enhancing agricultural development is crucial for uplifting farmers' livelihoods, increasing incomes, and alleviating poverty in rural Bangladesh.

The Hon'ble Minister Dr. Md. Abdus Shahid, MP, MoA, Bangladesh, highlighted in his special address the significance of

the MoU signing event between the IWMI and the BARC for sustainable water management and agricultural development in the country. Bangladesh faces diverse water-related challenges, from saltwater intrusion in coastal areas to floods in the north and water scarcity in the northwest region, compounded by climate change impacts. These challenges necessitate integrated water management strategies. He expressed his confidence in the potential for this partnership between BARC and IWMI to strengthen national research capacities in water management, irrigation, resource mapping, and climate adaptation, contributing to the resilience and development of Bangladesh's agriculture sector.

Dr. S M Bokhtiar, EC, BARC underscored Bangladesh's agricultural transformation amid

challenges, stating, "with a population of 170 million, ensuring food security is paramount for scientists and policymakers. Land decline and climate vulnerability affect agriculture, infrastructure, and health, with rice cultivation heavily reliant on irrigation." He emphasized the government's focus on efficient water use to boost productivity, noting the transition from diesel to solar irrigation pumps for sustainability and cost reduction. Dr. Bokhtiar expressed hope for IWMI's technical expertise to enhance water use efficiency, aiming for a resilient and prosperous delta through collaborative efforts in efficient water management and sustainable agriculture. He concluded, "We work together for a resilient, prosperous delta, where efficient water management and sustainable agriculture play a key role."

## Workshop on Global Benefit from Crop Biotechnology

BARC and Global Institute for Food Security (GIFS), University of Saskatchewan, Canada, jointly organized a day-long workshop on *Global Benefit from Crop Biotechnology* on March 28, 2024, at BARC. The workshop was arranged under the OMICS Food and Nutritional Security (OFANS) project. Dr. S M Bokhtiar, EC, BARC, attended the workshop as chief guest, while Dr. Steven Webb, Executive Director and Chief Executive Officer of GIFS, Canada, and Dr. Andrew G. Sharpe, Bangabandhu Chair of GIFS, Canada, were present as guests of honor

Dr. Md. Baktear Hossain, Member



*Dr. S M Bokhtiar, EC, BARC Delivered Speech as Chief Guest*

Director (NRM) of BARC and Principal Investigator of the OFANS project (Themes 1.4 and

4.4) delivered the welcome speech and moderated the question-and-answer session at the

workshop. Mr. Md. Al Mobasher Hussen, Principal Training Officer, BARC, and Co-PI, OFANS, acted as MC in the inaugural session.

In his speech as chief guest, Dr. S M Bokhtiar said there are various challenges in agriculture in Bangladesh, including crop production on shrinking arable land, growing population, and climate change. Currently, genome editing research continues to play an important role in the development of

crop varieties worldwide. He laid special emphasis on the acceleration of such research activities in Bangladesh and its regulatory policy. Prof. Dr. Stuart Smyth, a renowned researcher and the Agri-Food Innovation & Sustainability Enhancement Chair at the University of Saskatchewan, Canada, delivered technical presentations in three sessions. Also, Dr. Andrew Roberts, CEO of the Agriculture and Food Systems Institute, Canada, delivered a

recorded presentation on the global regulatory status of genome-edited plants.

The workshop was attended by a number of 50 officials, scientists, and representatives from the MoA, Ministry of Environment, Forestry, and Climate Change, research and extension institutions, various universities, private institutions, GIFS, the University of Saskatchewan, and the National Research Council of Canada.

## Conference on Genome Editing for Agriculture in Bangladesh

An International Conference on Genome Editing for Agriculture in Bangladesh was held on 11 February 2024 at BARC and was jointly organized by BARC and the South Asia Biosafety Program (SABP). In the inaugural session Dr. S M Bokhtiar, EC, BARC was present as chief guest, and Dr. Zahurul Karim, Vice-President, Bangladesh Academy of Sciences (BAS), and Rehana Yasmin, Joint Secretary (Research), MoA attended as special guest, respectively. Dr. Md. Abdus Salam, Member Director (Crops), BARC presided over the session. Dr. Rakha Hari Sarker, Country Coordinator, SABP & Professor, Department of Botany, University of Dhaka was present as welcome speaker in the workshop. A total of 80 participants including delegates from abroad eminent experts of the country, university teachers, scientists and officials of the NARS, NIB and other public & private institutions related to agriculture were present as distinguished participants. The session chair welcomed all stated aims of the conference with highlighted the importance of the



*Dr. S M Bokhtiar, EC, BARC Delivering Speech*

programme. Dr. Andrew F. Roberts, Chief Executive Officer, Agriculture & Food Systems Institute, USA presented the keynote paper in the conference; briefly outlined “How can genome editing support agriculture in Bangladesh?” In his presentation, he also emphasized genome editing and its use, safety issue, and potential for genome editing in Bangladesh.

Dr. S M Bokhtiar, EC, BARC mentioned the necessity to pool advantages of all advanced sciences

and technologies in sustaining food and nutritional security for a science-led agriculture. He also expressed his great pleasure in the approval of Standard Operating Procedures (SOP) for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh on 11 December 2023 by MoA.

In his remarks, Dr. Zahurul Karim emphasized the relevance of biotechnology in solving the different hurdles to the production of new crop varieties in Bangladesh.

Rehana Yasmin, Joint Secretary (Research), MoA, stated in her address that the MoA intends to fully utilize biotechnology to

improve agricultural output. Several scientific papers regarding genome editing research and policy have been presented by the

scientists of different organizations from home and abroad in the two technical sessions.

## Celebration of the Independence Day

Bangladesh Agricultural Research Council celebrated the Independence Day with enthusiasm, dignity and solemnity through organizing different events. Executive Chairman Dr. S M Bokhtiar hoisted the national flag and offered wreaths to the Mural of Bangabandhu Sheikh Mujibur Rahman with BARC officials. Member Directors, Directors, scientists, officers and staff participated in the valuable discussions and cultural programs on the event of celebrating the independence of Bangladesh. Dr. S M Bokhtiar, Executive Chairman, BARC was present as the chief guest of the program.



*Dr. S M Bokhtiar, EC, BARC Hoisting the National Flag*

## International Mother Language Day Observed

With due solemnity Bangladesh Agricultural Research Council observed International Mother Language Day on 21st February 2024. High officials paid homage to the Father of the Nation by placing wreaths at the statue of Bangabandhu Sheikh Mujibur Rahman at BARC campus. Later, a discussion meeting and a Doa Mahfil were held in BARC Auditorium with the participation of the official from different division/units of BARC.



*BARC Officials Placing Floral Wreath at Bangabandhu's Mural.*

## National Workshop on Implementation Progress and Future Plan of SDG Action Plan

Planning and Evaluation Division, BARC organized a day-long workshop programme on *National Workshop on Implementation Progress and Future Plan of SDG Action Plan* on 31<sup>st</sup> March 2024 at the BARC. A total of 95 participants including scientists from NARS and other agencies of MoA actively participated. Dr. S M Bokhtiar, EC, BARC addressed the workshop as chief guest while Dr. Kabir Uddin Ahmed, Member Director of Planning and Evaluation Division, BARC chaired the workshop. Dr. Md. Rezwan Molla, Principal Scientific Officer of Crops Division, BARC gave the welcome speech. Representatives of 24 organizations presented their implementation progress and future plan of SDG action plan in two technical



*Dr. S M Bokhtiar, EC, BARC Delivering Speech*

sessions. At the end of each technical session, participants took part in the open discussion and shared their opinions. Finally, the rapporteur prepared

recommendations based on the views, comments, and suggestions made by the participants for the future implementation of the SDG action plan.

## Advanced Training on Bioinformatics for Sustainable Development in Agriculture

Livestock Division, BARC organized an advanced training on *Bioinformatics for Sustainable Development in Agriculture* from 11-15 February 2024 at BARC. In the training programme, scientists from BARC, BLRI, BARI, BFRI, BSRI, BJRI, BINA, DLS and teachers from Gono Bishwabiddalay, and SAU were present as participants. In the inaugural session, Dr. S M Bokhtiar, EC, BARC was present as chief guest, while Dr. Nazmun Nahar Karim, Member Director (Livestock), BARC presided over the session. In the training programme, five theoretical and twenty hands-on training sessions were successfully conducted by different resource persons on the advancement and transformation of agriculture in Bangladesh, Bioinformatics for Sustainable



*Moments of the Bioinformatics Training Programme*

Agriculture, and Bioinformatics Database. Introduction to NCBI, Ensembl and TAIR database. genomic analyses, transcriptomic analyses, phylogenetic analysis, metabolomics Analysis, integration of genomic and proteomic analysis for drug discovery, Toxicogenomics

Analysis for Drug discovery, use of common bioinformatics tools, Nanotechnology, Next-generation sequencing (NGS) tools and their use in agriculture. After the successful completion of the training programme, certificates were awarded to the participants.

## Training on Project Development and Management

Planning and Evaluation Division, BARC organized a five-day training programme's 14<sup>th</sup> batch on *Project Development and Management* on 4–8 February 2024 at BARC. In this programme, 30 scientists and officers from NARS and other organizations were present as participants. Dr. S M Bokhtiar, EC, BARC addressed the programme as chief guest while Dr. Kabir Uddin Ahmed, Member Director, Planning and Evaluation Division, BARC chaired the programme. A total of 24 different topics on Project Development and Management were presented and discussed. Resource persons conducted lectures and practical sessions on



*Dr. S M Bokhtiar, EC, BARC Delivering Speech*

the specific fields. After successful programme, certificates were completion of the training awarded to the participants.

## Training on Water Efficient and Climate Smart Irrigation Management

A three-day training course on *Water Efficient and Climate Smart Irrigation Management* was organized by the Agricultural Engineering Unit, held at BARC, from February 18-20, 2024. Thirty participants from NARS institutes (BARC, BARI, BRRI, BINA, BSRI, and BWMRI), BADC, BMDA, and DAE attended the training programme. Renowned scientists, teachers, and experts from government and private organizations, as well as universities delivered fifteen lectures covering diverse topics, emphasizing climate-smart agriculture, surface water, and groundwater resources management, climate-smart and water-saving technologies, automated irrigation technologies, irrigation scheduling techniques, and adaptive strategies tailored to Bangladesh's unique agro-climatic conditions. Dr. S M Bokhtiar, EC,



*Training on Water Efficient and Climate Smart Irrigation Management*

BARC, delivered the valuable speech as the chief guest during the inaugural session, while Dr. Md. Baktar Hossain, Member Director (NRM), BARC, presided over the session. In the closing session, Dr. S

M Bokhtiar, EC, BARC, was present as the chief guest and distributed certificates to the trainees, followed by concluding remarks.

## Awareness Campaign on Nutrition for the Adolescent and Establishment of Nutrition Corner at School

Nutrition unit, BARC has taken a Campaign programme to build awareness of food & nutrition for adolescents. This programme was held at BARC, Dhaka, and Sylhet Agricultural University (SAU), Sylhet. A total of 200 adolescents and 100 teachers from 20 schools in Dhaka and Sylhet city along with different officials attended these Campaign programmes.

Dr. S M Bokhtiar, EC, BARC was present as chief guest, Mr. Ajit Kumar Chakraborty, Member Director (Fisheries) was present as special guest. Dr. Mohammad Rafiqul Islam, Director, Nutrition Unit, BARC was in the chair in the inaugural & closing session at BARC whereas Professor Dr. Md. Jamal Uddin Bhuiyan (Vice-Chancellor), Professor Md. Siddiquil Islam (Convener, Dean Council) and Dr. Mohammad Rafiqul Islam, Director (Nutrition)



*Dr. S M Bokhtiar, EC, BARC Delivering Speech*

were present as chief guest, special guest, and chair in the inaugural & closing session in SAU, Sylhet, respectively. Four Papers on Nutrition, safety & hygiene, adolescent behavior, different responsibilities of family, school, society & national level to adolescent were presented in the

programme. All the participants along with teachers and students were very much curious and filled with questions. School teachers and students requested that the programme should be continuing to establish Nutrition corner at every school.

## Training on Technical Report Writing and Editing

According to the annual work plan Agricultural Information Centre (AIC), BARC, organized a 3-day training programme on *Technical Report Writing and Editing* on 30 January- 1 February 2024 at BARC. The main objective of the training program was to make the NARS scientists and officers skilled in scientific and modern techniques of technical report writing and journal paper editing.

Thirty scientists from NARS institutes attended the training. The inaugural ceremony of the training program was graced by the chief guest Dr. S M Bokhtiar, EC, BARC.



*Moments of the Inaugural Session*

Dr. Md. Mostafizur Rahman, Director of Manpower and Training Unit was present as special guest. The programme was chaired by course director Dr. Kabir Uddin Ahmed, Director, AIC. Dr. Susmita Das, Principal Documentation Officer, AIC gave the welcome address and highlighted the objectives of the training programme as the course coordinator.

As the chief guest, Dr. S M Bokhtiar emphasized on the importance of technical report writing and journal paper editing for scientists. He also shared some techniques for effective technical writing. Dr. Md. Mostafizur Rahman, as special guest uttered the necessities of technical report writing for every agricultural scientist.

After successful completion, the



*Hon'ble Guests and the Participants*

training programme ended with a closing ceremony. Dr. S M Bokhtiar, EC, BARC as chief guest of the closing programme distributed the certificates among the participants.

Dr. Kabir Uddin Ahmed, Director, AIC chaired the concluding and certificate giving session and thanked the guests and the participants.

## **Training on Use of Modern Farm Machinery for Food Sustainable Production**

A three-day training course on the *Use of Modern Farm Machinery for Sustainable Production* was organized by the Agricultural Engineering Unit, held at BARC, from February 08-10, 2024. Thirty participants from NARS institutes (BARC, BARI, BRRI, BINA, BSRI, and BWMRI), BADC, and DAE attended the training. Renowned scientists, teachers, and experts from government and private organizations as well as universities delivered fifteen lectures covering diverse topics, emphasizing mechanization status, public and private sector initiatives, business model of farm machinery, renewable energy uses, farm machinery uses in crops field and smart farming. Dr. S M Bokhtiar,



*Training on Use of Modern Farm Machinery for Sustainable Production*

EC, BARC, delivered a valuable speech as the chief guest during the inaugural session, while Dr. Md. Baktear Hossain, Member Director (NRM) of BARC, presided over the session. In the closing session, Dr.

Md. Baktear Hossain, Member Director (NRM), BARC, was present as the chief guest and distributed certificates to the trainees, followed by concluding remarks.

## Stakeholder Consultation Workshops on GAP Protocol Development

Two Stakeholder consultation workshops were organized on 11 and 12 March, 2024 on GAP Protocol Development at BARC. One hundred stakeholders from different organizations participated in the workshops. Dr. Shaikh Mohammad Bokhtiar, Executive Chairman, BARC was present as chief guest, Dr. Md. Mahmudur Rahman, Joint Secretary (PPC wing), Ministry of Agriculture, & Mr. Mizanur Rahman, PD, RARTNER was present as special guest while Dr. Md. Abdus Salam, Member Director (Crops) & Convener, GAP unit, BARC was in the chair in inaugural session. Dr. Md Asraful Alam, APD, PARTNER, APCU, BARC delivered welcome address and Dr. Zakiah Rahman Moni, PSO (Nutrition) and Member secretary, GAP unit, BARC presented brief presentation on the process of GAP Protocol Development. At present,



*Stakeholder Consultation Workshops on GAP Protocol Development*

Bangladesh's export of agricultural products is not auspicious. GAP will play a supportive role in overall agricultural exports as well as ensure safe and quality food production. The draft GAP protocol is very well drafted expressed Dr. Md. Mahmudur Rahman. Dr. Shaikh Mohammad Bokhtiar, Executive Chairman, BARC said BSTI has incorporated the Bangladesh GAP standard as national standards which is a big

achievement. He also said that GAP would speed up commercialization along with production of safe food for the nation. After presenting the 8 protocols (5 vegetables and 3 fruits) at the workshop, which it would be finalized based on stakeholders' recommendations. Draft GAP protocols for 3 fruits and 5 vegetables were presented and thoroughly discussed and a good number of recommendations were compiled.

## Application of Econometric Model in Socioeconomic Research

A training programme on the *Application of Econometric Model in Socioeconomic Research* was held on 03-07 March 2024 at BARC and organized by AERS Division. The Resource Speakers were the Professors from Sher-e-Bangla Agricultural University, Dhaka. Twenty participants (Agricultural Economist) from NARS Institutes (fifteen participants from BARI, BRRI, BINA, BSRI, BLRI and BFRI) and agricultural universities (five participants from Sylhet Agricultural University and Sher-e-Bangla Agricultural University) attended the training programme.



*Application of Econometric Model in Socioeconomic Research*

This training aims to enable the participants to understand the importance of data analysis and learn about the application of different analytical techniques in social research; to develop understanding of the importance of scientific writing. The overall objective of the course is to improve

the knowledge and analytical skills of scientists in the application of quantitative and qualitative methods for scientific paper writing. In the training some introductory topic of econometrics as well as some advanced topics like instrumental variable (IV) regression, Quasi-experimental approach: PSM

and some topics of time series analysis have been covered. The scientists themselves applied the method using a data set provided for the purpose. They also developed their skill in operating software packages such as STATA, Eviews, R software and MAXQDA.

## Asia and the Pacific Food Security Forum 2024



The Asia and the Pacific Food Security Forum 2024 was held on 9–12 April 2024 in Manila, Philippines to discuss actions to ease a worsening food crisis in the region, and to improve long-term food security by strengthening food systems against the impacts of climate change and biodiversity loss.

The forum serves as a milestone event to take stock of the interim performance of the Asian Development Bank's (ADB) commitment to provide at least \$14 billion of its resources to support food security over 2022–25, and to outline ADB's programme on food security in partnerships with a diversity of stakeholders in Asia and the Pacific.

The forum presents an opportunity for partners in both the public and



*Photograph of Moderator, Speaker and Panelist*

private sectors to showcase their thought leadership and initiatives in building more sustainable and resilient food systems in the region for the future of climate, food, and nature. The forum also provides opportunities for engaging with policymakers, government officials, development practitioners, food system and climate change experts, and ADB staff to build strong

partnerships in policies, project implementation, and research, to accelerate food systems transformation in the region.

Dr. Md. Abdus Salam, Member Director (Crops), BARC attended the programme as a Panelist in Deep Dive Session 2.3: Food Security with Low-Carbon Rice in Asia: Government Pilot Projects.

## Training on Aquaculture Feed and Food Safety

A training programme entitled *Aquaculture Feed and Food Safety* was organized by the Fisheries Division, BARC on March 06-07, 2024 at the Graduate Training Institute (GTI), Bangladesh Agricultural University (BAU), Mymensingh. The inaugural ceremony of the training programme was graced by Dr. Md. Zulfikar Ali, Director General of Bangladesh Fisheries Research Institute (BFRI). Mr. Ajit Kumar Chakraborty, Member Director, Fisheries Division, BARC, chaired the event.

In the training programme, participants were from Bangladesh



*Dr. Md. Zulfikar Ali, DG, BFRI Delivered Speech*

Fisheries Research Institute, Department of Fisheries, BIRTAN, the Department of Youth Development and Sher-e-Bangla Agricultural University. The

programme focused on a crucial aspect of aquaculture feed and food safety. At the end of the training, participants were awarded certificates.

## Training of Trainer's (ToT) Programme and Farmers' Training on GAP

A day-long farmers' training was conducted at the Upazilla Agriculture Office, Chandina, Cumilla, on 18 January 2024 for the Yardlong bean. Twenty-five farmers were trained on GAP as well as production technology for Yardlong bean. Selected fields were revisited to identify better road communication.

Another farmers' training was conducted at the Upazilla Agriculture Office, Dhamrai, on January 20, 2024, and two farmer fields were selected for GAP validation trial in the village of Basnai.

A farmers' training session on GAP was conducted at the Regional Agricultural Research Station (RARS), Jashore, on February 10, 2024, by the GAP Unit of BARC.

A three-day training was organized



*Training of Trainer's (ToT) Programme and Farmers's Training on GAP*

on GAP for SAAOs (Sub Assistant Agricultural Officers) of DAE from 13-15 February 2024 at BARC. Twenty-five SAAOs from 8 Upazillas attended the training. Participating SAAOs were directly involved in GAP field trials in different Upazillas. A Training of

Trainers (ToT) session on GAP was organized from 3 to 7 March, 2024 for officers at BARC. Twenty-five GAP-related officers/scientists from different organizations/institutes participated in the training programme.

The BARC Newsletter is published quarterly by Bangladesh Agricultural Research Council (BARC) to provide news and information on agricultural research and development of the NARS and other concerned organizations in Bangladesh.

Any query concerning the Newsletter or its contents, comments and suggestions for our Endeavour would highly be appreciated.

Compiled and Edited by : **Dr. Kabir Uddin Ahmed**, Director  
**Dr. Susmita Das**, Principal Documentation Officer  
**Dr. Mst. Sufara Akhter Banu**, Senior Scientific Editor  
**Md. Saimum Hasan**, Information Officer

Design : **Mohammad Nazmul Islam**, Graphics Designer  
Photo Credit : **Md. Wasiuzzaman**, Junior Bibliographic Officer

Published by: Agricultural Information Centre (AIC)  
Bangladesh Agricultural Research Council (BARC)  
New Airport Road, Farmgate, Dhaka-1215, Bangladesh  
Phone: +880-2-41025257  
E-mail: [dir.aic@barc.gov.bd](mailto:dir.aic@barc.gov.bd)  
Website: [www.barc.gov.bd](http://www.barc.gov.bd)

Illustration & Print : Generation PPA, Dhaka, Cell: 01819 230291



**BANGLADESH AGRICULTURAL RESEARCH COUNCIL**

New Airport Road, Farmgate, Dhaka-1215